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THE PATHOLOGY OF MIND.

THE

PATHOLOGY OF MIND.

BEING THE THIRD EDITION OF THE SECOND PART OF THE "PHYSIOLOGY AND PATHOLOGY OF MIND," RECAST, ENLARGED, AND REWRITTEN.

BY

HENRY MAUDSLEY, M. D.

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NEW YORK:
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1899.

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PREFACE.

THE first edition of the *Physiology and Pathology of Mind* was published in the year 1867, and the second edition in the year following. A third edition of the first part was published in the year 1876 as a separate treatise on the *Physiology of Mind.* In the order of time and development this volume on the *Pathology of Mind* is therefore a third edition of the second part; but in substance it is a new work, having been recast throughout, largely added to, and almost entirely rewritten.

The new material which has been added includes chapters on "Dreaming" and on "Somnambulism and its Allied States," subjects which, although they may not perhaps be thought to appertain strictly to a treatise on mental pathology, will be found, when studied scientifically, to throw light upon its obscure phenomena and to help to bridge the gap between it and mental physiology. A perplexing impression was produced on my mind when I first began to study mental diseases—now upwards of twenty years ago—by the isolation in which they seemed to be. On the one hand, treatises on psychology made no mention of them, and gave not the least help towards an understanding of them; and, on the other hand, treatises on mental disorders, while giving full information concerning them, treated their subject as if it belonged to a science entirely distinct from that which was concerned with the sound mind. Inasmuch as psychological, physiological, and patho-

logical studies of mind were actually concerned with the same subject-matter, it was obvious that methods of study which kept the different lines of inquiry entirely apart must be at fault somewhere, and that it would be a right aim, and one full of promise, to endeavour to bring them into relation with one another, and so to make psychology, physiology, and pathology throw light upon and give help to one another. The first edition, as stated in its preface, was the firstfruits of that endeavour, and the present volume, which embodies the results of deeper studies and more ripened experience, is the completion of it. The inclusion in it of chapters on the abnormal mental phenomena which are exhibited in dreams, hypnotism, ecstasy, catalepsy, and like states, is therefore a just part of the fulfilment of the general design.

The same reason will, I trust, be held sufficient to justify the large amount of new and in some regards disputable matter which is included in the chapters on the "Causation and Prevention of Insanity." It seemed proper to emphasise the fact that insanity is really a social phenomenon, and to insist that it cannot be investigated satisfactorily and apprehended rightly except it be studied from a social point of view. In that way only, I believe, can its real nature and meaning as an aberrant phenomenon be perceived and understood. In recasting the plan of the work I have thought it right therefore, in the chapter on Causation, first to treat generally of the etiology of mental derangement from a social standpoint, so fulfilling the requirements of its organic relations, so to speak, in the social organism; and, secondly, to treat particularly of its pathological causation, so connecting it with the general pathology of nervous disease, and answering the requirements of scientific pathology.

In describing the symptoms of insanity, I have thought it well again, first, to treat it generally as one disease, setting forth the varieties of symptoms which it presents at different

times and at different stages of its course; and, secondly, to occupy a separate chapter with the delineation of the different clinical groups of mental disorders which are met with in practice and have to be dealt with by the physician. In this way I hope to have met the obligations of a true scientific exposition and the more practical needs of those who have to form an opinion concerning the cause, the course, the probable termination, and the proper treatment of a particular case of disease. Had the chapter on Symptomatology been left out, the omission must needs have entailed a great deal of vague repetition in the description of the clinical groups, with the certain effect of blurring their outlines and features, and of confusing the reader; had the special chapter describing these groups been omitted, he would have obtained only a vague and general notion of the symptoms of mental derangement, without that more definite and practical acquaintance with its clinical varieties, which, now that we are able, I think, to delineate their features, ought to form part of a treatise on mental disorders. Whatever be the value of the clinical pictures in this volume, they have certainly been drawn from life, and had space permitted I might have illustrated each line of description by the records of cases.

The full and analytical Index which has been added will serve not only to make reference easy, but will enable the reader to judge what sort of fare he may expect if he is minded to make trial of it.

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PATHOLOGY OF MIND.

CHAPTER I.

SLEEP AND DREAMING.

As we pass nearly the third part of our short lives in sleep it is pleasing to think that the time so spent is not misspent nor lost. Sleep marks that periodical suspension of the functions of animal life, or life of relation, during which the organs that minister to them undergo the restoration of energy which is necessary after a period of activity. Waste of substance, which is the condition and the result of active exercise of function, must be repaired during rest; instead of its being a surprise, therefore, that we sleep, the wonder would be if we did not sleep. In the work and thought of the day is given out by degrees the energy which has been stored up during repose. The need of repair is as true of the organic functions, which never seem to sleep, as it is of the animal functions, which sleep through so large a proportion of our lives. For although an organ like the heart seems not to rest day or night from the first moment of action unto the last moment when it ceases to beat more, yet it plainly rests between each stroke, gaining thereby in alternating snatches of repose the energy for the next stroke; and it is really at rest during a longer period than it is in action—has rested more than it has worked when its life-work is ended. If the heart of an animal which is beating regularly when the chest is opened be made to beat slowly by stimulation of its vagus nerve it will go on beating for a long time; but if its beats are quickened by

irritation of its sympathetic nerve it soon comes to a standstill from exhaustion; nutritive repair and the removal of the waste products of activity cannot keep pace with the rapid consumption of energy in the accelerated pulsations; it is exhausted as the gymnotus is exhausted when it has been provoked to repeated electrical discharges and can give no more shocks until it has recruited its energies. The lowest animal forms, which seem not to sleep at all, probably sleep, like the heart, in similar brief snatches of rest. The organism is a self-feeding and self-repairing machine, but it cannot do its repairs when it is in full work; it must have for its parts, as for its whole, its recurring periods of adequate rest; and the time comes at last when, like any other machine, it wears out, is no more capable of repair, and when the exhaustion which ensues is death—the sleep during which there is no repair and from which there is no awaking.

The conditions under which we go to sleep, the causes which promote it, and the ill effects which follow the deprivation thereof, are proofs of its true purpose in the animal economy. When we wish to sleep we shut out all external stimuli, as a bird puts its head under its wing, banish all subjects of active thought or feeling, and place our bodies in as complete a state of muscular repose as possible: so sleep comes on insensibly as a deeper rest, not as an abrupt change, stealing upon us as darkness upon daylight. The general causes which produce it are such as exhaust the energy of the nervous system, either through suffering or doing, and so occasion fatigue of body and mind; they are muscular and mental exertion, when not too prolonged, the weariness which follows great emotional strain, when not too intense, and severe bodily pain. It is true that we may by a strong voluntary effort, or under the spell of an excitement, prolong the usual period of waking, and resist sleep, although we are very sleepy; but we cannot do so indefinitely, for torpor and incapacity of mental function, delirium, and death are the consequences of an entire deprivation of sleep.

In this connexion it is interesting to ask why we awake—why, once asleep, we do not go on sleeping for ever? Probably very much as the power of the exhausted electric eel to give a shock revives when restoration of energy has taken place by

nutrition during rest. A stimulus to the body, of external or of internal origin, which would have been unfelt during the deep sleep of exhaustion, or would have only been enough to occasion a dream, suffices, as the sleep becomes light through restoration of energy, to awaken the individual either directly or by the vividness of the dream which it occasions. We should not sleep for ever, I believe, if every external stimulus were shut out; for the accumulation of nervous energy would awaken us either spontaneously, or on occasion of the least internal stimulus, which, as the organic functions are not suspended, though they are more languid, during sleep, could not be shut out. If these functions regained their full activity they might directly cause waking. On the time at which we awake habit notably has a great influence within certain limits; when we allow the nervous system so many hours for repose, we accustom it to that allowance, and it learns to do its repairs within the allotted time.

Of what are the physiological accompaniments of the occurrence of sleep we know nothing more than that the circulation of blood through the brain is lowered; not as cause probably, but as coincident effect of the state of nerve-element. Blumenbach long ago took notice in a man whose skull had been trepanned that the brain swelled with blood and rose into the opening when he was awake and thinking, and sank down again when he fell asleep; and the experiments of Mr. Durham, who, having removed circular portions of the skull in different animals, and replaced them by suitable watch-glasses, through which he could observe what happened when the animal was awake and when it was asleep, convinced him that there was considerably less blood in the brain during sleep; its substance then being paler and sinking down, while it reddened and became turgid directly the animal awoke. The fontanelles of young children sink during sleep; and forcible compression of the carotid arteries in the neck of the adult will induce it. There is an active flow of blood to the part where the stimulus of functional energy attracts and needs it, and when active function is suspended by the recurring necessities of restoring the expended energy by sleep, the circulation of blood falls to the level of

the mere organic requirements of the brain: the supply answers in fact to the different states of the brain, being active when its functions are active, moderate when they are in abeyance. A short step further has been made in conjecture. Knowing that different parts of the brain are supplied with blood by different arteries, the main channels of which go on dividing and sub-dividing into smaller channels until these become capillary, it has been surmised that an active circulation may sometimes be going on in certain vascular areas of the brain while the circulation in other parts of it is lowered to the level of sleep, not otherwise than as local blushings occur elsewhere in the body from vaso-motor dilatations, and that these active local circulations in the brain are the conditions of that modified and irregular activity which constitutes dreaming: one part of the brain is supposed to be more or less awake when the rest of it is asleep.

Recently the theory has been broached that sleep is caused by the accumulation of the products of the oxidation which takes place during activity; they are not presumably removed so rapidly as they are produced during active function, but are carried away, like the refuse in some cities, during the repose of the night. It is not known what is the exact nature of these combustion-products, but it is assumed that they act upon the nerve-elements very much as carbonic acid does, causing a sort of narcosis when they accumulate. Any condition then which hinders their removal from the brain, such as prolonged activity thereof, will favour sleep; any condition which accelerates their removal will tend to prevent it.

Sleep is not a constant, but a fluctuating state. There are degrees of sleep, not only of the cerebro-spinal system as a whole, but of its different parts—so many intermediate steps between it and waking; wherefore we may be rightly said to graduate through a twilight-waking into imperfect sleep, and from light slumber into profound unconsciousness. It is hard to say sometimes whether we have been asleep or not; for the wandering and incoherent ideas and the suddenly arising hallucinations of a grotesque kind which occur just as we are going to sleep are so like the vagaries of dreams. that we know not at

all times whether they were part of our waking or of our sleeping life. The stages in the gradually deepening unconsciousness which is produced by opium illustrate very well the gradations in the process of going to sleep: there is first a drowsy feeling which becomes soon an irresistible inclination to sleep; the person then falls into a slumber from which he may be roused sufficiently to make a reply to a question put to him in a loud voice, thereupon sinking back immediately into sleep, which deepens rapidly into a comatose unconsciousness from which the severest pinching, slapping, and irritation of all kinds hardly avail to elicit more than the least sign of feeling or the briefest responsive movement; finally he sinks into so deep a coma that he is insensible to anything that may be done to him; all the tortures which savage ever devised and inflicted upon his enemy, or Christian upon his fellow-believer of a minutely different shade of faith, would not touch him—he is in the unconsciousness of death before death. One sense goes to sleep after another, each sinking gradually into a deeper slumber, then the spinal cord, and, last of all, the respiratory centre in the medulla oblongata, when the man dies. In the production of insensibility by the inhalation of chloroform or of ether we observe evidence that the person hears after he can no longer see, and that the senses of taste and smell are lost before those of hearing and touch; and in natural sleep it is obvious that there are similar gradations of unconsciousness, one sense being sometimes more deeply asleep than another, or the spinal cord being awake when the special sensory centres are fast asleep. A lightly-sleeping person will sometimes hear apt questions that are cautiously put to him in a familiar voice, and make a reply without waking; and there can be no doubt that a man will sleep on horseback when the muscles of the back, among other muscles, must be in action, or even sometimes when walking; he cannot sleep when standing still, because the body will be sure to fall forwards unless it be supported. In like manner when we awake, it seldom, if ever, happens that all our senses awake at the same instant; a sound is heard before the other senses can receive impressions; indeed they appear commonly to wake successively. When we consider then that natural sleep is not

really a fixed and constant quantity, but a fluctuating bodily state in which there are considerable differences in the degree of insensibility of different parts, some being lightly and others deeply asleep at the same time, it will not appear strange that in some dreams active imagination is exhibited and skilful bodily feats performed; a proof that some mental and motor centres are awake while others are asleep.

The variations of susceptibility of different parts to impressions during sleep is shown again by the ease with which a sleeper may be awakened by a gentle sound or other stimulus to which he is accustomed to respond, when a louder sound or other stimulus that is really more powerful, but which he is not accustomed to take notice of, has no effect upon him. In sleep as in the waking state the ear hears best what it expects to hear. Just as the expectation of a particular impression upon waking sense increases the susceptibility of that sense and the rapidity with which the message is conveyed from the external organ to the central ganglion, so the adaptation of sleeping sense to a particular impression engenders a habit of expectation, so to speak, in the sense, by which its sensibility to the impression is heightened, and this, though gentle, acts upon it with the same efficacy as an extraordinary stimulus would do. If we think of it, we observe that in our daily life impressions are hourly made upon our senses of which we are not in the least conscious, unless for some reason or other we are moved to take particular notice of them; we are, as it were, asleep to them habitually; and it is hard to conceive what potentialities of knowledge some of these unperceived impressions contain, and what opportunities of perception we let go by. We live actually in very limited relations with external nature—relations limited not only by the capacities, but by the habits of our senses—and become extremely automatic in our reactions to the few stimuli which are habitually received; wherefore our intellectual and practical life runs in the main upon a few fixed lines to which we are bound, as animals are constrained by their particular instincts, and outside which lie vast unsurveyed regions. We perceive only what we attend to, and we attend only to that to which we have, by frequent repetition, organised an adaptation of sense and of suitable motor associations.

Men little consider how mechanical they are in their thoughts, feelings, and doings. So fully possessed are they with the fixed but erroneous notion that consciousness is the essential agent in all the purposive things which they do, that they stand amazed when they witness any evidence of intelligent action during the abeyance of consciousness, as in sleep, and look upon it as something marvellous; whereas the real marvel would be if the organism were entirely to forget its intelligent habits simply because they were not lit up by consciousness. As a matter of fact it does not forget them: it awakes commonly at its accustomed hour whether the person went to bed at his usual hour or later, and awakes at any moment on the occurrence of the least sound to which it is accustomed to awake, as when the mother hears her baby's cry in the night, taking no notice of a much louder sound which it has learned to disregard; and it awakens instantly on the cessation of a sound to the continuance of which it has been accustomed in sleep, as is exemplified by the well-known story of the miller who awoke when the noise of his mill, which went on through the night usually, ceased in consequence of the breakdown of the machinery.

It has been a disputed question whether sleep is ever quite dreamless, and opposite answers to it have been propounded. Some writers hold that no state of sleep, however sound it be, is without dreaming; not being able apparently to conceive two different states of sleep so remote from each other as active dreaming and complete suspension of mental function; infected also probably in some degree by the Cartesian dogma that the mind never can be entirely inactive. Their contention is that when we declare we have not dreamed, the truth is that we have dreamed and have forgotten it; and they adduce in support of their argument such undoubted facts as these—the rapid and complete way in which the most vivid dream often vanishes from the memory, so that, although we awake with its features clear in the mind, they are gone in a few minutes and cannot be recalled; the quite accidental way in which some trivial experience of the day will sometimes bring back the recollection of a dream which we had entirely forgotten, and which but for that accident we should have forgotten for ever; and, lastly, the

fact that other persons may have observed in our exclamations and movements during sleep plain evidence that we have dreamt when we, on waking, should be ready to assert confidently that we had not. Due weight may be granted to these facts without admitting that they go the length of proving the position which it is sought to maintain. The weight of evidence, in a case which by the nature of things cannot be decided, I believe to be really on the side of the opinion that the soundest sleep is a dreamless sleep. The difficulty of conceiving a temporary nullity of mental function one may take leave to dismiss as a lingering prejudice from the metaphysical notion of mind as an exalted spiritual entity whose essence has nothing in common with the low material necessities of the body. When we make the matter one of observation, it cannot be denied that we perceive during sleep all shades of gradation between the most vivid and active dreaming at the one end and the faintest show of evanescent activity at the other end of the scale. What difficulty is there, then, in passing in conception the imperceptible line between the least flutter of activity and a complete nullity of function? Furthermore, in certain cases of suspended animation or apparent death, as, for instance, when a person is taken out of water in a completely unconscious state, and revives only after energetic efforts at restoration continued for an hour or even for hours, it is as certain as anything can well be that all mental function was abolished from the moment he became insensible unto the moment when sensibility returned. Take again the remarkable case of a blow on the head producing depression of the skull, pressure upon the brain therefrom, and insensibility therewith; with the raising of the depressed bone by surgical means the person has not only regained consciousness instantly, but has gone on to finish a sentence which he had begun when he was struck down unconscious.[1] In profound apoplexy, in the entire insensibility which is produced by chloroform, and in similar

[1] In the American *Journal of Nervous and Mental Diseases* for April, 1877, Dr. Hoy mentions the case of a youth, aged eighteen years, who was struck insensible by the kick of a horse, his skull being depressed and fractured. After trephining the depressed bone he became sensible. Dr. Hoy took advantage of the hole in the skull to make firm pressure on the exposed brain after asking him a question. As long as the pressure

states of complete unconsciousness from other causes, there is not the least reason to suspect that there is any more mental function going on than there is in an animal which has been deprived of its cerebral hemispheres.

Another theory which has been broached with regard to dreaming is that we only dream just as we are going to sleep or just as we are coming out of it—in the transition state into and out of sleep. But this opinion seems on examination to be less tenable than the opinion that we never cease to dream when we are asleep. Were the somnambulist not a positive refutation of it, observation of sleeping persons who show plainly by their actions or their words that they are dreaming and who still go on sleeping, and the fact that we sometimes catch ourselves in the midst of a dream when we are roused suddenly out of deep sleep, would be sufficient to prove it erroneous. Inasmuch as sleep is not a constant but a fluctuating state, it stands to reason that there will often be varying degrees of mental function according to the more or less depth and completeness of it; there will be sometimes an activity so coherent as to surprise us, at other times an activity of the most partial and incoherent kind, and there will be an entire abeyance of mental function during such deep sleep as that which fell upon Adam when the operation of taking a rib out of his side was successfully performed.

It has been justly remarked that if we were actually to do in sleep all the strange things which we dream we do, it would be necessary to put every man in restraint before he went to bed; for, as Cicero said, dreamers would do more strange things than madmen. A dream put into action must indeed look very much like insanity, as insanity has at times the look of a waking dream. In dreaming as in insanity there are the most strange and grotesque deviations from the accustomed sober paths of

continued he remained silent, but the instant it was removed he made a reply, never suspecting that he had not answered at once.

The same gentleman mentions another case of a youth, aged nineteen, who was rendered insensible by the kick of a mare named Dolly. As soon as the depressed bone was removed, he cried, "Whoa, Dolly," with great energy, and then stared about him in amazement, wondering what had happened to him. Three hours had passed since the accident. He was not conscious the mare had kicked; the last thing which he remembered was that she wheeled round her heels and laid back her ears.

associations of ideas; the combinations and sequences of ideas do not follow any definite laws, so far as we can discover, but appear often to be quite accidental and transitory; we justly therefore set down the loss of all power over the succession of ideas as one of the leading phenomena of dreaming. It is not true, however, as is sometimes said, that volition is always abolished during dreaming; for it is certain that we may wake up suddenly out of sleep in consequence of a strong effort of volition which we have made in our dream, as when we strike out at a person who has insulted or assaulted us, and that at other times we do voluntarily restrain the expression of our feelings. I have been brought to the very verge of being hanged on two or three occasions in my dreams, having wakened up at the last moment before the operation was to be performed, and on each occasion I have been conscious of a determined suppression of any betrayal of fear or other emotional agitation during the preparations for the event. A concrete act of volition of that sort is not impossible in dreams. It is a fair question, however, how far we succeed in accomplishing the volition when it is to do something active, and how near waking we are when we feel it. For it happens in dreams that we find ourselves straining to do something—for example, to strike a blow, to cry for aid, to utter a command, and are perfectly impotent to do it; and the instant we succeed in liberating our paralysed energies we awake. There is the strongest mental volition, but an utter impotency of motor outcome; the instant which elapses between the desire or will to do and the waking state being long enough for the occurrence of what seems a much longer drama of impotence in the dream. At the same time it should not be overlooked that a person does not always awake who calls out in his dream, and that we remember dreams in which we imagined ourselves to will and to do what we willed.

Certainly it is true that volition in its highest sense of control over the mental operations is abolished in dreaming, as a moment's reflection will show must needs be the case. For such volition is neither more nor less than the expression

of the fullest co-ordinate activity of the mental functions, varying much in quality necessarily according to the development of the functions through previous training, and cannot therefore by the nature of the case consist with the fortuitous concourse of ideas in dreams. It is impossible there can be full use of reflection when most of the habitual trains of thought are suspended in sleep; an idea that is accompanied with desire is without the means of becoming a reasoned volition in the ordinary way; it must remain a particular desire, and when it is active, instead of the natural results following through the beaten paths of association, it will rouse some strange, apparently unrelated idea, which being seen as a vision will present itself as a sort of abrupt transformation scene. For the same reason the sense of personal identity, the unity of individual character, is confused and seemingly lost. We are ourselves and somebody else at the same moment, as other persons seem to be themselves and not themselves, and we do absurd and perhaps transcendently criminal things in the most matter-of-fact way, all the while mildly surprised or not at all surprised at ourselves for doing them. How can there be a clear sense of the unity of the ego, how any conscience, when there is an entire abeyance of that co-ordination of mental function, the self-consciousness of which is the feeling of personal identity? It is probable enough that when we begin in our dreams to be surprised at the change of identity, and to think about it as odd, we are on the point of waking; the commencing restoration of the co-ordination of functions being in fact the restoration of the feeling of identity and the occasion of our surprise. But it seems to me that throughout all the vagaries of dreaming there is generally at bottom an obscure feeling or instinct of identity, or else we should not ever be surprised at ourselves when we seem not ourselves, or when we are doing extraordinary things, or even have the sort of personal feeling which we have in whatever odd drama we may be playing a part. The reason I believe to be that the organism preserves its identity notwithstanding that our conscious functions are in the greatest distraction; although we are asleep the different impressions of our organic or systemic sensibility,

which are not affected directly by external conditions, are carried to the brain from the internal organs; and it is this physiological unity of organic functions, which is something deeper than consciousness and constitutes our fundamental personality, that makes itself felt with more or less force in every conscious state, dreaming or waking. The insane inmate of a pauper lunatic asylum who is possessed with the delusion that he is the Almighty and can do in an instant whatever he wills, begs humbly a trifling favour at the same moment that he proclaims his omnipotence. Such are the inconsistencies of a distracted identity.

The absence of surprise at the extraordinary events which take place in dreams is sometimes very remarkable. But it is not always complete. In some instances there is a partial or particular surprise; not a surprise springing from a consistent reflection upon the absurdity of the whole affair, such as a waking man would make, but a surprise at a particular startling inconsistency, as, for example, at the appearance of a person whom we remember to be dead, to take part in the events of the dream. On other occasions, there may be distinct feeling that we are dreaming; we may say to ourselves—It is only a dream; and perhaps resolve at the same time to go on with it instead of breaking the spell, as we feel we might do at any moment. When there is not so distinct a consciousness that the affair is a dream, there is now and then a half-conscious undertone of question or doubt of the reality of the images which flit before the mental vision: a sort of dim and vague feeling of their unreality, as if they were parts of a dramatic show in which we were so much interested for the time, so far carried away, as to lose independence of judgment and even sense of individuality. If this feeling becomes stronger it probably produces the conviction that we are dreaming which we have sometimes before we awake, and in the end awakens us. For I imagine that we are very near waking when we get this conviction: that the co-ordinated functions, from the consentience of which springs the consciousness of identity, are beginning to be exercised. The dream-phantoms move across a background of the unconscious individuality, which, moulded and fashioned by the habit of our life-experience, necessarily con-

tradicts them absolutely the moment it becomes conscious, and gives rise when only in a state of nascent consciousness to the vague subconscious feeling of scepticism before it declares them positively unreal. It is impossible we should be surprised at the inconsistencies of a dream when we are in deep sleep, because it is impossible we should then reflect—in other words, impossible we should compare them with those organised mental experiences which are the registrations of our observations of the order of nature, seeing that these experiences are silent; it would be a wonder therefore if we did not accept as real, and without surprise, the vagaries of dreams.

The idea which arises in the mind in a dream, being unable to follow the accustomed paths of reflection, acts downwards upon the sensory ganglion, and takes shape as a distinct image or an actual perception, so that a dream-train of ideas is a train of images. Moreover it is an image which we see very vividly, because there is no distraction of consciousness by objects of external sense or by related ideas, as we see the stars from the bottom of a deep well in broad daylight because the line of vision alone is then illuminated. The result is that what would be a succession of ideas in the waking state, hardly perhaps overstepping the threshold of consciousness, becomes a disorderly succession of images, or, as it were, a series of abrupt transformation scenes in a drama. Taking Hobbes' celebrated instance of association of ideas, one might consider curiously what it would become supposing it were to occur in a dream. "For in a discourse," he says, "of our present civil war, what would seem more impertinent than to ask, as one did, what was the value of a Roman penny? Yet the coherence to me was manifest enough: for the thought of the war introduced the thought of the delivering up of the king to his enemies; the thought of that brought in the thought of delivering up Christ; and that again the thought of the thirty pence, which was the price of that treason; and thence easily followed the malicious question" (*Leviathan*, i. ch. iii.). In the dream there would be so many scenes rapidly following one another, or jumbled confusedly together, and when the dreamer awoke and called to mind the details of his dream, he might be at a loss to account

for the strange conjunction of persons and incidents in the spectacles that had been presented to him, and for the sudden transformation of one spectacle into a quite different one. And whereas in this case we suppose that there were true, though unperceived, links of association between the ideas, for which reason the scenes did not follow one another without coherence, it is probable that in many dreams the ideas which become transformed into images call up one another in a fortuitous way, and so produce more incongruous scenes.

The fantastical deviations from the ordinary tracks of association of ideas, the loss of volitional power over the ideas, the suspension of conscience, the distraction of the ego, and the seeming reality of the grotesque dream are all parts of the same effect; they proceed from a discontinuity of function in the supreme centres of the brain, a temporary suspension of the bonds of their functional unity. As when a complex assemblage and series of movements which have been trained to the execution of certain complicated and special effects can no longer be performed because of some disorder in the proper motor centres, but in their stead spasmodic, incoherent, and purposeless movements are displayed, we might say that the usual motor associations were broken up, volitional power abolished, and their essential identity as specially purposive functions destroyed, so it is with the co-ordinated functions of the supreme cerebral centres in dreaming; its phenomena express different degrees of loss of co-ordination—that is to say, different stages in the resolution or disintegration of the most complex integrations of mental evolution.

It is sometimes said that in dreaming there is a loss of the faculty of combining and arranging ideas. True it is that there is usually a loss of the faculty of combining and arranging them as we do when we are awake; but one of the most remarkable features of dreaming, which has hardly had the consideration which it deserves, is the singular power of combining and arranging ideas into the most vivid dramas. It would be no great exaggeration to say that the dramatic power of a dunce in dreaming exceeds that which is displayed by the most imaginative writer in his waking state. When we reflect upon the

extraordinary creations of dreams, and consider that the most stupid and unimaginative person often constructs scenes, creates characters, and contrives events with a remarkable intensity of conception, distinctness of outline, and exactness of details, putting into the mouths of his dramatic persons dialogues suited to their several characters, we might well conclude that there is, independently of will or consciousness, a natural tendency of ideas, however stirred, to combine and to arrange themselves into a kind of drama, even though they have no known associations and appear quite independent of, if not antagonistic to, one another. Ideas in this respect might be compared rudely to such chemical substances as, the moment they are set free to yield to their affinities, rush together to form a compound of some kind. The same sort of thing occurs in the waking state when the succession of thoughts is not controlled by reflection upon some definite subject, and it constitutes the chief part of the mental activity of a great number of persons who, when not engaged in practical work, spend their time in vacant reverie, or in rambling incongruities of ideas. Were a faithful record kept of the fantastical play of ideas under these circumstances, it would often read as wild as any dream. The point, however, which I desire to lay stress upon, and to fix attention to here, is the tendency of ideas, however unrelated, to come together, and to form some sort of mental imagery, wildly absurd or more or less conformable to nature—the actual constructive power which they evince; for it plainly indicates that the plastic power of mind, its so-called imagination, is at bottom organic function of the supreme cerebral centres; something which, being displayed when will is in abeyance and consciousness a mere gleam, whenever there is the least display of cerebral mental function, must plainly lie beneath consciousness and beneath will. It is, if you will, unconscious mental function. It is not merely an association of ideas, and is not explained, as some persons seem to think, when it is referred to that so-called principle, to which they are in the habit of attributing extraordinary powers. The principle of association of ideas is nothing more than the statement that ideas which have occurred together or in sequence, or which have something like in them, will

probably occur together again, one calling up the other. But we are dealing with something more than that—with an actual constructive agency, whereby ideas are not brought together only, but new products are formed out of them. The scene presented may be one which has never been actually experienced, nor is it always made up by the combination of images which have been experienced. Both the scene and the images are many times new, though suggested by similar scenes or images seen in part or in whole.

It is noteworthy in this relation how in dreams a general idea is resolved into suitable concrete images, such as it might have been derived from by abstraction, but which it never was actually derived from, although no doubt it was the abstract of somewhat similar experiences. A casual suggestion in the day—for instance, that a person has great tact or great courage, may be the occasion of his taking part in the scenes of a dream, and doing things which we should consider to evince tact or courage, notwithstanding that the scenes are entire creations of fancy and such as he never could have mixed in. The general idea creates the scenes of its appropriate display, being resolved as it were into the concrete elements out of which it might have been developed. This is an entirely involuntary operation, and proves, as is proved also by the formation of the general idea in the first instance—not in the least a voluntary procedure—that mind is capable of those intelligent functions which are the essence of its being, independently of will and of consciousness, or at any rate that the potentiality of them lies not in consciousness nor in will, but in the plastic quality of the brain. As the unknown organic power in a living cell—whatever complexity of intimate physico-chemical processes its vitality may connote—assimilates what is suitable to its growth in its surroundings, and so builds up by degrees an individual being in conformity with the lines of development that are laid in its nature; so the special organic power of the nerve-elements in the supreme centres of the brain builds up by degrees in adaptation to the co-existences and sequences of the surroundings, social and physical, the complex structure of the mental organisation of the individual. But it cannot transcend the lines that are laid down for it in the

inborn capacities of the individual nature: what the mental organisation will turn out to be will depend, first and foremost, upon the inborn capacities which he has inherited from ancestors, and, secondly, upon the influence of education and of the circumstances of life. As with the seed of a tree dropped in a forest: its original germ-force may be greater or less, its situation more or less favourable, but it will take root and flourish, and surpass other trees in growth, according to the advantage of the position in which it has chanced to drop, and according to the power which it has, through original strength of stock, of profiting by opportunity and getting the most out of its surroundings. We rightly look upon mind as the highest force in nature, but we are wrong to look upon it as a power outside of and above nature, self-sufficing, without relations of dependence or affinity; while looking up to the height of its noblest functions, we ought not to overlook the depths in which their roots are planted. The intellect is developed out of sensation and motion, in other words, out of the capacity to receive and assimilate suitable impressions and to respond to them by definite movements, whereby man as a part of nature takes his part in its evolution, being acted upon by it and reacting upon it; and will is the impulse which, springing at bottom from the organic life and displaying itself in desire, is guided by the intellect to effect improved conscious adjustments to the social and physical environments. But the capacity to receive and assimilate suitable impressions, and to reject and eschew unsuitable impressions, is nowise a peculiar mental endowment; it is a fundamental property of organic element. Man is not a mixture or a compound of body and mind, but one being, having, magnet-like, two polarities—the one linking him to that which is below him, the other, representing his spiritual aspirations, having opposite and higher attractions.

The plastic power of the supreme cerebral centres on which I insist as something deeper than conscious mental function, evinces its spontaneous and independent nature in a striking way by those singularly coherent dreams which everybody has at one time or another, and in which he sometimes puts forth as much intellectual power as he ever displays when awake. Many

stories have been told, on good authority, of persons who have in their sleep composed poems, solved hard problems in mathematics, discovered the key of a perplexing difficulty, or done like wonderful things; and while bearing in mind that dream achievements which seem to us very clever at the time prove oftentimes to be nonsense when we awake, it may be granted that one who is fitted by natural abilities and training to do good intellectual work when awake may occasionally chance to do it in sleep, getting the good of a good understanding even in his dreams. These instances illustrate the spontaneous nature of the process of creative activity, with which consciousness and will have no more to do as active agents than with the imaginative creations of the inspired poet; for it is only when the products are formed that they rise into clear consciousness, and only when they are known that they can be willed. Another fact in regard to the dramatic power displayed in dreaming which should not pass unnoticed is the apparent rapidity of its action, whereby is presented in an instant what would take us perhaps hours to think out consciously, or to describe adequately in words. A tragedy or comedy of several acts is devised and performed in a moment; it is no great wonder therefore that it does not occur to one whose conscious ego is in abeyance that he is the author of the various characters that figure in it and of the scenes in which they play. He assists, happy or distressed, applauding or condemning, at a spectacle which is all his own creation, and has not the will or the power to modify its course in the least.

One matter more in relation to the mental power of the dreamer I shall take notice of, namely, the singularly vivid recollection which is sometimes shown of things of which he has not the least remembrance perhaps in the waking state. He can lay under contribution the long unused stores of memory, draw from them things new and old, and so give variety to his scenes in a way the waking person cannot do by any strain of conscious recollection; for the details of events long past, the feelings that accompanied them, the features of a face long dead, the tones of a voice that is still, are reproduced with a surprising vividness and accuracy. This fact, which has

its parallel in the experience of delirium and in the momentary flash of recollection which occurs just before the unconsciousness of drowning, goes to show certainly, first, that there is no such thing as forgetting what we have once attentively observed and made part of our mental experience, and secondly, how little consciousness has to do as agent in the essential parts of the functions of recollection and imagination. When we are awake our mental energies are engrossed in certain lines of habitual activity which are determined by our usual pursuits and experiences—they run in certain customary tracks, to which consciousness is almost exclusively attracted; for habits and external impressions control and determine our thoughts much more than we think, so that in the deepest reverie they never get so far a-field as when all external impressions are shut out. But when we are asleep and no external impressions are perceived, the tracks of habitual function are not pursued, ideas are aroused independently of their associations by physical causes, and there is not consequently a corner of the brain in which there is a memory registered that may not be stirred into unwonted activity. Inasmuch as there is then nothing to distract consciousness from the idea which emerges into momentary activity, it is remarkably vivid; and inasmuch as its related ideas are at rest, there is no correction of it and it stands out in exaggerated proportions.

In searching then for an explanation of the remarkable revivals of forgotten events in dreams we must take into account—(1) The absence of external impressions linking the mind to certain tracks of habitual function which would not be calculated to lead to the forgotten events, and, as a probable concomitant effect, the opening up of disused or neglected tracks which might lead to them; (2) the direct stimulation of the remotest nerve elements through the circulation of blood, which, flowing in multitudes of minute channels through the most intimate recesses of the structure of the brain, will, according to its variations in quantity and quality and in rapidity of flow, stimulate into activity the nerve-cells with which it is in relation, and obviously act indifferently upon the most remote and most recent registrations; and (3) the probable stimulation by

some internal organ of the body of that part of the brain with which it is in special internuncial relation, or, in other words, in which it has cerebral representation.

Whatever the explanation, the fact is indisputable that persons recall in dreams names and things which they had entirely forgotten, and which, while remembering them, they are not perhaps conscious are remembrances; just as thoughts in the day which appear as new acquisitions may be found to have been entertained before, or to have been derived from some book which was read long ago. Maury relates the following amongst other instances. In his early years he visited Trilport, a village on the Marve, where his father had built a bridge. Later in life he dreamed once that he was a child playing at Trilport, and that he saw a man clothed in a sort of uniform, whom he asked what was his name. The man replied C——, and that he was gatekeeper at the bridge, and disappeared. Maury awoke with the name C—— in his ears, which he did not in the least remember ever to have heard. Some time afterwards, however, he inquired of an old servant, who had been in his father's service, if she recollected a person named C——; and she replied instantly that he was gatekeeper at the Marve when the bridge was built. Dreams themselves are notably soon forgotten, partly no doubt because of the little concern which they have with the real experience of life, and partly because of their incoherent character: we cannot recollect one-hundredth part of what we see and hear and feel and think and do in a day, and should be very unwise to attempt to do so within the conditions of our limited capacity of memory and of our short span of life; and whoever will listen for a few minutes to the utterly incoherent talk of a thoroughly demented lunatic, with the resolution to remember and repeat it immediately afterwards, will learn by his failure how much incoherence hinders recollection.

We see in our dreams multitudes of faces which we do not in the least remember to have seen when awake: do we invent them, or do we recall actually experiences which have been forgotten? It is certain that an inhabitant of any large and busy city sees in a few days hundreds of faces which he never could voluntarily recall, and it is possible that some of these may

come back from time to time as dream faces. It seems to be pretty certain too that the face of one dream, not remembered in the waking state, may appear and be remembered in a subsequent dream. Dream faces may then be reproductions, not inventions; but it is more probable that we invent them, just as we invent scenes and events, and even words which we imagine we understand clearly, but which are apt enough, if they remain in our ears when we awake, to turn out to be nonsense. The action of imagination in dreams as in the waking state is doubtless productive as to form, reproductive as to material.

Passing now from these general observations and reflections concerning dreams, I go on to inquire into the causes and conditions which seem to determine their origin and their character; and I propose to consider and class them under six principal headings, rather for convenience of discussion than because the conditions are separate in fact and can be separated in their working. These are:—

(1) Character and precedent mental experience.
(2) Impressions on a special sense.
(3) The state of the muscular sensibility.
(4) Organic or systemic impressions.
(5) Conditions of cerebral circulation.
(6) The state or tone of the nervous system.

1. *Character and Precedent Mental Experience.*—We should plainly never dream at all, but sleep the dreamless sleep of the newborn infant, had we not some mental experience to draw upon: the material of our dream-fancies, the elements out of which new products are formed, we derive from experience. It is a common observation that the thoughts and feelings of the day reappear under various guises in dreams, the more probably the more vividly they have affected us at the time; and some persons are so susceptible that any strong feeling or conception which they have had in the day is sure to make itself felt in a dream at night. Certainly most use is made for dream imagery of immediately antecedent or comparatively recent experiences, which are revived by direct associations, old experiences becoming indistinct and perhaps even extinct sometimes; still it

is remarkable how vividly we revert now and then to long distant and forgotten experiences of persons, places, and the like, either on the occasion of some chance stimulus in the day to old associations, or in consequence of some unusual perturbation of the bodily state stirring their substrata into activity. Dr. Darwin mentions the case of a gentleman who, having been so deaf for thirty years that he could be conversed with only in writing or by the finger alphabet, assured him that he never dreamt of persons conversing with him except by the fingers or in writing, and had never had the impression of hearing them speak. But it is nowise clear that this gentleman's early experiences of speech were totally lost; they might have been revived in some dream had a suitable stimulus chanced to occur. The leading experiences of our early days are certainly often revived in dreams, many scenes of which notably testify to the memories of school or college experience. And the character of the scenes into which the materials, whether recent or old, are worked will be much affected by the character of the individual dreamer, who, according as he be proud or humble, aggressive or retiring, bold or timid, sanguine or melancholic, revengeful or placable, generous or mean, candid or cunning, will not fail to find himself in his dreams. In this influence of character there may be said to be a reversion to ancestral experiences and an awakening of their substrata to activity; for a person who exhibits a trait of his grandfather's character might be said to repeat or remember what his grandfather felt.

Besides the patent and direct associations which are easily traced, there are indirect and subtle ways, not easily traced, by which a suggestion or incident of the day may revive memories of the past. A sensation which has been associated with some mental experience of a long time ago—a particular sound, for example, or, better still, a particular odour—will sometimes bring back in a dream the conceptions and feelings of that experience, although it may have been only a momentary perception, and may not have awakened any associations in the day; and a particular idea or a particular feeling which has passed quickly through consciousness as a transient and isolated state will do the same thing. I get a momentary whiff of some

peculiar odour as I pass along the street, and I dream at night of scenes of boyhood that were associated with that odour, but of which I had not even thought in the day: I see a man or hear his name mentioned in the day, and his wife, of whom I never thought in the least, has a place in my dream. It is probable that these passing hints or occasions of the day furnish much of the explanation of the apparently mysterious manner in which, with nothing that we can conceive to evoke their recurrence, we go back in our dreams to scenes and events of an early period of our lives. Knowing the many influences to which we are exposed in a day, some of them scarcely conscious, the multitude of ideas that pass through the mind, the variations of feeling which we undergo, it is obvious that we have here the possible explanation of the occurrence of many dreams which perplex us mightily. Hidden and unused paths of association are hit upon and pursued, and lead to the recovery of forgotten experiences. It should be borne in mind in this relation that an idea, when excited to activity, does not strike one chord of association only, but strikes one chord predominantly, so that the others die away unperceived, which were nevertheless in partial vibration: during sleep another than the accustomed chord may respond most actively, and so lead to the revival of less familiar associations than those which are habitual in the waking state.

Note this again: that a natural feeling occasioned by some scene or event of the day will call up in dreams scenes or events of the past which, when they happened, had caused a similar feeling, but which are themselves as entirely unconnected with the recent event as they are distant from it in time. For example, some unpleasant occurrence in the day is a painful rebuff to our self-love and excites a mingled feeling of depression and humiliation; the sad feeling, lingering, as such feelings will, as dull depression after we have ceased to think about it, persists through sleep and is translated into appropriate imagery; we thereupon dream of our school-days, if they were unhappy, in which we underwent similar humiliations of feeling, combining perhaps the persons and incidents of those days with the persons and incidents of the event which has affected us painfully. The

allied feeling has called up an almost forgotten train of sympathetic ideas, and we are not a little astonished even in our dream to find our adult selves in such a painful position of school-boy subordination. In like manner a gay feeling of elation occasioned by some flattering experience of the day will get concrete interpretation or representation in suitable dream-imagery.

One is apt to think that the images and events of a distressing dream are the causes of the feeling of distress which is experienced, but they are not really so; the feeling is more truly the cause of the images; it is, so to speak, the mother-mood of them. A well-known habit of the mind is to seek for and to create, if need be, with or without distinct consciousness, an outward object as the cause of its feelings; if there be no objective cause of them, it will invest some indifferent objects with the attributes proper to produce them, or will altogether create suitable objects; and this tendency is forcibly illustrated in dreams and in insanity. Coleridge has aptly remarked that the images of dreams undergo the strangest and most sudden metamorphoses without causing much or any surprise, and that they disappear, together with the agonies of terror accompanying them, the moment we awake; which would not be the case if they caused the terror which they appear to do. In like manner the painful delusions of one who is suffering from that form of profound mental depression which is known as melancholia undergo changes sometimes—perhaps from terrible to grotesque—without the least change in his distress; the latter indeed may exist for some time as a vague and terrible feeling without any definite delusion, and it is a matter of accident rather than of the essence of the disease what shape the delusions take. In this generation or crystallisation of the images of fear out of the troubled feeling we perceive a demonstration of the true nature of so-called ghosts and apparitions: they are the effects or exponents of the feeling of expectant apprehension which has been engendered by reading or talking or thinking about them. When Luther saw the Devil enter his chamber at Wittenberg and instantly flung the inkstand at his head, he seems to have been neither horrified nor greatly surprised, and to have resented the visit rather as an intrusion which he had expected

from an adversary with whom he had had many encounters; but had the Devil really surprised Luther by walking into his chamber, I doubt whether he would have been so quick and energetic in his assault. Those who see ghosts under these circumstances of mental preparation do not suffer much in consequence, though they may protest when they narrate their story that their hair stood on end and that they were in an agony of fright; whereas those who have been actually scared by a sudden apparition—by a figure mischievously dressed up as a ghost, for example—have often suffered seriously from the shock, having fainted or fallen in a fit, or had a brain-fever in consequence, or been killed outright by the shock. In the one case the apparition was to a mind suitably prepared for it by an antecedent state of feeling, and gave the vague feeling form, wherefore there was no great surprise; in the other case it came unexpectedly upon a mind that was not attuned to it, therefore with a great shock, and was correspondingly disastrous in its effects.

It would be a long task to deal adequately with the phenomena of dreams, and a book, not a chapter, would be necessary to set forth the results of a full inquiry. I shall content myself with relating a dream which was one among several vivid dreams that followed one another on an unresting night of dreams, in order to show how the most incongruous circumstances may, if examined with sufficient care, be traced to incidents in past experience. I was in a large building crowded with people, which was partly like a church and partly like a public hall, when two clergymen who somehow became three walked up a middle aisle to the pulpit which stood on one side of it, two of them turning aside to go into it, and the third continuing his way along the aisle towards the place where the altar would stand; disappearing, however, mysteriously, aisle and all, after he had gone some way. One of the clergymen was deformed, being bent nearly double, and the pulpit, as soon as he got into it, was transformed into something like the platform of a public hall with seats rising in rows behind it and crowded with people, at the end of one of which I stood. One of the clergymen began the service or the proceedings by reading an opening

verse which I was a little surprised not to recognise, and the other, instead of going on, as I had expected, with the "Dearly beloved" of the Prayer Book, went on to read a tedious story from some strange book until I was wearied; when suddenly, as I was wondering to myself what in the world he was reading, an old man in the body of the church or hall shouted out, "Beautiful death be damned, let us handle life,"—and then began to give out a hymn like a parish clerk of the olden time. There was a general start of amazement throughout the congregation, and I turned round, and, placing one hand before my eyes, laughed heartily to myself. At that moment a German friend whom I had not seen for years stood before me, and I awoke.

Such was the dream, and the interpretation of it was as follows:—The hall was a combination of the old parish church which I used to attend when a boy, and of St. James's Hall, where I had lately been at a crowded public meeting, sitting on that occasion behind the platform. The deformed clergyman was like a gentleman whom I had been in the habit of seeing in the street frequently, ten years ago, as he lived next door to me, and whose appearance had made an impression upon me. He was not a clergyman, nor had he the least connection with any event of my life, and how he came to take part in the dream I cannot imagine. The long story which he began to read in the pulpit, instead of the proper address to the people, was evidently suggested by the fact that I had read that day in a newspaper a paragraph professing to give an account of Dr. Newman's daily life at the Oratory, Birmingham, in which it was told that while the brethren of the Oratory were at dinner one of them read aloud the life of some saint or other instructive matter. The outburst of the old man who resembled in manner, though not in face, the parish clerk of my early days, was derived from my remembrance of a well-known passage from Jean Paul, which had often been in my mind—"Oh! how beautiful is death, seeing that we die in a world of life and creation without end!" and the latter part of his exclamation was clearly suggested by the familiar lines of Tennyson:—

> "'Tis life, not death, for which we pant,
> More life, and fuller, that we want."

The turning round and laughing to myself with my hand before my eyes was a trick of my German friend when he was amused at any meeting with what he called a "capital humbug:" my repetition of his movement had brought before me the image of my friend. The whole dream was the affair of an instant, for it was on a night when I no sooner got to sleep than I began dreaming furiously and was awakened again. A few nights afterwards I found myself in a dream endeavouring eagerly to trace the associations of my dream, no doubt in consequence of the particular attention which I had been lately giving to the events of my dreams and of my efforts to explain them.

Under the heading of precedent mental experience, albeit not personal experience, one might class instances of what seem to be reversions in sleep to ancestral modes of thought, feeling, and action. Take, for example, the case mentioned by Darwin, of the gentleman who used to make a peculiar movement of the right arm when fast asleep, raising it slowly in front of the face and then letting it drop heavily on the nose, and whose son and granddaughter made exactly the same movements when they were sound asleep.[1] Here nervous substrata stimulated in sleep gave out in motor function what had been embodied in their constitution by ancestral experiences. What is to prevent a materialised mental experience being aroused in the same way? Such a common saying as that "It is his father's trick all over" may be as true of mind as of body, and as true of the dreaming as of the waking mind.

I pass on now to consider the second class of dream stimuli. I have said enough to show that the least occasions in the day may lead to the revival of experiences that have long lain in oblivion, and to their employment in the strangest and most novel dramatic constructions, and to prove also that the combining and creative power which lies at the root of what we call imagination is something which is spontaneous in character,

[1] Darwin on *The Expression of the Emotions in Man and Animals*. See also a suggestive paper on "Some Organic Laws of Memory," by Dr. Laycock, in *Journal of Mental Science*, July, 1875.

instantaneous almost in its operations, and even more inventive in sleep than during waking.

2. *Impressions on a Special Sense.*—Inasmuch as the senses are not always equally deeply asleep when we are asleep, one or other of them is sometimes so far awake as to be susceptible to impressions; and it is certain that such impressions may be the occasion or determine the character of a dream. Dr. Gregory tells how, having gone to sleep with a bottle of hot water at his feet, he dreamt that he was walking up the crater of Mount Etna. Though he had never visited Etna, at an earlier period of his life he had ascended Vesuvius, and had felt a sensation of warmth in his feet when walking up the side of the crater. The sensation of warmth in his feet was the evident cause of the peculiar character of his dream. There is an often quoted story of a person who, having had a blister applied to his shaven scalp, dreamed that he was being scalped by Red Indians. A sound in the room or outside it which actually awakens the sleeper may occasion or take part in a dream which seems to have occupied a considerable time, but which must have been over in an instant: the sound is heard before he is actually conscious, and the mind, hastening to give some interpretation of it, calls up probably such ideas as have been associated with a strong or recent impression upon the waking mind.[1] Alfred Maury carried through a series of experiments upon himself in order to test the influence of impressions made upon him when he was asleep. He instructed a person to

[1] The cerebral reception and assimilation of an impression prior to conscious knowledge, which, when it comes immediately afterwards, is perforce struck by it as an exactly similar former experience (see *Physiology of Mind*, p. 33), is a phenomenon of the same kind. In some morbid states of the brain these illusions of former identical experiences are very marked. In the *Archiv für Psychiatrie* Dr. Pick records the case of an insane patient sent to an asylum in consequence of excitement and delusions that people put poison in his food, listened to his conversation, &c. "From his early years he had a vague consciousness as if the events he was passing through had been already experienced. At first these notions were of a dim and uncertain character, but in the course of time they got clearer, so that he thought he possessed a double nature. . . . Visits to pleasure resorts, the sight of public amusements, and casual interviews with persons so affected his memory that he was convinced he had already visited the same places and seen the same persons under exactly the same circumstances." (Bd. vi., H. 2, p. 568).

remain by his side and to make various impressions upon his senses, without telling him beforehand what he was going to do, and to awaken him soon after each impression. His lips and the end of his nose being tickled with a feather, he dreamed that a pitch plaster had been applied to his face and afterwards torn away so violently as to bring with it the skin of his lips, nose, and face. When he was pinched at the back of the neck, he dreamed that a blister was applied to his neck; and that brought to his mind a doctor who had treated him in his infancy. Other experiments had similar results, but in many of them there was no connection to be traced between the stimulus and the dream. Most persons must have dreamed at one time or another that they were going about in the street naked and have felt embarrassed or distressed at their unfortunate predicament: it is probable that the occasion of this dream is a sensation of cold arising perhaps from an insufficiency of clothing or from the clothes having fallen off the bed so as to partially expose the body. Were the sleeper in a feverish state a feeling of chill might induce the dream without any insufficiency or disarrangement of the clothes. When fever or other bodily disturbance, such as indigestion, has produced irritation or a disordered sensibility of the skin, as it will do, it is easy to understand that impressions upon it will be perverted and will be likely when they reach the brain and are translated there into objective forms to undergo extraordinary transformations: the least touch may become a blow, or a stab, or a bite from some savage monster, causing the sleeper to wake up in the fright of a nightmare.

Coleridge was of opinion that the nightmare was not a mere dream, but that it always occurred just when the waking state of the brain was recommencing, "and most often during a rapid alternation, a twinkling, as it were, of sleeping and waking." He supposed, in fact, that actual impressions from without enter into and mingle with the dream images in such case and give them an air of greater reality; for there is at the moment a complete loss of power to distinguish between the subjective images and the objective realities. Without doubt this is what happens sometimes, but whether always so is not certain. It is

worthy of note, however, that in that form of melancholia in which the insane person's mind is possessed with some vague, vast, and horrible delusion, and he is incapable of the least exertion, standing or sitting like a statue wherever he may be placed —in which he may be truly said to be in a state of lasting nightmare—impressions from without that are received by the senses are perverted to suit the horrors of the delusions. The patient has no power to distinguish between the subjective feelings arising out of his morbid state and the actual impressions made upon his senses; and the anxious efforts of friends to rouse him from his fearful lethargy, to comfort him with kindly assurances, to sustain him with suitable nourishment which he refuses, appear to be the malignant jeerings and tortures of devils by whom he is surrounded and tormented. In less extreme cases of mental derangement, the misinterpretation of actual sensations is common enough: a perverted sensation of taste, which may be the outcome of digestive disorder, originates or strengthens a delusion in the morbid mind that poisonous substances have been put into the food; a perverted smell is thought to be produced by noxious vapours disseminated through the air; a disordered touch suggests the play of mysterious magnetic influences. Moreover, once the delusive interpretation has been made it reacts upon sense and aggravates the disordered sensation, just as the expectation of a particular sensation being about to be felt sharpens the sense to feel it. These points of resemblance between the operations of the mind in dreaming and in insanity are of much interest, as shedding light upon each other's phenomena; for if we could get at the actual conditions of the former it is certain we should have a valuable clue to guide our inquiries into the darker recesses of the latter.

3. *Organic or Systemic Impressions.*—There are particular dreams which I have from time to time, and which I feel sure originate in certain states of the abdominal viscera. I take it for granted here that each internal organ of the body has, independently of its indirect action upon the nervous system through changes in the composition of the blood, a specific action upon the brain through its intercommunicating nerve-

fibres, the conscious result whereof is a certain modification of the mood or tone of mind. We are not directly conscious of this physiological action as a definite sensation, but none the less its effects are attested by states of feeling that we are often perplexed to account for. In truth these organic effects of the physiological consensus of organs determine at bottom the play of the affective nature; its tone is the harmonic or discordant outcome of their complex interactions; the strength of the force which we develop as will and the emotional colour in which we see life have their foundation in them. This being so, it is evident that when the external senses are shut in sleep and the conscious operations of mind in abeyance, these internal effects will be likely to declare themselves more distinctly, as the stars come forth brightly when the sun goes down and they are no longer veiled by his greater light. The sympathetic mood or feeling aroused by a particular organ, which may from some cause in itself be exerting a more active influence upon the brain than is usual in sleep, will call into activity the sympathetic ideas of that mood, furnishing the background on which the appropriate dream imagery is thrown; it will determine not the specific forms of the ideas directly, but the ground-tone, whether exalted or depressed, of the drama which they construct—that is, the character of the dream in relation to the personality.

It will not be disputed that we rightly discover in these operations the occasions of many dreams; for there are manifold undefined changes in our systemic feeling which may well have their different effects in dreams, though we cannot distinguish and describe them when we are awake. When the breathing is not free enough in sleep, and the heart's action is oppressed, as it eventually is in such case, the sleeper is apt to wake up suddenly in the greatest apprehension of something terrible being about to be done to him in his dream. The natural and involuntary motor expression of an oppressed heart is such action of the muscles of the face and of respiration as betokens fear and apprehension; but this action cannot take place in sleep, and in its stead we get an equally involuntary expression of the physical state in the terrifying dream and in the frantic

but bootless desire which is felt to escape from the threatened danger. For when a passion has been aroused, or rather when that excitation of the nervous substrata which are its physiological basis has been brought about, the energy may be expended in one of two principal ways: either by putting in action the muscles which are its natural exponents, or by calling up related or sympathetic ideas and putting them in action. Now if a person has fairly sound sleep I conclude that his motor nerve centres and his muscular system are so much asleep that he cannot make use of them to give expression to his internal state in its appropriate movements, and that the energy of it is expended mainly in the painful dream imagery. There is a sort of inverse relation between ideas and movements in regard to their action: when we are deeply absorbed in thought the body is still and respiration is slower; when we are active and are breathing quickly we cannot think; the insane person whose mind is possessed with some vast and fearful delusion is passive or statuesque; and the ecstatic, when rapt in contemplation, is motionless, with scarcely perceptible pulse and respiration; the passion that has outlet in abusive speech or in other movements disturbs not much the thoughts; the anger which is suppressed calls up a host of malignant ideas. In like manner the partially active cerebral state excited by one of the viscera in sleep becomes the occasion of a dream, when it would probably be discharged during waking in such simple bodily movements as yawning, or stretching the limbs, or the like. For there are a great many seemingly purposeless movements of that kind that are made constantly by us, and hardly noticed when we are awake, the stimuli of which come from the organic life. Some such movements as moving the arms, stretching out the legs, turning the body, we do make when we are asleep, but on the whole ideas are then much more active than movements.

A heavy and indigestible meal taken a short time before going to bed is a well-known cause of a form of nightmare in which the person dreams that he has a mountain or a monster lying upon his chest and crushing it by its weight. Whether the dream be the direct effect of the action of the overloaded stomach upon the brain or an indirect effect of the oppression

of the functions of the lungs and of the heart is not easy to say, but, whatever the actual mode of operation, it is interesting to note how well the mental interpretation of the oppression suits with the cause. The troubles of indigestion seldom fail to cause a dreaming sleep. Whether the spleen ever gives a specific colour to a dream is quite uncertain, but there can be no doubt that disorders of the liver and of the intestines both occasion dreams and affect their character. Every stage of the passage of food through the alimentary canal may indeed affect the impression made upon the brain, and the impression is thereupon interpreted, as other feelings of subjective origin are, in accordance with the objective experiences of the senses. I have several times had a vivid dream that I was engaged in conducting a post-mortem examination of a body which came to life and quietly rose up to a sitting posture on the table as I was at work. On one occasion I seized a wooden mallet and struck it on the head with all my might; on another occasion I thrust my hand into the open chest and tore out the heart; but neither of these desperate deeds seemed to make it die and behave as a corpse should. On all occasions, so far as I remember, there was the same indescribable feeling of puzzled surprise and apprehension, with a resolution to escape at any cost the consequences of cutting up a living body; there was moreover a strong sense of personal repression or humiliation which I have never had in actual life since I was at school. This dream seems always to have occurred in connection with some uncomfortable intestinal state: not that this had anything to do with the special incidents of the dream, but it probably had much to do with the fundamental feeling of self-repression which inspired it. I am acquainted with an eminent gentleman who, when he is suffering from a certain abdominal trouble, dreams that he is going in distress from water-closet to water-closet at a railway station to find them all occupied or in such a condition as to be unfit for use. There is an indirect way, moreover, in which abdominal derangements help to affect mental states in sleep—namely, through the effect which they produce upon the skin. When there is irritation or other disorder of the mucous membrane of the stomach and intestines,

the outer covering of the body, with which it is really continuous, sympathises and becomes irritable and has its sensibility affected, on which account the meaning of impressions made upon it is more than usually perverted in dreams.

The internal organs which show their specific effects upon the mind most plainly are the reproductive organs; the dreams which they occasion are of such a character as leaves no doubt of the specific character of the stimulus. Without entering into a detailed discussion of their phenomena, I may deduce briefly from their striking character certain lessons which are not so plainly taught by the more obscure effects of other internal organs. In the first place, it is a probable inference from their characteristic effects that specific, though less striking, effects are produced by other organs. Secondly, it may be noted that these characteristic dreams, which appear for the first time when the reproductive organs begin to function, occûr to the individual before there has been any actual experience of the exercise of these functions or any observation of their exercise. The experience is in entire accordance with the fact that there is no need ever to teach young persons how to exercise the functions; the instinct giveth the understanding necessary for its gratification. Clearly there are nervous substrata that are inactive in every person's brain until he reaches puberty and which then function for the first time. This might teach us to consider how many peculiarities of thought, feeling, and behaviour which differentiate us from other persons are due to nervous substrata inherited from near or remote ancestors, some of which come into functional action perhaps in connection with particular bodily changes that occur at certain periods of life. The individual who begins to feel, think, and act in accordance with his kind when the revolution of disposition takes place at puberty may also develop for the first time peculiarities of thought and feeling which his forefathers have shown, when, later in life, the functions of the reproductive organs wane or cease. Lastly, the mental operations of these organs serve to show of what character the effects produced by internal organs actually are, and for what factors in mind we are indebted to them. They engender a particular tone or feeling

of mind which is conducive to the origin and activity of certain related ideas, and they impart the force of desire by which conduct is inspired; but they do not, as some have supposed, directly affect the understanding, which is a function of the animal life or life of relation, and is developed out of sensations and motor reactions thereto,—that is, out of the capacity to receive impressions from without and to make responsive adaptations to them. The office of the intellect is to guide and direct, steersman-like, the force of individuality which is derived actually from the unconscious depths of the organic life; the sympathetic ideas which a particular mood of feeling stirs are the appropriate channels or forms in which that feeling gets expression when it is not translated instantly into action; and it will depend much upon the education of a person in youth, and by the experiences of life, whether the ideational activities shall be wise or unwise expressions of the fundamental feeling.

I have said enough to indicate how much the physiological action of the visceral organs has to do with the excitation and with the character of dreaming. On the whole it is probable that they are the most active agents in this respect; for the sleep of the body is not their sleep; they continue their functions through the night, albeit at a lower rate of activity; and if the sleep be light, or if one or more of their functions be so far deranged as to become an unusual stimulus, their cerebral sympathies will declare themselves in the irregular activities of dreams, when they are not so energetic as to cause waking.

4. *Muscular Sensibility.*—It is related of several holy persons of old, men and women, that in their spiritual raptures or ecstasies they rose bodily from the earth and floated in the air; and there can be small doubt that some of them felt and believed that they did. St. Philip Neri, St. Dunstan, St. Christina could hardly be held down by their friends, while it is told of Agnes of Bohemia that, when walking in the garden one day, she was suddenly raised from the ground and disappeared from sight of her companions, making no answer to their anxious inquiries but a sweet and amiable smile on her return to earth after her flight. Everybody must at one time or another have had a

similar experience in his dreams. The explanation is not far to seek: a person may have a motor hallucination, so to speak, and imagine he makes the movement which he does not, just as he may have a sensory hallucination and imagine he sees or hears the thing which he does not. We are the victims of motor hallucinations when we suffer from what is called vertigo and the room seems to turn round; the intuitions of movements which we get from the disordered action of the motor centres, and which therefore are entirely subjective, are interpreted objectively in accordance with our ordinary sensory experience, just as sensations of subjective origin are interpreted objectively, and so become hallucinations. Certain drugs when taken into the blood produce vertigo at an early stage, and perhaps convulsions at a later stage of their operation; they affect the motor and associated sensory centres moderately in the first instance, exciting them to a disordered activity, the subjective aspect of which is vertigo, and afterwards more severely, when the disordered energy is discharged in actual convulsions. The drunken person when he shuts his eyes feels the bed to sink under him, the disorder of his motor intuition being interpreted objectively in that way, and when he falls on the ground or runs his head against the wall he perceives the ground to rise and strike him, or the wall to run forward against his head: his motor troubles and hallucinations are the direct consequences of the poisoning of his nervous centres by alcohol. One of the effects of aconite, when taken in poisonous doses, is to produce a feeling as if the body were enlarged or were in the air, mainly perhaps in this instance because of the loss of sensibility of the surface of the body which is an effect of the poison, whereby the person does not feel himself in contact with what is outside him; the part of the body from which he gets no message when it is touched appears therefore to be no longer his, and he interprets the interruption of feeling between him and the outside objects as an actual separation of substances such as would be produced by the body being in the air. These examples will serve to indicate how considerable a part motor hallucinations, combined as they commonly are with sensory disturbances, may play in the phenomena of dreaming.

An uncomfortable position in which the sleeper may chance to lie becomes the occasion sometimes of a dream that he is engaged in a desperate struggle, or is clambering for very life up a steep precipice, and when he has made the convulsive effort to save himself, which he feels that he cannot probably do on the instant, he awakes and relieves the constrained attitude. A not uncommon dream is that he is in imminent danger of falling from a height, and he awakes just as he makes the frantic effort to prevent himself from falling. It has been surmised that this dream is owing to the gradual relaxation of the muscles as he goes to sleep and to an ensuing sudden contraction of them, such as we observe to happen when a person's head who is very sleepy sinks gently forwards as the muscles relax, and then is pulled suddenly up with a jerk by their contraction; or it may be owing to the inclined position of the bed on which the body is lying. After great muscular exertion in climbing high mountains I have often dreamed of sliding down precipices, falling into chasms, and the like, and that so vividly sometimes as to be obliged, on waking, to stretch out my hands and grasp the sides of my bed before I could feel sure where I was; without doubt the wearied muscles were the occasion, through their motor centres, of the mental drama in which the sensory experiences of the day were worked up. But I was once surprised to dream this sort of dream when I had been making no particular muscular exertion in the day, nor had been near any mountains, and when I could at first think of nothing which could have provoked it; on reflection, however, I called to mind a momentary experience of the day which seemed to be a sufficient cause; for I had been driven rapidly in a waggonette to a railway station in the country, and as the horses turned a corner of the road as we went downhill, my muscles contracted involuntarily because I felt from the swing of the carriage a necessity to hold on to the seat. There could be no doubt that this momentary feeling of a support failing was the occasion of the night's dream. When Braid roused in the minds of persons whom he had put into the hypnotic sleep ideas associated with certain bodily attitudes by putting the body into the proper attitudes, he stimulated the mental states

through their suitable muscular acts; he might no doubt have excited them equally successfully without any muscular action by suitable stimulation, had it been possible, of the motor centres only; exciting in this way the motor intuitions without the actual movements, just as is done when delusive notions as to different positions of an amputated limb are excited by stimulation of its nerves. There can be little doubt that what Mr. Braid did experimentally in artificial sleep is a common occurrence in natural sleep, and ought to be taken account of in prosecuting inquiries into the causation of dreaming.

It may be interesting to speculate whether the movements of the heart and of respiration, which go on without intermission, and with only some abatement of energy, during sleep, have any effect upon dreams. That they have no such effect when they are not accelerated or retarded is proved by the fact, if it be a fact, that sleep is sometimes dreamless; but there is good reason to think that when they are disordered they testify of themselves in dreams. On several occasions I have had a dream in which I felt it urgently necessary to make an instant exertion in order to go on living, having experienced a vivid and urgent feeling that if I did not make it I should die; and although I have resolved after such a dream to remain quite still when next I had it, in order to test what would happen, I have never yet succeeded; so overwhelming is the apprehension at the time, that the necessary convulsive start or gasp has always been made, and I have awoke in a state of agitation with my heart beating tumultuously. The dream seems to have its origin in an impeded action of the heart, which, after enduring the oppression for a while, makes a violent beat to recover itself, and then goes on beating rapidly for a time. It may be presumed that a more rapid action of the lungs and of the heart than usual, or the ordinary action of these organs perhaps under some circumstances, will be felt by the brain during sleep, and so give a character to the ensuing dream. What this character is I am not able to say, unless there is truth in the conjecture that the sensation of flying in dreams is owing to a consciousness of the rhythmical activity of the lungs or of the respiratory movements, which suggests the rhythm of flying movements;

but that we have in these continuing movements occasional factors in the production of dreams is in accordance with general physiological considerations, and with such positive experience as we can appeal to in so very obscure a matter.

5. *The Cerebral Circulation.*—When the brain is thinking there is a more active flow of blood through it than when it is at rest; but this flow must not be too active, or sound thinking cannot be done. There are two conditions which experience proves to be adverse to successful thought—namely, an excessive and a deficient flow of blood through the brain. There may be an excess of blood in the brain, however, with a retarded circulation, a passive congestion, which equally hampers thought, as it prevents the free outflow of vitiated blood and the free inflow of fresh blood. When the circulation is too active the ideas are rapid, imperfect, transitory, tumultuous, confused, and scarcely coherent; and if the physical disturbance be carried a step further, the tumult of ideas degenerates into actual delirium, as we plainly observe, for example, when the membranes of the brain are inflamed. When there is too little blood or impoverished blood flowing through the brain, thought is also impeded: there is languor, apathy, incapacity of concentration of attention, positive inability to think; and if the condition of physical disturbance be aggravated, then also there is delirium, though of a looser, more feeble, and less energetic kind than the delirium of hyperæmia. Applying these considerations to the state of the cerebral circulation in sleep, it is easy to understand that fluctuations of it will oftentimes be the occasion of dreams. Notably these are sometimes very vivid and coherent; the sleeper awakes perhaps out of a dream which seemed very real, goes to sleep again, and is immediately engaged in another equally vivid, which leads to his waking again; no sooner is he asleep once more than he is in the middle of another vivid dream, and as dream thus follows dream in quick succession, making a curse of slumber, he might well exclaim in the words of Job—"When I say, my bed shall comfort me, my couch shall ease my complaint; then thou scarest me with dreams, and terrifiest me through visions."

It is a probable conjecture that these vivid and coherent

dreams mark a general activity of the cerebral circulation, and that they follow one another as long as it continues. The misfortune is that in this condition cause and effect seem to act and react so as to keep up each other's activity: the full or rapid blood-stream stimulates the nerve-elements, and the excited nerve-elements in turn attract and keep up an active circulation: we could sleep soundly if the stream of blood would only subside, and the stream of blood would subside if we could only abate or suspend the race of ideas through the mind. Meanwhile neither will begin to abate first. The merit of the several plans which have been recommended as successful means of inducing sleep lies in their fixing attention steadily upon some object or event that is itself of an unexciting nature for a sufficient length of time to allow all active ideas to subside. To imagine a continuing monotonous sound, or a flowing river, or the rush of a stream of steam from the nostrils, and to hold the attention to the particular imagination without permitting it to wander to more exciting ideas, to repeat to oneself slowly lines of poetry, or to go on counting from one upwards, and the like, are all schemes which operate in that way; and in carrying them into effect success will certainly be more probable, according to my experience, if the breathing be deliberately slackened and the eyeballs rolled upwards voluntarily, as is done involuntarily during sleep.

Local fluctuations of the circulation may in like manner be supposed to be the causes of dreams more limited in range and less coherent in character. Certainly such variations occur, although we are not able to specify the exact causes of them. Looking, however, to the many ingoing channels of communication between the different organs of the body and the brain in which they are all represented locally, it is easy to conceive that some trivial disorder of one of them may affect temporarily, through vaso-motor nerves, the circulation in the cerebral area in which it is represented: the particular vascular area will blush or become pale, as it were, in sympathy with the state of the organ. Baillarger relates a case which may find a place here as fitly as anywhere else. A Greek merchant had suffered for a long time from a hæmorrhoidal flux, which was suppressed

at last by treatment. But he began immediately to suffer pains in his head, without however exhibiting any trace of delirium. A singular phenomenon too presented itself: every night he had a dream in which he imagined that he possessed immense wealth, and that he distributed fortune and honours to all around him. The recurrence of the dream night after night struck him as so extraordinary that he spoke about it to his friends. After a short time delirium broke out, characterised by the same conceptions as for fifteen days had occurred during sleep: in fact, the exalted delirium was only a continuation of the dream. It may be surmised that in this case there was, in consequence of the suppression of the hæmorrhoidal flux, a disturbance of the cerebral circulation which showed itself first in the troubles of the head and afterwards in the dream of the night, and that the vascular disturbance, with the special cerebral activity accompanying it, became after a time a chronic and permanent derangement.

The quality of the blood is a not less important factor than the quantity and the distribution of it. Foreign matters bred in it or introduced into it from without increase, lessen, or pervert the functions of the supreme cerebral centres, giving rise to temporary exaltation of mental energy, to stupor and coma, and to delirium. The constant changes in the constitution of the blood, which are the consequences of its use and renewal in the nutrition of the tissues, its life-history being a continued metastasis, will undergo such modifications from time to time as to generate substances that may act upon the nerve-centres, as upon other tissues of the body, to excite or to depress or to derange their functional activity; and it is obvious that the circulation of such products in the blood may be the active occasion of dreaming. Blood that is impoverished through deficiency of one of its essential constituent elements, as in anæmia, where iron is wanting, or is impure by reason of the retention in it of some effete products of the tissues which should be excreted, as when hindered respiration prevents it being properly decarbonised, or when some constituent of the bile accumulates in it, or when the uric acid which should be drained off by the kidneys is retained in it, may be confidently expected to act upon the brain in sleep as powerfully as it does when awake.

Let it not be overlooked in relation to this matter that the vitiated or altered blood will act upon any nerve-centre, whether sensory, motor, vaso-motor, or ideational. Subjective visual sensations, such as bright spots, circles of light, coloured patches, vague figures, that are due to direct irritation of the retina or its central ganglion, and which may be observed almost always just before going to sleep, if we only take notice of them, will originate a dream or be woven into it; motor intuitions will be excited in like manner by the action of the vitiated blood upon their nerve-centres; it will act again upon the vaso-motor centres which regulate the contraction of the blood-vessels, and so affect secondarily the circulation within the brain; and by reason of its distribution through the supreme nerve-centres it will stimulate ideas mechanically, independently of the usual links of association, and so probably occasion very incoherent dreams marked by rapid transformations and grotesque inconsistencies.

Dreams are sometimes found to go before a severe bodily illness, which they seem to foretell: before the delirium of fever breaks out the patient is much disquieted and distressed by vivid and gloomy dreams, of which the delirium appears as a continuation; and during the progress of fever, when he is not actually delirious, all inclination to sleep is banished, though he would give all he has to get sleep, painful thoughts chase one another in rapid succession through the mind, and he is overwhelmed with a terrible feeling of profound depression and vague dread, the indescribable misery of which he declares he would not choose to go through again for all that the world can give. Did the invention of hell need any explanation the mental sufferings of a delirious patient in some instances might furnish it. An outbreak of acute mania of an elated character is sometimes preceded by dreams of a joyous and elated character; and sad and gloomy dreams in like manner often go before and presage an attack of melancholia. I was consulted on one occasion by a lady who had suffered from several attacks of profound melancholia, each of which had lasted for about four months; they were separated by longer intervals of sane and busy cheerfulness, during which she was as unlike as possible what she was when she was afflicted. The notable circumstance in her case

was that before an attack she invariably dreamed that she was suffering from it, and before it passed off as invariably dreamed that she had recovered and was cheerful and well. So certain were these dream-presages that they had never failed to occur and had never deceived her. And yet she did not feel more cheerful just before she recovered, nor more energetic immediately after her recovery; on the contrary, for two or three days before the attack passed off she was more wretched than ever, and far more irritable, so that she was inclined to smash everything about her; and immediately after it passed off she was exhausted, felt very feeble, and was unable to make the least exertion. Before the attack there always occurred exactly the same symptoms of digestive disorder, which no kind of treatment—and many things had been tried—assuaged in the least: the tongue became remarkably red, she could take little or no food, and there was obstinate diarrhœa. The symptoms no doubt pointed to a primary affection of the great sympathetic nervous system, which was followed in a little while by cerebral disturbance; and it would certainly appear that the brain felt the sympathetic trouble in sleep, and so forefelt and foretold the impending calamity in its dreams, before it had waking consciousness of it, just as in like manner it forefelt and foretold recovery.

I know not certainly whether the state of the blood has anything to do with the dreaming which occurs in connection with certain diseases, but it is probable enough in some cases. The inquiry is one which may be set down as having yet to be made. All that we are meanwhile warranted to conclude positively is that the quality of the blood is a real factor in the stimulation and depression of the cerebral and other nerve-centres, and therefore in the causation of dreaming. It may act directly or indirectly to produce its effect: directly upon the supreme cerebral centres so as to excite irregular function in them, or directly on the sympathetic nervous system, and indirectly on the brain, whereby a deep disturbance of the affective nature is produced and gives its predominant tone to the dream.

6. *The Condition of the Nervous System.*—Little consideration is needed to show how difficult it must be to treat of the

condition of the nervous system separately from the quality and activity of the blood; in truth, they constitute together a compound state rather than distinct co-operating conditions. The vital interchanges between the blood and the nerve cell which are constantly going on are an essential part of the function of the latter as a living cell; without them it could not exercise any function at all, being in itself a sort of mechanical framework which is kept in action by the plasma supplied from the blood that it uses and exhausts in its function; it feels therefore the least changes in the quality of the supply. But the structure itself wears out in time; it wears out naturally with the decay of old age, and it will wear out prematurely if an undue stress be put upon it habitually. The blood has not only to supply in the rich plasma the high potential force which is to be made actual energy in the discharge of nerve-function, but it has to keep in repair the nerve-structure; and this it must fail to do when the latter is subjected continuously to an excessive strain. Because then of the deterioration which may be produced in nerve-elements by stress of function as well as by natural decay, and because also of temporary modifications of nerve-tone which seem to be produced by unknown atmospheric conditions, I have thought it fitting to group the facts relating to the direct state of the nervous system under a separate heading.

A state of moderate nervous exhaustion, whether from the fatigue of mental or bodily exercise or from some other cause, is notably most favourable to the induction of sleep. But when the exhaustion is carried to excess the propitious conditions are gone, and the person cannot sleep at all, or cannot sleep soundly: he may get fitful snatches of unrefreshing slumber in which he is pursued by dreams that are so like the rambling incongruities of half-waking fancy as to leave him in doubt whether he actually slept or not. It is a well-known experience that a moral shock or a great trial which has produced much emotional agitation or strain in the day will trouble the slumbers of the night with distressing dreams; and it is equally certain, though it is perhaps not so well known, that an exhausted and depressed state of the nervous system owing to indulgence in excesses of any kind, and especially sexual excesses, will have the same

effect. The dreams which occur under these conditions betray their origin by their character. They are disagreeable or distressing dreams of being encompassed by difficulties or troubles of some kind or other—the exponents of a condition of organic element which means a reduction of its vitality. For a moral strain or a physical excess is able to produce the same physical effects in the cerebral nerve-centres—namely, consumption of energy and lowered vitality; and the lowered vitality becomes in dreams an oppression or a check or a humiliation of self, just as a bodily pain which we are suffering when we go to sleep becomes transformed sometimes into the persecutor of our dream. We cannot be too mindful of the physical effects of moral causes; a moral shock may kill as instantly and surely as a stroke of lightning, and when it does so its operation and effect are as certainly physical in the one case as in the other. Nor can we be too mindful of the effects of exhausting physical conditions upon mental tone and power.

Whosoever is so unhappy as to have habitually sleepless nights and bad dreams should bethink him that his health requires attention; for in some way or other he is not living wisely. A prudent man will indeed use his dreams as a sort of health-gauge. When Hamlet declared that he could live bounded in a nut-shell and count himself a king of infinite space, were it not that he had bad dreams, he was suffering from the great moral commotion produced by the appalling revelation of his father's murder, which his father's ghost had made to him, and from the terrible strain of the obligation laid upon him to avenge that crime; his dreams—if we may take him to mean literally what he said—were the signs and the effects of an exhaustion of nervous energy which might have overthrown a less strong mind in madness. Over-work and anxiety are well-known causes of sleepless nights and bad dreams; but in some cases of supposed over-work I am convinced that the evil result which excites alarm is owing not so much to overstrain of mind as to imprudent excess in other respects. The over-indulgences of life are really more to blame in such cases. The man of business goes through the daily routine of his work with no more variety of impressions than is occasioned by an extra cause of worry or

by a chance stroke of good or ill fortune; he has no interests outside it, and when he is not occupied in it he has no resource but to eat and sleep; probably he eats grossly, drinks freely, and is not less free in sexual indulgence; and this goes on from day to day and from year to year until, as the elasticity of the system wanes with advancing manhood, he has to seek advice from a physician because his sleep fails him, his work tries him as it never used to do, he is irritable, and he feels overworked. It is from sensual indulgence and the exhaustion consequent thereupon, and from a neglect of mental hygiene, that he suffers primarily; the work of his life might have been done without strain if he had not exhausted his capital by the steady drain of habitual slight excesses, and so made a great burden of his daily duty. But I will not pursue these matters further now; I have touched upon them by the way only to make plain the similarity of results as regards sleep and dreaming between the effects of the moral and the physical causes of exhaustion of nerve-element.

When the nervous structure undergoes impairment in old age, the decay is natural, and I know not that the dreams of old persons are particularly distressing. The decay of age is not, like a disease, an invader against which the organic forces rise in defence, and defend themselves with more or less success; the organism acknowledges and accepts it rather as a natural decline that makes its descent to death easy. What we observe in old age is that the distinction between sleep and waking is less marked than in youth and manhood, both being less complete: nature as it approaches its last sleep is fashioned for the journey. When decay reaches its last stage before death, and life is flickering before it expires, there are rambling reveries which are very like dreams, and dreams that show like feeble delirious wanderings. Lord Jeffrey, in the last letter which he wrote the day before his death, gives the following account of himself: "I don't think I have had any proper sleep for the last three nights, and I employ portions of them in a way that seems to assume the existence of a sort of dreamy state, lying quite consciously in my bed with my eyes alternately shut and open," and seeing curious visions. He saw part of a proof-sheet of a new edition of the Apocrypha, and all about Barach and the

Maccabees, and read a great deal in it with much interest; and a huge Californian newspaper full of all manner of old advertisements, some of which amused him much by their novelty. "I had then prints of the vulgar old comedies before Shakespeare's time, which were disgusting. I could conjure up the spectacle of a closely-printed political paper filled with discussions on free-trade, protection, and colonies, such as one sees in the *Times*, the *Economist*, and the *Daily News*. I read the ideal copies with a good deal of pain and difficulty, owing to the smallness of the type, but with great interest, and, I believe, often for more than an hour at a time; forming a judgment of their merits with great freedom and acuteness, and often saying to myself: 'This is very cleverly put, but there is a fallacy in it for so and so.'"[1] The literary pursuits of his life gave their character to the flickering energies of his failing nervous centres, and the critical habit of his mind showed itself in its final operations.

The dreams of childhood are sometimes of a painful character, being accompanied by great terror and distress. The most terrifying dream which I remember ever to have had, which made me most unhappy for a whole day and fearful of going to bed the next night, and the chief incident of which I can yet recall, was one which I had at the earliest period of life almost of which I have any recollection. Without doubt the causes of most of these dreams of childhood are to be found in the bodily disturbances which are produced by teething, indigestion, unsuitable food, and the like: the bodily oppression or suffering is interpreted mentally in such forms of terror and affliction as the child's imagination has been indoctrinated with, and it is accordingly scared with visions of lions or tigers, or wicked old men that come to carry off naughty children. The emotional life preponderates much over the intellectual life in children, who are commonly either in a state of joy or grief, laughing or crying; they are consequently very susceptible to fear, just as savages are; indeed it can hardly be otherwise when their individual helplessness is in such strong contrast with the seemingly mighty powers of things around them, and when they

[1] *Jeffrey's Life and Correspondence*, by Lord Cockburn, vol. i. p. 407.

have not in their minds stored up experiences to enable them to correct or control by reflection the present image of terror, which furthermore acquires in dreams an extraordinarily vivid intensity because of the absence of all distracting or modifying states of consciousness. We witness a striking illustration of the isolated intensity of a terrifying dream-image in that form of nightmare in which a child of a nervous constitution shrieks out in the greatest apparent distress, staring wildly at some imaginary object, and from which it cannot be awakened for some time notwithstanding its outcry; it is truly in an ecstasy of terror; there is a convulsive activity of the terrifying idea, and for the time the nervous centres are entirely insusceptible to other impressions. In the morning the child has not the least remembrance of what has occurred: how should it remember when the mental state was isolated by its convulsive energy? Another circumstance to be noted about dreaming children is that they often talk in their sleep, the ideas being translated into movements of speech directly as they arise, or, if they are of a terrifying character, into cries of distress; in the same way horses neigh and kick, and dogs bark and tremble, in their sleep. It is probably in some sort a consequence of this direct reflection of ideas into movements in children and of the fewness of their ideas that they seldom remember their dreams; and it is interesting to note in this relation that there are some grown-up persons who when they talk much in their sleep cannot remember their dreams, but remember them perfectly well when they do not talk.

Concerning the atmospheric conditions, whether of electrical or other obscure nature, which may modify the tone of the nervous system and so affect the soundness of sleep and the tendency to dream, there is nothing more to be said than that an influence of the kind is very probable, although we have not yet any exact knowledge of it. Systematic observations are entirely wanting. I am not aware that any one has yet been at the pains to make a long series of observations of his sleep and dreams and to compare it with a corresponding series of meteorological observations. But I doubt not from my own experience that we do vibrate in unison with more subtle influences of earth and

sky than we can yet measure in our philosophy.[1] Dreams have been a neglected study; nevertheless it is a study which is full of promise of abundant fruit when it shall be earnestly undertaken in a painstaking and methodical way by well-trained and competent observers. To physicians of all men is it likely that they will prove full of instruction.

[1] How great is the effect upon some persons, both in the day and in the night, of that oppressive state of the atmosphere which precedes and accompanies a thunderstorm! I have thought sometimes that the brain of an aged person, who has led a life of great activity—perhaps never having had a day's illness, as it is said—has collapsed suddenly in such atmospheric conditions.

CHAPTER II.

HYPNOTISM, SOMNAMBULISM, AND ALLIED STATES.

UNDER such names as mesmerism, animal magnetism, electro-biology, hypnotism and braidism, have been described, and more or less carefully investigated, certain abnormal mental states, of a trance-like nature, which are induced artifically by suitable means. Too long they were rejected as sheer impostures, unworthy of serious study, partly because they undoubtedly yielded easy occasions to knaves to practise deceit for their pleasure or their profit, and partly because they seemed to be inconsistent with known physical laws. Had the interpretation given of them by those who were eager to discover something marvellous been the only possible one, there would certainly have been a blank contradiction of known physical laws. But it was not so: when close and critical attention was given to the phenomena it was soon perceived that they might be genuine, though they were interpreted wrongly; and the scientific study of them, imperfect as it yet is, has shown that they are consistent with certain other obscure nervous phenomena, and has been useful in throwing some light upon the manner of working of nervous functions. A good use of uncommon things is to force us to look more curiously at the meaning of common things which we overlook habitually. These abnormal phenomena have not yet, it is true, been brought under the domain of law, because we have not sufficient knowledge of the exact conditions of their occurrence to enable us to define the laws which govern them, and because their changeful, irregular, and seemingly capricious and lawless character puts great difficulties

in the way of systematic inquiries; but it is not seriously disputed now that they will ultimately have their proper place in an orderly and complete exposition of nervous functions.

When a person was thrown into this sort of abnormal mental state by the influence of another person upon him, the question was whether the effect was due to some subtle and unknown force that emanated from the nervous system of the operator and was transmitted to the person operated upon, or whether it was due to the excitement of the latter's imagination—in other words, to the condition of extraordinary activity into which his nervous system was brought. Those who were eager that strange and mysterious phenomena should have extraordinary and mysterious causes hastened forthwith to invent new forces which they called mesmeric, magnetic, odylic, and the like; they were loath to believe that they had to do only with phenomena which, though strange and aberrant, might yet be referred to the operation of known causes, and to search patiently whether there were not other phenomena, neglected because less striking, with which they might be compared and classified. The inquiry, had it been carefully and candidly made, would have shown that they were extreme instances of the operation of known laws.

Let us go on to consider then what these abnormal phenomena are and how they are produced. After being induced to look intently at the operator, or so-called magnetiser, who attracts his attention by making a few gentle passes with his hand, or by holding some bright object before his eyes at a little distance from them, or by merely looking fixedly at him, after a short time the person operated upon falls into a trance-like state, in which the ordinary functions of his mind are suspended, his reason, judgment, and will being in complete abeyance, and he is dominated by the suggestions which the operator makes to him. He feels, thinks, and does whatever he is told confidently that he shall feel, think and do, however absurd it may be. If he is assured that simple water is some bitter and nauseating mixture he spits it out with grimaces of disgust when he attempts to swallow it; if he is assured that what is offered to him is sweet and pleasant, though it is bitter as wormwood, he smacks his lips as if he had tasted something pleasant; if he is told

that he is taking a pinch of snuff when there is not the least particle of snuff on his finger, he sniffs it and instantly sneezes; if warned that a swarm of bees is attacking him he is in the greatest trepidation, and acts as if he were vigorously beating them off. The particular sense is dominated by the idea suggested to the mind, and he is very much in the position of an insane person who believes that he smells deleterious odours, tastes poison in his food, or is covered with vermin, when he has the delusion that he is afflicted in one or other of these ways; or in the position of the dreamer who is entirely under the dominion of the imaginary perception of the moment, however extraordinary, ludicrous, or distressing it may be. He will in vain make violent and grotesque exertions to lift his arm or his leg when he has been confidently told that he cannot do it. In no case could he do this if he had not the belief that he could do it, and he is impotent therefore to do it when he has the strong belief that he cannot do it: the growth of a child's doings is the growth of its beliefs that it can do. His own name he may know and tell correctly when asked to do so, but if it is affirmed positively to be some one else's name he believes the lie and acts accordingly; or he can be constrained to make the most absurd mistakes with regard to the identities of persons whom he knows quite well. There is scarcely an absurdity of belief or of deed to which he may not be compelled, since he is to all intents and purposes a machine moved by the suggestions of the operator. It is interesting to note, however, that he will not commonly do an indecent or a criminal act; the command to do it is too great a shock to the sensibilities of the brain, and accordingly arouses its suspended functions. The sensibilities of the different senses, or of one or more of them, may be exalted, but at other times they are abolished, the condition being very much that of complete trance, and the insensibility so great that the severest surgical operations have been performed without eliciting the least sign of feeling.[1] When the person comes back to a state of normal consciousness the

[1] In 1859 two eminent French surgeons, Velpeau and Broca, performed surgical operations upon twenty-four women who had been put in the hypnotic state by Braid's method, without pain.

illusions disappear instantly, his senses recover their natural sensibilities, and his mental faculties resume their suspended functions; but in some cases a little time must elapse before he regains his natural control over himself, and it will be more easy to throw him into the abnormal state on another occasion.

The conditions of the induction of the abnormal state of consciousness seem to be, first, a nervous system that is more than usually susceptible and unstable, and, secondly, the exercise of a fixed and strained attention for a short time. With regard to the first condition, Baron Reichenbach, who was a sincere believer in the action of a special force, which he called odic force, gives testimony which is the more instructive here because it comes from one who saw in the phenomena something more than natural nervous function. "I inquire," he says, "among all my acquaintances whether they know any one who is frequently troubled with periodical headaches, especially megrim, who complains of temporary oppression of the stomach, or who often sleeps badly without apparent cause, talks in the sleep, rises up or even gets out of bed, or is restless at night during the period of full moon, or to whom the moonlight in general is very disagreeable, or who is readily disordered in churches and theatres, or very sensitive to strong smells, grating or shrill noises, &c. All such persons, who may be otherwise healthy, I seek after and make a pass with my finger over the palm of their hands, and scarcely ever miss finding them sensitive." Nine out of ten of his "sensitives" he found to be females "or youths of the same nervous temperament," the majority of them under twenty-five years of age, and they all seemed to have inherited their sensitiveness from their parents. Obviously then a certain neurotic temperament is most propitious to the induction of the mesmeric or hypnotic state. The second condition is the fixation of the attention for a short time through sight. Mr Braid used to make the person look upon a disc or some bright object held in front of and a little above the level of the eyes but the operator commonly looks him in the face and makes a few gentle passes with his hand before his eyes; after a little while there is a tremor of the eyes, the pupils dilate, and he falls into the mesmeric state. All that the Abbé Faria, a

successful mesmeriser, used to do was to look fixedly at his subjects in an impressive manner and to say in an imposing voice, "Sleep," when they instantly fell asleep.

It was long known to jugglers, and two hundred years ago it was shown by a Jesuit priest, Kischer, who attributed the effect to magnetism, that if a cock or a hen be grasped firmly in the hands and held fast for a short time with its beak on the ground, a chalk line being drawn straight from the beak so that its eyes converge upon it, it remains there fixed, motionless, and more or less insensible; so much so as not to feel even the pricks of pins that are thrust into its body. It is in a state of hypnotic sleep. The chalk-line is not really necessary; the simple handling or holding of the hen usually suffices to produce the effect. Morever, as Czermak showed, the experiment may be done successfully on other animals—on young lobsters, frogs, geese, ducks, and even on dogs sometimes; the help of an object to gaze at being necessary in some cases. Something of the same kind occurs, I believe, when a cat fascinates a bird so that it cannot make the least exertion to escape, or actually drops from its perch into the paws of the cat. We perceive then that by giving a particular strain of fixed activity to the nervous system its ordinary functions may be suspended, and it may be made insensible, so long as the isolated activity continues, to the impressions which ordinarily affect it. What is the intimate change in the nerve-element which produces this state of non-conduction between associated nerve-centres, this discontinuity of function in spite of continuity of connecting fibres, we know not; it must suffice for the present to know that a particular form of activity is capable of reaching such a pitch as to suspend or inhibit, while it lasts, the ordinary functions of the nervous system, and to know this furthermore by instances in which the supposition of a transmission of any peculiar force from the operator to the creature operated upon may be confidently rejected.

The mesmeric or hypnotic subject who is for the moment entirely under the sway of the idea suggested by the operator and insensible to other impressions is in a similar condition of partial activity and general incapacity of cerebral function. If we reflect, we may call to mind gradational states between this

abnormal form of activity and the entirely normal exercise of mental function. Take, for instance, the state of profound reverie in which the brain is so earnestly engaged in an absorbing reflection, so completely abstracted thereby from the usual paths of function, as to render the greater part of it insusceptible to impressions, and the individual therefore unconscious of what is going on around him: sounds strike his ear and he hears them not, incidents happen around him and he notices them not, the pain of disease may be unfelt in the deep abstraction of his mind from it. There is a track or an area of activity lit up by consciousness, while all around are darkness and inactivity. Without falling into this Archimedes-like abstraction, any one may notice that when he is reflecting earnestly on a subject in which he is deeply interested he is scarcely conscious; it is only the lapses of his attention that make him conscious; and the same period of time will appear to him as a minute or an hour according as he is deeply absorbed in his subject or not. An acute pain notably renders us insensible to a less pain, though the conditions of the latter continue in operation; the message sent to the central ganglion by it no longer awakens any notice, for there is a local suspension or inhibition of its sensory functions in consequence of the abstraction of consciousness by a neighbouring predominant activity. In the same way a severe neuralgia may be replaced by convulsions, itself ceasing when they come on, and may return when the convulsions stop, the disordered energy being transferred, as it were, from one class of nerve-centres to another. In the excitement of battle a wound is not perhaps felt at the time of its infliction, and some animals like frogs and snails are insensible to pricking or cutting during the act of sexual copulation: in all animals indeed the acute sensory orgasm is incompatible with any distraction of thought or feeling, and silences for the moment of its transport any pang of bodily pain which there may chance to be. No better example than this from the physiological life could be given to illustrate a mode of nervous function which is exhibited pathologically in certain forms of hysterical ecstasy. The quasi-cataleptic and almost insensible state of the melancholic patient whose mind is

possessed with one terrible delusion which will not let it go, and the real cataleptic, whose limbs retain for an indefinite period whatever position may be given to them while he is insensible to outward impressions, seem to be examples of the same mode of function.

Many more instances might be mentioned of this kind of induced discontinuity or disruption of mental function in the supreme cerebral centres. If a nervous person coming to an anxious interview with a superior is asked abruptly and harshly what his name is, he may clean forget it, just as a nervous student at an oral examination may be unable to answer a question the answer to which he knew quite well a minute before, and will know quite well a few minutes afterwards. He is like the hypnotic who when he is told that he cannot pronounce a certain letter boggles and makes futile attempts at its pronunciation, but at the same time pronounces it unconsciously in the very words which he uses to declare that he cannot do it. How often shall a confident brow and a bold assertion carry temporary conviction to a mind which is struggling all the while to resist belief, and which is able, only by quiet reflection afterwards, to reassert its independence and judgment! Nervous and hysterical persons may be made to believe almost anything that a person to whom they have yielded their confidence, and who has unbounded confidence in himself, affirms to them positively; and it needs not to be either nervous or hysterical to be powerfully influenced on the occasion of some anxious and doubtful enterprise by the confident prediction that we shall succeed or fail; the prediction, whether well-founded or not, aiding materially in either case to bring about its own fulfilment. We may know very well that the person has not adequate grounds in a full knowledge of the circumstances to warrant his prediction, but we are none the less affected by it, perhaps against our better judgment, and cannot help suffering our energies to be either on the one hand distracted and weakened or on the other hand concentrated and strengthened by it. There are some persons whose habit of mind it is to balance reasons so nicely that they find it very hard to come to a

decision, and it is an extraordinary comfort to them when another person will endorse or even only rehearse the reasons on one side in a confident tone so as to give them a preponderant activity; they feel the relief and are resolved, notwithstanding that the person who has helped them is not one whose judgment they esteem much at heart, and notwithstanding that the conflicting reasons, when calmly weighed, are actually just as nearly balanced as they were before.

It is well known how often a most absurd idea will hold possession of the mind in dreams, and although it bears but a very small proportion to the multitude of latent ideas in the mind, with some of which it is absolutely incompatible, we are entirely at its mercy for the time being, and have not the least power to correct it. The wonder would of course be if we did correct it when it is solely active, and if we did not believe it when the rest of the mental functions, being suspended in sleep, are not susceptible to stimulation by it or by the customary impressions from without: in such case how can they arise to correct or to contradict it, or to affect it in any way? In the hypnotic state the idea is isolated by a similar break of functional continuity in the supreme centres; the excitation of the ideational track is such that, like a spasm or convulsion of muscle, it escapes for a time from the controlling influence of surrounding functions, and only, as it subsides, can be brought again into co-ordination with them. We see the reason then of the forgetfulness which is sometimes shown of what has taken place in the mind during these abnormal trance-like states; it is the result and evidence of the extreme out-of-relationship of the active idea, whatever it chanced to be, with other ideas, wherefore there is nothing in the ordinary mental operations to recall it. That it should be remembered, that is to say, should recur, during these operations, would be exactly as if a particular convulsive movement should recur and take part in a series of ordinary natural movements with which it is incompatible: the irruption of the abnormal movement would be the disruption and inhibition of the normal movements. Should there be, during a subsequent trance-like state, a remembrance of what happened in a former one, as befalls sometimes, it is because

the same state of things then recurs. Now instability of functions is a character of the so-called nervous temperament; there is a tendency of ideas and movements to escape from the bonds of their functional relations, and to act independently—to break away from coordinate and subordinate consensus of function, and to become, so to speak, *dis*-ordinate—not otherwise than as an insane person is apt to disregard the obligations of the social state and to break out into anti-social behaviour. It was for this reason that I formerly described the temperament as the *neurosis spasmodica*.

It might perhaps be set down as a general law that, given two nerve-centres of mental function, they cannot be in equally conscious function at the same time; if the one is actively conscious the other will be sub-conscious, or not conscious at all; and if the one reaches a certain height of activity the effect upon the other will be entirely inhibitory—it will be rendered temporarily incapable of function.

In the hypnotic state the individual is on the whole less sensible to external stimuli than in natural sleep, but more sensible to the particular stimulus of the operator's voice than he is to any stimulus in natural sleep, although, as I have before pointed out, there are considerable variations in the degree of natural sleep, and stories are told of some persons who have been almost as susceptible to the suggestions of others as the hypnotic subject is. That he should be sensible to the operator's suggestions with whom he is in sympathetic relation, and not sensible to the suggestions of a bystander, agrees with the experience that a person who is dreaming will sometimes hear and weave into his dream, and perhaps even reply to, a question which happens to be in relation with the idea of his dreams, or which is put to him by a familiar voice. It agrees also with the fact that in the waking state we habitually abstract consciousness from what we are not thinking about, admitting only such impressions as are in relation with our reflections, and rejecting those which are not; and this we do not only voluntarily, but often without knowing what we are doing, much more without specially willing it; it is at bottom an unconscious process, like that by which a strong feeling arouses and fosters its sympathetic ideas, ignores and

excludes unsympathetic ideas. We have only to exaggerate in imagination this condition of normal reflection—to suppose it to deepen through different depths of reverie, until it reaches the morbid degree of hypnotism—and we shall have a partial mental function with susceptibility to related impressions and a complete inhibition of the rest of the mental functions.

When a person has been so unwise as to suffer himself to be thrown many times into the hypnotic state he is very easily affected; the expectant idea will induce the state without anything whatever being put before the eyes. Reichenbach's experiments on his sensitive subjects whom he kept in his house proved, in a ludicrous way sometimes, that there was hardly any circumstance whatever, however trivial in itself, which might not occasion it in persons who expected it and were accustomed to it The habit grew upon them, as we know that habits of nervous action, good or bad, normal or abnormal, will do if they are encouraged. In the first instance, however, a fixing of the attention through vision seems to be helpful or even necessary, and if the object gazed at be something so placed a little above the level of the eyes as to necessitate a greater strain of the ocular muscles it will be more effectual. By fixing consciousness in this way, in other words, by keeping up a single act of undivided attention, there is a subsidence of the general activities of the brain, which thereupon goes to sleep. Were consciousness prevented from wandering by being held in any other act of undivided attention, whether it were by a mental image or by a muscular strain, the result would no doubt be the same. The reason why the hypnotic subject is best affected through sight probably is that his attention is easily arrested so, and that in no other way would he be so capable of an undistracted act of voluntary attention for any length of time: ask him to think of one thing steadfastly for a few minutes, without ever allowing his attention to stray, he would fail to do so; but when his attention is fixed in a steadfast gaze upon some object to which it is solemnly directed, with the expectation of something extraordinary being about to happen, it is held involuntarily—distraction of consciousness is prevented.

It is not a mere harmless amusement for one who is suscep-

tible to the hypnotic trance to suffer himself to be frequently practised upon, for there is danger of his mind being weakened temporarily or permanently. Indeed were his will strong and well-fashioned the operation could not succeed, for its success is a surrender of the subject's will to the will of the operator, and he is sometimes plainly conscious of a lessening resistance to the latter's commands before he is completely subdued and yields unconditionally. After coming out of the trance, a little time must elapse before his will recovers its power; for a while he remains unduly susceptible to the suggestions of others, and too easily influenced by commands. In the end, if the practice be continued, he is likely to lose all control over his own mind and to become insane; the compact consensus of the supreme centres has been broken up, a dis-ordinate tendency fostered, and the dissociated centres are prone to continue their abnormal and independent action. And assuredly that way madness lies.

I have only to remark further with regard to hypnotism that it or a similar trance-like state is produced sometimes by entirely physical causes. It has occurred now and then in consequence of injury and of disease of the brain, without our being able to trace the connection between the particular injury or disease and the singular affection of consciousness. It is not difficult, however, to conceive that a physical cause of irritation in the brain may easily suffice for the induction of a state of non-conduction, general or partial, in its delicate structural elements, and that strange aberrations of consciousness will ensue in consequence; but of what really happens we know nothing definite at present.

The condition which most resembles the hypnotic state is natural somnambulism; indeed the former might not unjustly be described as an artificial somnambulism. We observe great differences in the conditions of the senses in natural as in artificial somnambulism: the person may see without hearing, or hear without seeing; his eyes may be shut or wide open; apparently he may see some things and not see other things that are equally within the field of vision; the sensibility of one or more of the senses may be considerably increased; indeed, the gradations of sense in different cases are such that the somnambulist may be

on the one hand almost as clearly conscious of his surroundings as when awake, or, on the other hand, almost as unconscious as when fast asleep. Like the hypnotic, he sometimes remembers during one attack the events of a former attack, although he has no remembrance of them while he is in his normal state of consciousness. At other times he forgets altogether everything that happened during the attack: a fact which is in accordance with the experience that the dreams in which a sleeper talks are those which are least remembered. In a few instances he remembers something of his dream, imperfectly and confusedly, especially when a scene or incident in the day chances to recall it.

Because the somnambulist plainly does not see things near him sometimes, though his eyes are open, and nevertheless shows by his behaviour that he does perceive other things that are not so close to him, it has been supposed that he has the power to perceive through some other channel than the ordinary senses. If he manifestly does not see one thing which is right before his eyes, how can he see another, it may be reasonably asked? The answer is that he sees what is in relation with the ideas of his dream: the avenue of sense is open to the apprehension of an object the idea of which is active in his mind, and shut to those objects which are not in relation with the images of his dream. In like manner he may not hear some sounds, though they are pretty loud and startling, and yet may hear other sounds which are woven into the fabric of his dream and perhaps give a new direction to it. The occlusion of sense to what is not necessary to the immediate business is the main reason probably why he is able to walk cleverly and fearlessly over roofs of houses and other dangerous places where he would not like to venture if he was broad awake. Seeing only what he requires to see for his purpose, he is not distracted by seeing other things which might dissipate his attention, and his undivided energies are given unreservedly to the accomplishment of what he has to do. The way to do a difficult thing which is feasible is not to see vaguely the difficulties, but to see definitely the means of success; the energies are then undistracted by any halting considerations. The hypnotic, whom we may consider to be in a single state of consciousness, has been known sometimes to execute feats of

muscular strength or agility which he would have found it hard or impossible to do in his normal state. Another reason of the fearless feats of the somnambulist—fearless, but not so safe for him always as is popularly supposed—is perhaps the heightened sensibility of his muscular sense, by virtue of which, like a blind man, he is susceptible to finer impressions, and receives more precise and certain information to guide his movements. There is reason to believe that the sensibility of the other senses may be increased sometimes, as is undoubtedly the case in artificial somnambulism; through a keener sensibility of the retina he may get an advantage of discriminating objects in the dark equal to that possessed naturally by such nocturnal creatures as owls and cats; and the increase of auditory or tactile sensibility, by enabling him to apprehend such slight impressions as he could not discriminate in his normal state, might well give a miraculous semblance to his perceptions. Of one of his so-called "sensitives" Reichenbach relates that "all common light was a burthen to her, pained her, and dimmed the clearness of her perception. Her sight was good in proportion to the depth of darkness about her.". But we have more sober and trustworthy authority, were it needed, in the testimony of Cabanis and others who have witnessed quickened sensibility of each sense in different cases of artificial somnambulism.

Notwithstanding the high authority of Sir W. Hamilton, who declared that, however astonishing, it was "now proved beyond all rational doubt that in certain abnormal states of the nervous system perceptions are possible through other than the ordinary channels of sense," it would not be profitable to discuss at length the question whether somnambulists, natural or artificial, ever perceive otherwise than by their natural senses—whether, for example, they ever read, as is sometimes affirmed, through the pit of the stomach or through the back of the head.[1] Without doubt they sometimes imagine they do: having perhaps, as hysterical women often have, anomalous sensations about the

[1] "It is quite indifferent," says Reichenbach, "to the high-sensitives whether their eyes are bandaged and glued over or not; it is for them about the same as it would be to bandage the elbow of a non-sensitive who has good eyes to keep him from seeing a camel."

epigastrium or in other parts of the body, they misinterpret their character, and attribute to them perceptions which have been got actually in the ordinary way through the natural channels. But it invariably happens, when the extraordinary powers which they imagine or affirm themselves to have, and which credulous folk believe them to display, are rigidly tested by competent inquirers, that the miracle explodes. They will claim a power of looking into the bodies of other persons or into their own bodies, and will describe with measured utterance, as if their speech followed the gradual disclosures of the eye, the conditions of the internal organs and the nature and position of any disease which may be going on, raising much wonder and entire belief in the minds of persons who are ignorant of anatomy, or who have only a dim book-knowledge of it; but when their statements are tested by a competent physician they will be found to be vague and absurd, such as might have been easily founded on the remembrance of some anatomical drawing, and it will commonly be possible, by affecting an air of entire belief, and betraying not the least sign of suspicion of their powers, to lead them to the description of all sorts of impossible diseases in impossible places. They follow the suggestions made to them in the leading questions that are put, and express the vulgar notions of diseases and their treatment, just as the spirit of a great philosopher or a great poet, when it revisits earth to assist at a spiritualistic *séance*, utters the vulgar sentiments and thoughts of the medium who has summoned it. The predictions of future events which some of these somnambulistic performers rise by degrees to the audacity of making are equally fanciful; when soberly tested, the prophetic insight, like their medical insight, proves to be delusive. They usually grow to the height of their presumption step by step as they succeed in imposing upon the amazed believers in their pretensions, whose credulity to the end keeps pace with their audacity: Reichenbach was convinced that no secret act done in his house escaped "the all-piercing eye of the acute sensitive," and after saying that they are sometimes of service in the medical art, by discovering the nature of disease and foretelling its future course, and by telling such things as whether there is a prospect

that a woman will become a mother and what the sex of her offspring will be, he naively tells a story to show how dangerous or useful this faculty may be :—" In my own house it happened that a somnambulist whom I introduced there denounced a servant girl for immoral conduct, in which nobody believed, and the truth of her declaration was only established after months; and other revelations which she made caused a revolution in the house and resulted in the dismissal of several servants."

It will not be amiss to consider briefly what are the causes that have given rise to the belief in the prophetic and other singular powers of these somnambulists.

a. First of all, then, there are the genuine impostors, who out of an itching desire of notoriety or for purposes of gain made a profitable trade of the business of deceit. From the earliest times of which we have record unto the present time there have not been wanting knaves to practise upon the credulity of fools, and they have perforce found the choicest fields for their enterprise in those dark places of nature where mystery begets wonder, and wonder in turn begets credulity. Where the forces and the laws of nature are not known, there has always been a class of persons claiming supernatural relations and pretending perhaps to supernatural powers, who have made their advantage out of the ignorance and fears of their fellows ; and so it no doubt will be until it comes to pass, if it ever shall come to pass, that all her secrets are won from nature, and no dark place is left in which superstition can lurk.

b. Secondly, there are the impostors who impose upon themselves as well as upon others ; whose self-deception is in truth the main factor of their success in imposing upon others. It has never been sufficiently taken into account, I think, that deception is not a constant but a variable quantity, and that there are manifold gradations between the most deliberate and wilful deceit on the one hand and on the other hand a deception which is unconscious and innocent. One of the arguments upon which believers in the miraculous perceptions of the hypnotic lay the greatest stress is that they are exhibited and attested sometimes by persons whom they know to be utterly incapable of fraud and on whose sincerity and veracity they

would hazard all that they possess. Agreeing with them as to the sincerity, one may still properly call in question the competence, of the witness, who may speak the truth as he knows it, without thinking the truth as it is; for the question is not merely whether he is deceiving us, but whether he is himself deceived. His consciousness, no doubt, testifies truly as to its own states; but it may not testify truly as to the causes of them. It is not amiss to reflect when weighing beliefs that belief is very much a matter of temperament, and that there are persons of a certain temperament who are prone to believe anything that has passed vividly through their imaginations without considering sufficiently how it came there; solemn asseveration of a fact by them meaning no more than a conviction of a vivid mental experience. The temperaments of such persons are unstable in this respect—that the members of that congeries of supreme nerve-centres which constitute the cerebral convolutions are not bound together in compact communion of function, but are apt easily to take on in-coordinate action, not perhaps of an actually incoherent kind, although that is a further stage of degeneration, but of too isolated and independent a character. Thus it comes to pass that when a vivid conviction takes hold of the mind it vibrates there intensely, and does not feel the controlling and modifying influences, consciously or unconsciously working, of the neighbouring mental elements with which it is in physiological union; nay, it may even inhibit temporarily their functions altogether. It becomes then an intense belief which is never properly tested and corrected by sound observation and sober reflection. To say that the great majority of men reason in the true sense of the word is the greatest nonsense in the world; they get their beliefs, as they do their instincts and their habits, as a part of their inherited constitution, of their education, and of the routine of their lives.

It is evident that this sort of temperament lends itself easily to self-deception. If an idea reach that persistent and exclusive action which entails an inhibition of the functions of the other ideational centres, as it notably does in the hypnotic and its allied states, it is plain that when the person comes out of the exclusive state of consciousness he or she may be oblivious of what was

thought or done when in it, and so may, with perfect sincerity, deny his or her deeds and misdeeds, or assert them to have been inspired and directed by some power more than natural. Alienated for the time being from his full self, he feels the alienated self to have been a strange or another self, and cannot realise responsibility for its doings, even if he remembers them. Between the abnormal state of consciousness which belongs to the hypnotic state and the state of consciousness which accompanies the most deliberate deception there are transitional grades, whence the manifold gradations that are actually met with between wilful deception and innocent self-deception, and the reason why persons whose sincerity their friends recoil from suspecting do nevertheless dupe themselves and others of sympathetic temperament in the grossest manner. Just as the string of a harp vibrates to and gives back the note that is in unison with it, so the dupe vibrates to and gives back the note which the impostor strikes.

c. It is certain that a large, though not certain how large, a margin for error should be allowed to defective observation in these matters. True observation comes not by instinct, but is gained painfully by training. Were a list made of the common fallacies to which observation is liable, and to each one assigned its proper share in these wonderful phenomena, there would be little left unallotted to dispute about. It is a well-known tendency of the human mind, which has been the foundation of the credit of prophets in all ages, to be impressed strongly by agreeing instances, and to overlook or neglect disagreeing or opposing instances. When the mesmeric subject makes a hit the effect is startling and the admiration unbounded, while his manifold failures are ignored and forgotten, or attributed to the unfavourable conditions of the experiment. Moreover, the observation of a particular experiment is commonly partial and defective, the observer seeing an effect which strikes his attention and overlooking the essential conditions on which it depended: he may, as he earnestly asserts, have seen the thing with his own eyes, but what we require to have noticed are the various cooperating conditions or coefficients which he did not see and take notice of, and which a cooler, more wary and skilful

observer would have seen, noted, and weighed. It is beyond question, as Voltaire truly remarks, that magic words and ceremonies are quite capable of most effectually destroying a whole flock of sheep, if the words be accompanied by a sufficient quantity of arsenic. The proper answer to the person who has seen miracles is certainly in nine cases out of ten a direct declaration that not the least reliance can be placed upon his observing powers, and a blank refusal to discuss his observations; for life is too short to permit the waste of time which would be required in order to teach the alphabet of observation and reasoning to each new-comer.

Obviously persons of the neurotic temperament described will be most liable to this sort of defective observation. Possessed vividly with an idea, the faculties of their minds are benumbed or suspended: they can see only what is in relation with the predominant idea. It is notorious that the observer who starts with a preconceived idea or with a strong desire is so far disqualified rather than qualified for his work; for although his special observation may be sharpened by the idea or the desire to see what is agreeable to it, his general powers are blunted, and he is very likely to be deluded; but these neurotics are particularly liable to be dupes of a partial observation, because of that easily induced solution of continuity of functions by which an idea, when unusually active, escapes from the restraints and corrections of the communion of nerve-centres of which its centre is a member. These considerations teach how gradational is the transition from the simplest instances of defective observation, such as are continually exhibited by all men, to the extreme instances of entire incapacity of observation which the mesmeric or somnambulistic subject displays. Not to suffer any present mental state to reach an inordinate activity, but to maintain a free play of all the various chords of association which a wise culture has made as many and complete as possible, and so to preserve the sound balance of the judgment, is the mark of a large and well-trained intellect.

d. It may be alleged that, after making full allowance for deception and for errors of observation, there is still an unexplained residuum of the wonderful in the foresight displayed by some

of these mesmeric subjects. They have predicted clearly, it is said, a disease from which they themselves would suffer, and eventually did suffer, although there was not the least sign of the disease at the time when they foretold it. If this were true, and the coincidence were not accidental, it may be supposed, before acknowledging a supernatural event, that a heightened sensibility had rendered them more susceptible to the earliest indications of disease—its mute premonitions, so to speak—than they were in their normal state of consciousness, just as a person will feel a sensation when his attention is free which passes unnoticed when he is actively employed. Or, if that explanation is not accepted, it may be supposed that the disease occurred as the result of a fixed idea in a sensitive mind that it would occur, the prophecy having fulfilled itself, not otherwise than as the idea of gaping, of pain, of paralysis, of convulsions, will sometimes induce gaping, pain, paralysis, convulsions. It cannot be too clearly apprehended that there is a sort of innate tendency to mimicry in the nervous system: one observes the most striking manifestations of it in apes and in children, and less striking instances of it in the way in which a person oftentimes adopts unconsciously some of the tricks of manner or of expression of another with whom he associates; and certainly the simulation or mimicry of disease by so-called nervous or hysterical persons is common. As in such persons the idea of a particular disease, if it takes hold of them, will be likely to reach that preponderating and persistent activity when it cannot be moderated by reflection, which it inhibits, it may be expected to act with exceptional power upon the organic functions, if its energy takes that channel, just as the exclusive idea of the hypnotic subject when it has a motor outlet nerves him to a feat of muscular strength or skill of which he is incapable in his normal state.

c. When the artificial somnambulist succeeds in reading what is in the mind of another person who utters not a word of what he is thinking, as is sometimes the case, his success is due in the main to an acute apprehension of slight outward indications of his thought, which the person may be entirely unconscious that he is exhibiting; the proof of this being that the experiment fails when it is tried with one who, being incredulous,

carefully suppresses the least expression of what is in his mind, or of set purpose puts on a different expression of features. There are very few persons who are skilful enough to prevent their thoughts and feelings affecting their movements. Let it be considered how quickly children and animals read our moods of mind in our faces, and what acute perceptions of the motions of a speaker's lips a deaf and dumb person is trained to attain, so that he can understand the mute motions as well almost as if he heard the words spoken, and it will appear probable that a vivid thought may manifest itself unconsciously in slight movements of lips or features which, unperceived by an ordinary observer, do not escape the acute apprehension of the so-called sensitive. This is without doubt the explanation of the so-called muscle-reading which has lately attracted notice. I am not sure, however, that the knowledge is not obtained in some of these cases without the conscious agency of the subject—to wit, by an unconscious imitation of the attitude and expression of the person, whose exact muscular contractions are instinctively copied; the result being that, by virtue of a well-known law, the same ideas and feelings of which the muscular contractions are the proper language, are aroused in the subject's mind.

Another explanation, but a fanciful one, may possibly be true of occasional instances of success. They may be owing to the sympathy of similar constitutions under the same external conditions whereby their thoughts and feelings chime, the two natures striking the same notes independently, like two clocks striking the same hour at the same time. Before rejecting the hypothesis, let it be fairly considered that there are a great many persons who are pretty nearly automatic repetitions of one another so far as regards the range and character of their thoughts; they think the same thoughts just as all parrots and children constantly make the same noises and go through the same performances without imitating one another; and when they are under the same external conditions, when their feelings are attuned to the same note, when their minds are acted upon by the same suggestions, as is the case where both are engaged in one experiment, it is not perhaps to be wondered at that there should be an independent chiming of thoughts and feelings

occasionally. Two such persons would probably make the same movements in order to escape if they were exposed together suddenly to a common pressing danger, without consulting with one another; and I doubt not that a young man and maiden, when they fall in love with one another, naturally think the thoughts, feel the sensations and emotions, and do the things which young men and maidens have always thought and felt and done in similar circumstances, without having to learn their lesson either from one another or from any one else. The Siamese twins who, being bodily bound together, perforce lived under the same conditions, were united in a close mental sympathy for a great part of their lives; they generally had the same thoughts at the same moments, made the same resolves and did the same things without previous communication with one another; unfortunately the happy harmony did not last, for one of them became addicted to intemperance, a vice which led to frequent bickerings and disputes, and in the end to an earnest desire to be separated. The close sympathy of feeling and thought sometimes shown by ordinary twins is well known, and there are one or two remarkable instances on record of twins who were attacked with the same form of insanity at the same time, while several cases have been recorded of brothers or of sisters who, having lived much together in the same external conditions, have become similarly deranged.

Another of the intermediate states which bridge the gap between the most abnormal and the normal states of consciousness, and closely allied to the abnormal states already described, is ecstasy or trance. This ecstasy is a condition into which the enthusiast of every religion, Buddhist, Brahmin, Christian, Mahometan, has contrived to throw himself, and is truly, as the word means literally, a standing out of himself. The symptoms are very much alike in all cases: after sustained concentration of the attention on the desire to attain to an intimate communion with heavenly things, the self-absorption being aided perhaps by fixing the gaze intently upon some holy figure or upon the aspirant's own navel, the soul is supposed to be detached from the objects of earth, and to enter into direct converse with heaven; the limbs are then

motionless, flaccid, or fixed in the maintenance of some attitude which has been assumed, general sensibility is blunted or extinguished, the special senses are insusceptible to the impressions which usually affect them, the breathing is slow and feeble, the pulse is scarcely perceptible, the eyes are perhaps bright and animated, and the countenance may wear such a look of rapture, the fashion of it be so changed, that it seems to be transfigured and to shine with a celestial radiance.

Ecstasies of this kind are much less common nowadays than they were in past ages, when religious feeling and belief had a more vital hold of human thought and conduct: when numerous monasteries were scattered over the land; when austerities and asceticism were in vogue; when prayers, penances, meditations, and religious ceremonies filled up the main business of life; when a disunion from the things of earth and the closest union with the things of heaven was set forth as the end to be perpetually aimed at in order to escape everlasting torment. However, as Maury has pointed out, these trances in which supernatural communications took place did not befall saints only, for the wicked were sometimes seized by them, and gave blasphemous recitals of their visions. Hence it became necessary to make two classes of ecstatics—the holy and the demoniacal, or, as I might fitly call them, theoleptics and diaboleptics. It would be rash to venture to say to which class are to be referred the ecstatics who from time to time are heard of at the present day, famous among whom is Louise Lateau, known as the Belgian stigmatic, because during her often-recurring trances marks of bleeding from the forehead, from the left side, and from the palms of the hands, are seen.

Obviously the ecstatic state is very much like the hypnotic state both in its mode of occurrence and in the character of its phenomena. There is such a vivid exaltation of a particular state of consciousness that sensibility is suspended, voluntary movement inhibited, and vital function itself lowered. St. Theresa described her state of rapture as one in which "the body loses all the use of its voluntary functions and every part remains in the same posture without feeling, hearing, or seeing, at least so as to

perceive it." When she had a mind to resist these raptures "there seemed to be somewhat of a mighty force under my feet which raised me up that I knew not what to compare it to"; in other words, when the energies of the unstable nerve-centres were not suffered to discharge themselves in the tension of a particular strain of consciousness they troubled the centres of muscular sensibility, and produced the motor hallucination of an elevation from the ground, just as they might on another occasion have produced vertigo. There is not in all cases an entire insensibility to external impressions; like hypnotics, these ecstatics are sometimes sensible to impressions that are in relation with the ideas of their visions, and then mix the real with the imaginary; they may gaze, for example, on a crucifix on which a Christ is suspended until they hear him speak or see him descend and approach them, and they will show themselves conscious sometimes of the presence and of the words of one whose sacred character or function suits the strain of their rapture. But the insensibility to pain sometimes is very remarkable. Rapt in his gay vision of unreal bliss, the religious fanatic of India is indifferent to the wounds and injuries that are inflicted upon him and will, without wincing in the least, suffer his body to be tortured in a way that must, were he in a normal state of consciousness, produce intolerable pain. The natives of India and all primitive races are more susceptible to these trance-like states than are Europeans, as was shown by numerous experiments to perform surgical operations on persons put into the mesmeric state; for while it was easy to throw the natives into the proper state of insensibility for the operation, the experiment was usually unsuccessful with the European soldier. Among the North American Indians it was the custom to tie the prisoner of war to a stake before he was executed and to subject him for several hours to all the means of torture which savage ingenuity and ferocity could devise, women and children joining with eager delight and acclamation in the cruelties practised upon the victim. He, meanwhile, scornful of their impotent efforts and disdaining to show the least sign of pain, defied his tormenters with the bitterest irony and the most insulting sarcasm, boasting exultantly how many of their kindred

he had slain, how horribly he had tortured them, and jeering them contemptuously for their futile attempts to make him suffer. His transport of mental exaltation made futile their hellish efforts. I doubt not that the Christian martyr, in a like condition of mental exaltation, has sometimes borne the flames of the stake, when burned to death, or the other tortures under which he has expired, with an indifference and a composure that seemed to onlookers the proof of a supernatural support. When one thinks of the fearful record of man's inhumanity to man which human history is, it seems a happy thing that there has been mercy enough in the dispensation to put bounds to the power of human malignity to inflict torture, whereby achievement has fallen so far short of desire—first, in the limit which there is to man's capacity to suffer, whereby pain itself kills, and, secondly, in the power of enthusiasm to defy torture. The dancing manias of the middle ages, the so-called convulsionists of St. Médard, and similar mental epidemics in which an infection of enthusiasm spread through persons placed in the same conditions, have furnished many instances of general insensibility to violent blows and to other severe handlings while the mind was rapt in the ecstasy of the particular excitement. The only remark which it remains to make concerning these ecstatics is that while they oftentimes remember what has happened during their visions and angelic communions they sometimes, like somnambulists, have only a confused remembrance or no remembrance at all; their experience cannot be recalled and described, for, as they imagine and declare, it was of such a character as to transcend ordinary thought and expression, truly ineffable.

A disease which is closely allied to the abnormal states described, holding an intermediate place between them and epilepsy, is catalepsy. The person who is subject to cataleptic attacks falls suddenly into a state of seeming unconsciousness, but does not fall down; he maintains the attitude in which he was at the time when he was seized, just as if he had been thrown suddenly into the brownest of "brown studies," continuing to stand if he was standing, to sit if he was sitting, to kneel if he was kneeling. The act he was doing is suspended midway in

its execution. To all appearance he is little more than a half-animated statue while the paroxysm lasts. He seems partially or completely insensible to external impressions, and when his arm or any other part of the body is put into a certain position that position is retained for an indefinite time, or until he comes to himself again. The pulse is usually more feeble and the respiration more slow than in the natural state. The fit may last for a few minutes only, or for a few hours, occasionally for a yet longer period, and when it is over there is no memory of what has happened during it. No particular mental state, voluntary or involuntary, seems to have anything to do with the induction of the cataleptic state, although it is probable enough that a moral shock might be the occasion of an attack in one who was subject to the disease; it has occurred where there was no reason to suspect actual disease of the brain, and it has occurred where there was grave organic disease thereof; but concerning the actual conditions of its occurrence we know nothing.

I go on now to direct particular attention to the strange abnormal states of consciousness that are sometimes witnessed in persons who suffer from epilepsy. It is well known that one who is a victim of that form of epilepsy which is called *le petit mal* will sometimes, during the temporary suspension of consciousness, continue without interruption the mechanical work which he was doing at the moment when he was seized—will go on walking if he was walking, sewing if he is a tailor who was occupied in sewing, playing on the violin if he is a musician who was so employed. It has furthermore been observed that the suspension of ordinary consciousness may be more than momentary in certain so-called masked epileptic states, and that during its suspension the person, to onlookers appearing as if he were conscious of what he was doing, may go through a train of new and more or less coherent acts which when he comes to his natural self he is unconscious of having done. Like the somnambulist, he has been in an abnormal state of consciousness, during which he acted as if he were another being, knowing not what he did, or, if he did know it at the time, not remembering it afterwards. But it is most probable that he did not know it; for what he does, although it may have method in

it, is commonly inappropriate and foolish, and nowise called for by the external conditions of his surroundings, of which he seems unconscious.

On one occasion I was consulted by a gentleman, aged twenty-three, of good muscular development, brisk intelligence, and unusual energy of character, who had for some time worked very hard at a business which involved considerable strain and excitement. For five years he had suffered from epileptic or quasi-epileptic attacks; at first he had fallen down in them in the ordinary way, but after a time they came on with a feeling of trembling and of loss of power in the knees, immediately upon which the unconscious state supervened, but he did not fall down; on the contrary, while this abnormal state lasted, which it did for an hour usually, and sometimes for hours, he did strange acts, not knowing what he was doing, or if he was in the street went along in such a dazed and uncertain way that the police, thinking him drunk, interfered with him. A few days before his visit to me he had had an attack in the street, and he remembered nothing whatever of what occurred from the beginning of it until he found himself in his office to which a friend who had seen him, and recognised his plight, had conducted him. From another friend who resided with him I learned that when he was in the attacks he seemed to be partly aware that he was not well, told them what should be done to him, and spoke of whatever might be in his mind, not always quite coherently, but usually tolerably so. On two occasions he had been restive, as if he wished to get away; once he had behaved as if he were going to be drowned, and at another time he had acted as if he were going to get up the chimney. Before or after the attacks he suffered from bad headaches, which were formerly so severe as to compel him to lie down wherever he chanced to be until they passed off, but the pain had not been so severe lately. The immediate occasion of his visit to me was a great nervousness which had come upon him; he was apprehensive of going about alone or of sleeping alone, and was much distressed by absurd impulses which tormented him and which he could hardly control, although he knew very well how absurd they were, and tried hard to laugh himself out

of them. Of late the impulse to get up the chimney had tormented him for no reason whatever, and it had grown so strong that sometimes he had the greatest mental struggle to prevent himself from yielding to it. Other morbid impulses had afflicted him: at one time he had felt impelled to drown himself in the washhand basin, and at another time to throw himself in front of a railway train when he saw one approaching; when one impulse left him another took its place. From time to time a black curtain or cloud seems to fall before his eyes, is accompanied by a peculiar sensation or pain in the head, and for the moment he is scarcely conscious; but the attack, which is doubtless of an epileptic nature, quickly passes off. The morbid impulses which reason inhibits with difficulty no doubt mark a condition of nerve-centres of the same kind as, but less morbid in degree than, that which exists when reason and will are entirely suspended and the persistence of consciousness even is doubtful.

I forbear to quote other similar cases in which odd, stupid, and even dangerous acts have been done during the epileptic suspension of normal consciousness, or to attempt a speculative explanation of them. To call the person's conduct during the paroxysms automatic does not help us much to understand it; it is so like much of his conduct when he is not in a paroxysm that one is inclined to ask whether that is not automatic also. Plainly his state is most like an acted dream, and bears out the sagacious opinion of old medical writers that there is a kinship between somnambulism and epilepsy; a kinship which reaches not merely to a resemblance of phenomena, but has a deeper basis in a common neurotic temperament. In truth all these *lepsies* or peculiar nerve-seizures—epilepsy, catalepsy, theolepsy, and somnambulism, betray in most cases a neurotic inheritance, and may justly be suspected to be very likely to leave a neurotic legacy. By bringing them together, as I have done in this chapter, it has been shown that the most extreme and abnormal instances of double consciousness are not so widely separated from states of normal consciousness as they appear to be at first sight, and that we may, if we will, pass from one extreme to the other over a bridge of many arches. It is certainly impos-

sible to realise the state of mind of a person who is in one of these states of abnormal consciousness; conscious one's self or unconscious, one cannot form accurate conceptions of the intermediate anomalous states; but the experience of a person who, when taking chloroform in order to be rendered insensible, struggles, kicks, shouts in a sort of nightmare after he has ceased to see or hear, but before he is completely passive and insensible to external constraint, feeling it but not in the least realising its true nature, may convey an imperfect idea of the quasi-unconscious state of the epileptic who does strange things that he wots not of. The main features which the abnormal states present in common are: first, that coincident with a partial mental activity there is more or less inhibition, which may be complete, of all other mental function; secondly, that the individual in such condition of limited mental activity is susceptible only to impressions which are in relation with its character and are consequently assimilated by it; and, thirdly, that when he comes out of his abnormal state he may have only the most dim and hazy remembrance of what happened when he was in it, or may not remember it in the least.

If any one will be at the pains to examine the phenomena of the modern epidemic of superstition which is known as spiritualism by the light of the foregoing exposition, he will be able to weigh at its true value much of what seems to be the incontestable evidence of eye-witnesses who vouch for miraculous phenomena. A great proportion of them are undoubtedly the work of impostors consciously duping their victims, who, predisposed by temperament and a want of training in observation to believe the wonderful, are an easy prey. If the performer is skilful by reason of natural aptitude and long practice, he may easily, like a conjuror, frustrate the attempts of even a good observer to detect his mode of operation. We are unable to discover how the conjuror does his tricks, although we know them to be tricks, partly because he is clever enough to distract attention in some way from what he is doing at the critical moment of the feat, and partly also probably because a muscular act may be quicker than perception—so quick, in fact, as to be imperceptible, as the twinkling of an eye,

which is a muscular act, commonly is. Then there are the unconscious impostors who, like the hypnotics, get their minds into a sort of convulsive activity of certain ideas with a temporary paralysis of all other ideas, and are unconscious themselves of the fraud which they are practising, or at any rate, like one in a dream, morally insensible to the guilt of it.

The extraordinary revelations of names, of events, and the like, which the "medium" makes sometimes under spirit-guidance, and which it is supposed could not possibly have been known in any natural way, are of the same nature as the similar wonders of the mesmeric trance. A heightened sensibility of a particular sense, giving information which it could not have given in its ordinary state, will account for some extraordinary perceptions; a revival in memory of forgotten facts which the individual himself may not remember that he had ever known, such as notably occurs sometimes in dreams, will furnish the key sometimes to knowledge which looks marvellous to onlookers; an increased muscular power owing to the concentration of the whole nervous energy upon an act, and to the full faith that he can do it, may enable the medium to perform a feat of strength or of skill which he would not find it easy to do in his natural state, when some distraction would prevent the fulness and mar the unity of the effect. Of course if it be true, as the spiritualists allege, that a table will rise from the floor and float about the room when the medium neither touches it nor has any sort of physical connection with it, another explanation must be sought for. One may venture to conclude in accordance with experience of known phenomena that the person who sees a table float through the air, or feels it rise from the ground when his hands are placed upon it, is labouring under a motor hallucination of eye or of touch, a sort of hallucination which it is easier to have than most persons think. Possessed with the expectant idea that a movement will take place, he has the vivid motor intuition or mental presentation of that movement stirred into activity, and the motor intuition, which has been thus excited subjectively, is projected objectively and takes sensible form as an actual movement, not otherwise than as a giddy person sees the room turn round: it is the objective

aspect of his subjective state. If he conceive the idea of a rising or of a floating table so vividly that it excites the corresponding motor intuition to the pitch of hallucination, it is impossible he should not actually feel or see the movement; no wonder therefore he asserts solemnly that he saw it with his own eyes. As I have pointed out already, many saints are alleged on the testimony of eye-witnesses to have floated in the air, among whom may be mentioned St. Philip Néri, St. Dunstan, St. Christina, and lastly St. Seraphina, a nun in whom the tendency to rise was so great that six nuns could not hold her down. These flights took place during the raptures or ecstasies into which these holy persons fell; and it will hardly be doubted by those who class the phenomena scientifically with the rides of witches through the air that some of the saints had the conviction, which persons in dreams have sometimes, that they did actually float in the air during their ecstasies. What then with the motor hallucinations of the saints themselves, and what with the motor hallucinations of the admiring observers who, being not of little faith, did not doubt, there is quite enough to account for the stories of the flights, without appealing to supernatural aid.

It has been proved amply by experiment, as it might have been predicted safely would be the case, that faith is necessary to the manifestation of the phenomena of spiritualism; the presence of a sceptic renders the conditions unpropitious, and nothing extraordinary takes place. That has been so with miracles of all sorts from the beginning of the world unto the present day; they have chanced to occur in the presence of believers who were so full of faith that they needed not to have their faith strengthened, and they have not chanced to occur in the presence of unbelievers, whose doubts might have been dispelled by their most potent evidence. The spiritualists refuse to submit their marvels to the rigorous and critical examination of sceptics who are competent to test them; they insist upon making conditions which render satisfactory inquiry impossible; and when the sceptics refuse to be handicapped by such conditions, and insist upon the same perfect freedom of doubt and of experiment which they would use in any truly

scientific inquiry, they forthwith charge them with prejudice and a refusal to investigate. They appeal too to the testimony of their own witnesses, who, being ardent believers, are quite incapable, notwithstanding the best intentions, of observing correctly and of detecting fraud which is not glaring; for they are like the hypnotic or the somnambulist, who sees only that which is in relation with his ideas and will assimilate with them. Faith in things unseen and spiritual that are believed to act upon things seen and material is incompatible with true observation of things seen, for observation is vitiated fundamentally, and cannot be unbiassed and adequate.

In concluding the chapter one thing may be noted with regard to spiritualists: that many of them, especially the most eager and intense among them, have the neurotic temperament, which goes along with epilepsy or insanity or other allied nervous disease in the family.[1] I need not repeat what I said before concerning the outcome of this temperament in belief: the lame, the halt, the blind, the warped in intellect, who follow eagerly dark by-paths of belief, may be gathered together into one fold: their aberrant and fanatic beliefs, over which reason has no sway, betray the character of their temperaments. To strive by argument to modify their convictions is a vain imagination and a futile labour: it is to labour to argue away a temperament; and that is work which a wise man does not undertake.

> "You may as well
> Forbid the sea for to obey the moon
> As or by oath remove or counsel shake
> The fabric of his folly, whose foundation is
> Piled upon his faith, and will continue
> The standing of his body."

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[1] The London Dialectical Society appointed a committee to investigate the subject of spiritualism. The committee took the evidence of a great many spiritualists and published a report. However, "of the comparatively small number of persons who were conspicuous either as advocates or 'mediums,' one became the subject of well-marked mental illness, and another had to be confined in a lunatic asylum. A third person, who was an eager member of one of the sub-committees, was seized with a mysterious form of paralysis, although comparatively a young man."—*Report on Spiritualism*, p. 80.

APPENDIX.

SOME years ago there appeared in several American journals the report of an extraordinary case of somnambulism—it was that of a boy who, while in a state of somnambulism, had killed another boy. But no exact scientific account of it was ever given, so far as I know. In April of this year, however, an undoubted case of somnambulistic homicide occurred in Glasgow, the account of which has been published since the foregoing chapter was written.[1] A man named Fraser, twenty-eight years of age, seized his child who was in bed with him, and dashed its head against the wall or floor, believing that he had seized a wild beast which had risen through the floor and jumped upon the bed to attack the child. His wife's screams awoke him, and he was horrified to find that he had fatally injured his child, whom he was passionately fond of.

He was a pale and dejected looking man of nervous temperament, dull, and somewhat childish, but able to earn his livelihood as a saw-grinder, being a good workman. His mother had suffered nearly all her life from epileptic fits, and had died in one; her father, whom Fraser was said to be very like, also died in a fit. His maternal aunt and her son were both insane. His brother died from convulsions in infancy, and his own child had been dangerously ill from convulsions at one time. There was, therefore, an unquestionable neurotic family history. From his earliest years he had himself been troubled by bad dreams and nightmares, and had often walked in his sleep. He was particularly liable to do so after he had undergone excitement and agitation in the day. For example, having a little sister whom he had often warned against falling into the water, he got up in his sleep several times and went down to the water-side, where he called her loudly by name, and grasped with his arms as if he were rescuing her. Sometimes he awoke, but sometimes went back to bed without awaking. He remembered nothing about these nocturnal excursions unless he was awakened at the time, but suspected he had made one, in consequence of feeling weary and unrefreshed in the morning. After his marriage in 1875 the attacks assumed a different

[1] *Journal of Mental Science*, October, 1878.

character: a great terror would seize upon him, and he would start out of bed under a vivid feeling that the house was on fire, that his child was falling into a fit, that a wild beast of some kind had got into the room; roaring like an animal, he would drag his wife and child out of bed in order to save them, or would chase the supposed beast frantically through the room, throwing the furniture about, and striking at it with any weapon he could lay hold of. He had on different occasions seized his wife, his father, a fellow lodger by the throat, and nearly strangled them, believing that he had got hold of the beast. During the seizures his eyes were open and staring; and it was plain he saw and seized chairs or any convenient weapon, albeit he was blind to what was not in relation with his delusive ideas; sometimes he could hear and answer questions, speaking distinctly, at other times not.

It was in one of the attacks that he killed his child. His wife was awakened by hearing him roaring and furiously dragging at her; he then leaped out of bed, and as she followed him, as she used to do on these occasions, she heard him smashing something against the wall, which she was horror-struck to find was the child; its skull was so severely fractured that it soon died. Awakened by her cries, he showed the utmost distress, ran for water, roused the neighbours, and hastened to fetch a doctor. Put on his trial for murder, he was acquitted on the ground of being unconscious of the nature of his act by reason of somnambulism.

The case much strengthens the opinion of old medical writers that there is a close affinity between somnambulism and epilepsy. In truth, looking to the history of epilepsy in the family, and to the character of the nocturnal seizure, the latter might justly be looked upon as a nocturnal epileptic fit, in which the discharge took a mental instead of a motor channel, as we know to happen in some cases of epilepsy during the daytime.

CHAPTER III.

THE CAUSATION AND PREVENTION OF INSANITY.

A. *Etiological.*

THE causes of mental derangement, as they are usually described in books, are so vague and general, so little serviceable for use, that the knowledge of them yields us very little help when we are brought face to face with a concrete case and endeavour to gain a clear conception of its causation. The impossibility of getting precise information arises in most instances from the insuperable difficulties under which we are of knowing a person's character and history fully, intimately, and exactly. We cannot go through the complex and often tangled web of his whole life, following the manifold changes and chances of it, and, seizing the single threads out of which its texture has been woven, unravel the pattern of it. No man knoweth his own character, which is ever under his inspection: how then can he know that of his neighbour, when he has only brief and passing glimpses into it?

Great mistakes are oftentimes made in fixing upon the supposed causes of the disease in particular cases; some single prominent event, which was perhaps one in a train of events, being selected as fitted by itself to explain the catastrophe. The truth is that in the great majority of cases there has been a concurrence of steadily operating conditions within and without, not a single effective cause. All the conditions, whether they are called passive or active, which conspire to the production of an effect are alike causes, alike agents; all the conditions, therefore, which co-operate in a given case in the

production of disease, whether they lie in the individual or in his surroundings, must be regarded as alike causes. When we are told that a man has become mentally deranged from sorrow, need, sickness, or any other adversity, we have not learned much if we are content to stay there: how is it that another man who undergoes an exactly similar adversity does not go mad? The entire causes could not have been the same where the effects were so different. What we want to have laid bare is the conspiracy of conditions, in the individual and outside him, by which a mental pressure, inoperative in the one case, has weighed so disastrously in the other; and that is information which a complete and exact biography of him, such as never yet has been written of any person, not neglecting the consideration of his hereditary antecedents, could alone give us. Were all the circumstances, internal and external, scanned closely and weighed accurately it would be seen that there is no accident in madness; the disease, whatever form it had, and however many the concurrent conditions or successive links of its causation, would be traced as the inevitable consequence of its antecedents, just as the explosion of a train of gunpowder may be traced to its causes, whether the train of events of which it is the issue be long or short. The germs of insanity are most often latent in the foundations of the character, and the final outbreak is the explosion of a long train of antecedent preparations.

As the causation of insanity may thus reach back through a lifetime, and even have its root far back in foregoing generations, it is easy to perceive how little is taught by specifying a single moral cause, such as grief, vanity, ambition, which may after all be, and often is, a prominent early symptom of the disease which, striking the attention of observers, gets credit for having caused it. I am apt to think that we may learn more of its real causation by the study of a tragedy like *Lear* than from all that has yet been written thereupon in the guise of science. A great artist like Shakespeare, penetrating with subtle insight the character of the individual and discerning the relations between him and his circumstances, apprehending the order which there is amidst so much seeming disorder, and disclosing

the necessary mode of evolution of the events of life, embodies in the work of his creative art more real information than can be obtained from the vague and general statements which science in its defective state is compelled to put up with.

Life in all its forms, physical and mental, morbid and healthy, is a relation; its phenomena result from the reciprocal action of an individual organism and of external forces: health is the consequence and the evidence of a successful adaptation to the conditions of existence, and imports the preservation, the well-being, and the development of the organism, while disease marks a failure in organic adaptation to external conditions and leads to disorder, decay, and death. It is obvious that the harmonious relation between the organism and its environment which is the condition of health may be disturbed either by a cause in the organism or by a cause in the environment, or by a cause, or rather a concurrence of causes, arising partly from the one and partly from the other. When it is said then that a person's mind has broken down in consequence of adverse conditions of life, social or physical, there is presupposed tacitly some infirmity of nerve element, inherited or acquired, which has co-operated; were the nervous system in a state of perfect soundness, and in possession of that reserve power which it then has to adapt itself within certain limits to varying external conditions, it is not likely that unfavourable circumstances would be sufficient so far to disturb the relation as to initiate mental disease. But when unfavourable action from without conspires with an infirmity of nature within, then the conditions of disorder are established, and the discord, which a madman is, is produced.

It has been the custom to treat of the causes of insanity as physical and moral, but it is not practicable to make the discrimination in many cases. Where the existence of a hereditary taint, for example, is the physical cause of some moral defect or peculiarity of character which issues at last in insanity, one writer, looking to the mental aspect, will describe the cause as moral, while another, looking to the bad inheritance, describes it as physical. Certainly, where there is visible defective development of brain in consequence of a bad inheritance, as in idiocy sometimes, all persons are agreed as to the physical nature

of the defect; but when the cerebral defect is not gross and patent, making itself known only by some vice of disposition, most people will consider it to be of a moral nature. The truth is, on the one hand, that in the great majority of cases in which a so-called moral cause operates there is something in the physical constitution which co-operates essentially, and, on the other hand, that every moral cause operates in the last resort through the physical changes which it produces in the nerve-centres. These may be sudden and of the nature of a commotion, as when a mental shock causes instant convulsion, or paralysis, or madness; or they may be gradual and of the nature of organic growth, as when a fault of character grows with a person's growth, until the balance of his mind is overthrown. It was set forth at almost superfluous length in the first volume that thoughts, feelings, and actions leave behind them residua which are organized in the nerve-centres, and thenceforth so modify their manner of development as to constitute an acquired nature, wherefore what we habitually feel, think, and do foreordains in great part what we shall feel, think, and do; and as moral manifestations throughout life thus determine corresponding physical organization, it is evident that a steadily acting moral cause of insanity is all the while producing its physical changes in the occult recesses of the supreme nerve-centres of mind. In fact the brain that is exercised so regularly in a given manner as to acquire during health a strong peculiarity or bias of action is sometimes more liable to disorder in effect of this bias; and when the disorder is produced by an independent cause, the bias or habit will, according to its good or evil character, help to overcome or to aggravate its effect. When, for example, insanity is the consummate exaggeration of a particular vice of character, the morbid symptoms mark a definite habit of morbid nutrition in the supreme nerve-centres—a gradually effected modification of the mental organization along a morbid line. On the other hand, the brain that is exercised habitually in the best way acquires a strong and healthy habit of thought, feeling, and volition, which counteracts the effects of a morbid strain. On the whole, perhaps, a man had more need to practise good habits than to

meditate sound principles, if it were a question between the two; but it is not, forasmuch as meditation on sound principles is a preparation for the formation of good habits that have not been taught.

With these preliminary remarks I go on to consider those general conditions which are thought to predispose in some way or other to insanity. In the outset I may make two general assertions: that a man is what he is at any period of life, first, by virtue of the original qualities which he has received from his ancestors, and, secondly, by virtue of the modifications which have been effected in his original nature by the influence of education and of the conditions of life. But what a complex composition of causes and conditions do these simple statements import! Hereditary predisposition is a general term which connotes, but certainly does not yet denote, various intimate conditions of which we know nothing definite; we are constrained, therefore, to deal in general disquisitions concerning it instead of describing exactly its varieties and setting forth precisely the laws of its action.

Heredity.—Whether it be true or not, as is sometimes said, that no two leaves nor two blades of grass are exactly alike, there can be little doubt that no two persons in the world are now or ever have been exactly alike. However close the resemblance between them, each one has some characteristic marking his individuality which distinguishes him from everybody else, and which affects the course of his destiny. By the circumstances of life the development of this intrinsic quality may be checked in one direction or fostered in another direction, but it can never be got rid of; it is always there, a leaven leavening the whole lump. In olden times it was attributed to the influence of the particular star which was in ascendant at the time of the mortal's birth; but the blow to that easy theory of causation was that twins born under the same planetary influence sometimes evinced very different dispositions: the two twin-sisters of Hungary, who were united by the bottom of their backs and had the same blood, were of extremely different temperaments, and the last years of the Siamese twins were made miserable by the quarrels arising from the different tastes

of the brothers, and the different views which they took of the American Civil War.

Whence comes this individuality of nature? Without doubt it comes from the same source as the individuality of bodily conformation, of gait, of features—that is to say, from ancestors. There is a destiny made for each one by his inheritance; he is the necessary organic consequent of certain organic antecedents; and it is impossible he should escape the tyranny of his organization. All nations in all ages have virtually confessed this truth, which has affected in an important manner systems of religion, and social and political institutions. The institution of caste among the Hindoos owed its origin to it; and there can be little doubt that the philosophy of that large sect among them which taught the perpetual re-birth of mortals and the development in this life of the deeds done in a former state of being, holding the antecedent life of a being to be his destiny, was founded on a recognition of hereditary action—of the fact that the present nature has descended from the past by regular laws of development or of degeneration. The dread, inexorable destiny which plays so grand and terrible a part in Grecian tragedy, and which Grecian heroes are represented as struggling manfully against, knowing all the while that their struggles were foredoomed to be futile, embodied an instinctive perception of the law by which the sins of the father are visited upon the children unto the third and fourth generations. Deep in his inmost heart everybody has an instinctive feeling that he has been predestined from all eternity to be what he is, and could not, antecedent conditions having been what they were, have been different. It was a proverb in Israel that when the fathers had eaten sour grapes the children's teeth were set on edge; and Solomon justly proclaimed it to be one of the virtues of a good man that he left an inheritance to his children's children. In village communities, where the people remain stationary, and where the characters of fathers and grandfathers are remembered or are handed down by tradition, peculiarities of character in an individual are often attributed to some hereditary bias, and so accounted for: he got it from his fore-elders, it is said, and the aberration has allowance made for it.

In modern days we hardly take due account of this great truth which ancient sages recognised, and which the experience of all ages has confirmed, but it is vastly important to us, if we would do well for our race, to acknowledge and confess it: we are determining in our generation much of what shall be predetermined in the constitution of the generation that will come after us, and it depends greatly upon us whether it shall be well or ill with it. Certainly no one has power to change materially the fundamental tendencies of his own nature; the decrees of destiny have gone forth, and he cannot withstand nor reverse them; but if he contends manfully against bad impulses, as the hero of Greek tragedy who, in the grasp of fatality and foredoomed to failure, abated no effort to win an impossible victory, he will by degrees modify his character in part, and at any rate he will do that which, being embodied as an aptitude in the constitution of his posterity, may happily be a stay and present help to them in time of trouble and temptation. His efforts to overcome what he cannot overcome successfully may haply endow their natures with strength to be victorious in a similar struggle, his pains being their gain, his sowing their harvest.

The least observation of a young child's mind, as its faculties are unfolded by education, shows how much it owes to hereditary action. How easily does a well-born European child learn in a short time what, were it not that it has in its constitution the benefit of ages of human culture—the quintessential abstract thereof, so to speak—it would not learn in years, if it ever learned at all! Just as it inherits muscles suited to perform particular movements, and ready, after a little training, to perform them with ease, so it inherits in its brain nervous substrata that embody the acquisitions of the culture of its kind, and are ready, after a little training, to discharge the function which has determined their formation through the gradual experience of the race from age to age. Whoever doubts this, let him take the child of an Australian savage and the child of an ordinary European parent, and let him bestow the same pains to give them the same education; in the one case he will find that he is playing upon a complex instrument, culture-tuned, and ready to give forth harmony on the occasion of a

suitable touch, and in the other case that he has to do with a very imperfect instrument, harsh and untuned, out of which he can only get a few notes, and never the highest notes, with all the skill that he can employ.

I might say, perhaps, that every human being has four natures—his animal nature, his human nature, his family nature, and his individual nature. Beneath the individual characteristics lies the family nature, so that it will happen that in two brothers whose every feature differs we perceive intuitively the family identity—a fundamental identity in diversity, and, on the other hand, in two strangers who are very like in features we perceive intuitively a fundamental difference, albeit we cannot describe it in words. Beneath the family nature is the more general human nature, and beneath that again the still deeper lying and more general animal nature, which, long way as man is from his nearest of animal kin, has by no means been worked out of him. Here we have to do only, but enough to do, with the inheritance of the family.

Many familiar examples go to prove that a person inherits not only the general characters of the family, but peculiarities of manner and of disposition: tricks of thought, like tricks of manner, moods of feeling like humours of body, are inborn and come out usually at one period or another of his life. Not only are the ways and looks of immediate ancestors thus reproduced sometimes, but those of ancestors who are remote and not perhaps in the direct line of descent; it would seem in fact that every parent has latent in him the abstract potentialities of his ancestors, for I know not how many generations back along the line of descent, and that these may undergo development again in his posterity if they chance to meet with suitable stimuli. To understand what these latent potentialities are, he would do well to study their developments in father, brothers, sisters, uncles, children—in all branches of the family tree: explicit in them he shall read what is implicit in himself. And here I may fitly take notice that inherited qualities shall appear only at certain epochs of life, the ancestral nervous substrata being then stirred to function for the first time. At puberty, for example, a bodily and

mental revolution takes place, new mental substrata are aroused to function, and ancestral characters show themselves which were not noticed before, and probably never would have been noticed had the person been made a eunuch; during pregnancy there may be distinct manifestations of her mother's character in a daughter which no one had observed before; and at the change of life, when a woman's special functions are over, and she tends towards a masculine character of body and mind, there may be evinced peculiarities which call to mind a male ancestor. It is easy to understand that particular experiences in life may, like these changes in the bodily evolution, be fitted to awaken to function latent or quiescent ancestral nervous substrata, and that in this way the accident of an accident in life may chance to bring out an ancestral character which otherwise, like a seed not brought to bear, would have remained dormant. As it is with the origin and the decay of instincts among animals, so it is with the development and the decadence of these ancestral nervous substrata: conditions of life suited to their activity will stimulate them to action and will foster also the development of new adaptive tendencies with their appropriate substrata; conditions of life unsuited to their activity will cause by degrees the waning and the ultimate disappearance of old tendencies with their substrata. In this way a slow evolution takes place through the ages, and the thoughts of men are gradually transformed. One consideration more with respect to an individual's legacy from his parents: he inherits not only their general family nature and their original individual nature, but something from their individual characters, as these have been modified by their sufferings and doings, their errors and achievements, their development or their degradation. Thus the work of one generation with its consequences, good or ill, is continued in the constitution of the next generation, living on in it, and the life of a person is the unbroken continuation of the life of his forefathers. No wonder that men have invented doctrines of predestination and metempsychosis.

Very little observation, however, is needed to show that the reproductions of the qualities of ancestors is but one side of the action of heredity—that it does not copy merely, but also

invents; so that an individual often exhibits marked differences from any known ancestor. Its operation includes a law of variation as well as the reproduction of the like. It is true it might be said that the variations which an individual presents are not what they seem, but repetitions of qualities of remote ancestors who have been forgotten, but it is an assertion which is opposed to what we know of the correlations between variety of character and increasing complexity of social conditions, and to the evident fact that men in the long run advance by evolutional variations upon what they have inherited from their forefathers, or go back upon it by retrograde morbid varieties. The existence of different moral dispositions and intellectual capacities in twins and in double monsters is sufficient proof that hereditary action is not of the nature of a mere mechanical copy; it is rather of the nature of a complex chemical combination, whereby compounds not resembling in properties their constituents are oftentimes produced. Unhappily we are yet as ignorant of the laws by which combinations of germinal elements take place and of the manifold variations of products which ensue therefrom, as people of old were of the combinations of chemical elements and of the complex chemical products which result from them. Nature builds up a multitude of different complex chemical products out of a few simple elements; it can be no cause of surprise then that out of the combinations of the highly complex organic bodies which the sperm and the germ elements are she builds up all the varieties of individual character. Consider the complexity of these germinal elements! There is not an organ of the parent's body, we have reason to think, not a tissue of which an organ is formed, not an element probably of a tissue, which has not its idiosyncrasy represented in the minute germ in some latent and mysterious way, and which may not therefore come out in its full traits of character in the developed offspring; or, if it does not come out in its own character, serve to neutralise, supplement, or modify some quality in the combining germ from the other parent. Moreover, if it is neither developed after its own kind nor utilised in combination, it may lie completely dormant in that generation and come out in the off-

spring's offspring, or even in a later generation; for we know not in the least how long it may remain latent before it is extinct.

This skipping of one generation and reappearance in a succeeding one has been called Atavism, and has excited surprise when it has been observed in morbid heredity: it is so striking sometimes in insanity that Ludovicus Mercatus, a Spanish physician, who wrote a book on hereditary diseases, was of opinion that the insanity appeared in every other, or every third, individual in lineal descent. But it is not so extraordinary as it seems; for we have a familiar physiological instance of the same thing when a daughter of a house transmits to her son any of the special masculine qualities of her family, which of necessity cannot be developed in her body, or when a son of the house transmits to his daughter any of the special feminine qualities of his family. In these cases the special sexual qualities must have been latent in the intermediate generation. Other qualities, healthy and morbid, that are not bound to sex may in like manner be latent in a generation, if they meet not in the circumstances of the individual's life with the conditions fitted to stimulate them into active display. We assume them to be latent when they do not show, but of course we cannot really say that they are then perfectly inactive; they may, for anything we know, be held in check by, or hold in check, some quality of the combining germ from the other parent, or have entered into combination with it to form a new product with qualities different from either of its constituents. Organic combination being a matter of such exceeding complexity of elements, of the nature and laws of union of which we have not at present the least notion, but in comparison with which we may be sure the most complex chemical combination known is simple, we see reason enough why children are not mere stereotyped copies of their parents, but always exhibit in their mental and bodily constitutions and features more or less distinct evidence of a law of variation.

Not only have we to take note of the complex character of organic combinations, but we ought further to note that combining germs may be well or ill-fitted to combine, being in the one case of such a character as to make a strong and stable

compound, and in the other case of a character to make a feeble and unstable compound. These greater or less affinities of the formative germs for one another I take to be a necessary consequence of the observation that two persons may be very well suited or may be very ill suited to produce healthy offspring; for we may look on the germs as the essential abstracts of the individuals from whom they proceed, containing in the innermost all that is explicitly displayed in features of body and mind, and exhibiting the affinities and repulsions which the individuals exhibit. It was an Oriental idea that a complete being had in primeval times been divided into two halves, which have ever since been seeking to join together and to reconstitute the divided unity. The desire and pursuit of this unity is love, and it is accomplished in the happy union of the sexes, and in the production of the new being who proceeds therefrom. Clearly the completest attraction ought to exist between the individuals; for if there be indifference or repulsion, as happens sometimes where interest instead of affection makes a marriage, there cannot be that full and harmonious co-operation of all the conditions which is necessary to the best propagation; not that elective affinity by which two beings are drawn together and combine in marriage, like two elements in nature, to form a stable compound. As good an author as Burdach maintained that the beauty and ugliness of children were not dependent so much upon the beauty and ugliness of their parents as upon the love or aversion which they had for one another; and to this opinion Lucas heartily subscribes. One would have hesitated less to assent to it had it referred mainly to beauty and ugliness of moral character; for an ugly and unhallowed union of antipathies can hardly fail to have consequences in the inexorable logic of natural law.

All men are of the same species, and yet the varieties are so great that the extremes do not combine well together; if a man of the highest civilised race has intercourse with a woman of the lowest race, the probability is that the intercourse is sterile, or if there chance to be offspring it is so much the hybrid that it is itself infertile. Degenerate or morbid varieties of civilised races evince a similar incapacity of procreation;

sterile idiocy being the natural termination and extinction of degenerate varieties of the human kind. In vain might the most curious despot attempt to propagate a race of idiots. These extreme instances of a positive unaptness or repugnance of germ elements to combine will serve to bring home to the mind the conception of the existence of laws of combination which are in constant operation, and which we are yet ignorant of, though we may expect them to be known some day. Is it not easy to conceive that, without being so incompatible as to actually refuse to combine, the germ elements may be so far unsuited to one another that when they combine they do so in a half-hearted way and produce an unstable compound? One frequently sees an illustration of this in the outbreak of insanity in the offspring of parents, one or the other of whom has been insane at some time, and I believe it to be the explanation of the distinct predisposition to insanity which appears, so far as the parents are concerned, to be generated *de novo* in the offspring; they may not themselves have ever been insane, nor may they come from families that have any marked taint of insanity, yet they may, by reason of their mental or bodily characters, be as unfitted to breed together successfully as if they were positively insane. If the popular notion be true, which the instincts of all nations seem to confirm, that consanguineous marriages breed degenerate offspring, the case is one of this kind: germs subsuming the qualities of the same ancestors, with such little admixture of new elements as may chance to come from the non-related parents, lack the variety of composition which is necessary to the best combinations, and so are unfitted to produce a stable compound. Any one who will may make the observation that when two persons of narrow and intense temperament, having great self-feeling, distrustful of others, and prone themselves to cunning ways and hypocritical dealings, mean in spirit as in habits, perhaps deceiving themselves all the while by an intense affectation of religious zeal of evangelical, ritualistic, or other extreme type, unite in marriage and have children, they lay the foundations of insanity in offspring more surely often than an actually insane parent does. In truth there are certain varieties of temperament which, not reaching the degree of

insanity, but tending more to criminal type, are as likely by their union to generate it as is the most positive mental derangement in one or other of the parents; and foremost amongst them I hesitate not to place the union of essentially false and hypocritical natures.

It is a common belief that genius is seldom inherited, and it is certainly true that many wise men have had foolish sons, and that many distinguished men have proceeded from common and unknown families. One writer has gone so far as to declare that giants in mind, like giants in body, are unfruitful. One may conceive the reason why these extraordinary developments of mind or body are not inherited to be because they are *extraordinary* varieties; being acquired rather than natural characters of organization, so far therefore special deviations from the type, they are less likely to be inherited than is some family character which belongs to the stock, goes along with it in all its individual outcomes, and requires no special external conditions to aid its development. There is a repugnance in nature to extreme deviations from the type, and when such a deviation has occurred the tendency is to revert to the ordinary type. Monsters deviate so far from the normal type that they are either not viable or cannot propagate themselves; so it is with *actual* diseases, which are truly morbid varieties; they are not propagated as actual diseases when they do descend from father to son, but as tendencies to disease, and they are likely to be extinguished eventually in that line of descent, either by the operation of the constant disposition which the organism shows to revert to a sound type, or, if they get the better of the healthy forces, by their increase until they put a stop to propagation. Mr. Galton, who wrote a book to prove that genius is hereditary, counting among his many examples hardly more than two or three cases of true genius, has since perceived that all extraordinary characters in families tend to revert to mediocrity, whether the deviation be in the direction of *plus* or *minus*, and that in a generation or two this reversion is to the equilibrium from which the family variability had deviated. If it be true that genius is apt to be infertile, as the giant certainly is, we must suppose that the deviation from the common type has been so

great as to render the germ incapable of combination with a germ that is cast in the common mould, and that so nature at once prevents by strong measures, as she does in the case of idiocy, the necessity of a gradual return in the course of generations to the average standard of mediocrity. Were genius inheritable the result would soon be the development of a higher species of man separating itself widely from a lower species.

In the pathological action of the law of variation or invention of which I have spoken we have an explanation of the *de novo* production of a predisposition to insanity, which must manifestly have taken place once, and which takes place now from time to time. Were all madness swept from the face of the earth to-morrow, past all doubt men would breed it afresh before to-morrow's to-morrow. Two subjects concerning which information may be set down as wanting, and which urgently need exact investigation at the present time, are (*a*) The different antecedent conditions of the generation of a predisposition to insanity; and (*b*) The different signs, mental and bodily, by which such a predisposition betrays itself. Of the latter I shall treat in due course; respecting the first, when it comes to be studied seriously, I may note that besides the law of variation which is manifested in the results of the combinations of germ-elements, we shall have to take account—secondly, of the unquestionable influence of the particular mental and bodily state of one or both parents before and at the time of propagation; thirdly, of the important influence upon the child's constitution which is exerted for good or ill by the mental and bodily state of the mother during gestation; and, fourthly, of the influences brought to bear upon the child during the first years of growth and development of its susceptible nervous system. The neutralization of a tendency to insanity, through which it comes to pass that it sometimes becomes extinct, is due, first, to the favourable influence of a happy marriage, that is to say, one which is antagonistic, not consentient, to its development, and secondly, to the beneficial effect of conditions of life suited to check its development. There is yet a third weighty cause to be taken into account, namely, the natural tendency of the organism to revert to the sound type. Were it not for these

hygienic agencies all the world must become mad sooner or later. But as a matter of fact, in the unceasing flow of the stream of life ill tendencies are being constantly formed and unformed, as chemical compounds are formed and unformed.

I go on now to consider the meaning of insanity as an aberrant phenomenon in nature and of the general conditions which lie at its foundation, before entering upon the discussion of its particular causes. Aberrant or abnormal, as it may be thought and called, it comes by law, and is just as natural as the normal phenomena of sanity. It is the clear business of man in the world to adapt himself to the surrounding conditions of his existence and to profit by them. The gradual increase of knowledge and skill, which we call progress of science and art, is the gain which he makes as he succeeds in more close and exact adaptation to external nature by means of improved methods of observation of it and corresponding action upon it. The mechanical conquests of the age are no more than systematic improvements of what we do in consequence of more accurate and systematic observation of what we have to do with: we observe in order to foresee, and foresee in order to modify and direct, so gaining victories through obedience. Progress in physical science and in the arts which are based upon it is made then by getting into closer and closer harmony with nature and by informing our actions with the insight so gained—by making them, in fact, a developmental advance upon nature. Progress in poetry and in fine art has the same basis and should have the same aim—to get closer insight into the beauties and harmonies of nature and to construct new art combinations which shall be a development of them—to make nature better by human means, the means itself being still nature. To bring self by systematically improved adaptation of feeling, insight and doing into the most intimate possible harmony with nature, so as almost to lose the sense of self in the larger sense of oneness with it, must be the means, I take it, and should be the aim, of human evolution. Failure in this aim, when it falls below a certain level, is punished by manifest degeneration and disease; for nature is sure to take vengeance upon those who ignore or transgress its laws, observing not its commandments

to do them. Certainly it would not be well for any one to mortify self so far as to get a disdain of it, for he might not then care to strive at all; he will find that to do the best for himself and to do the best for nature are one, and that the highest results of his wisest striving culminate in a more or less complete self-surrender—in a nearer and nearer approach to Nirwâna.

Inasmuch as a large part of the nature with which man has to come into some sort of harmony is not what we call physical nature, but human nature, it is plain that a main business of his life will be to adjust his relations to his kind. *That* he cannot help doing in the rudest form of primitive society; the control of his own passion from fear of the recalcitrant kick of his neighbour's passion is a solid foundation of a primitive sort of social feeling; but in a higher development of the social organism his relations as a social element become much more complex and special. Sympathy with his kind and well-doing for its welfare, direct or indirect, are the essential conditions of the existence and development of the more complex social organism; and no mortal can transcend these conditions with any success. Let him feel, as he well may, that the play of human life is a dreary farce, that he and his fellow-workers are but a little higher than the brutes, and like the brutes will soon perish everlastingly—that all in the end is vanity and vexation of spirit, he must still feel and work with his kind if he would have health of mind. Misanthropy is commonly madness in the making. Hence it is that humour, which always is imbued with sympathy, is a higher and more wholesome quality than cynicism, which is always inspired by contempt. If an individual fails to bring himself into sympathetic relations, conscious or unconscious, with surrounding human nature, he becomes a sort of discord, and is on the road, though he may not reach the end of it, which leads to madness or to crime: he may be likened unto a morbid element in the physiological organism, which cannot join in function with the surrounding elements, is an alien among them, and must either be extruded from it or be made harmless by sequestration in it: he is truly an alien from his kind, and with equal truth he is said to be alienated from himself, because it is the function of a

normal self to be one with its kind. Eccentricities of character, when they are not counterbalanced by a strong judgment, are apt to ripen into insanity either in the individual or in his offspring, and the most appalling crimes of which history keeps record, deeds of horror at which the world turns pale, have been perpetrated by those who, having gained or inherited authority and power, were so entirely emancipated from the social bonds of human feeling as to be sometimes veritable madmen. A scientific view of the conditions of human evolution simply brings us back to the old story which prophets have seen and proclaimed—to obey the commandments of God as they are written in the laws of nature, and to love one's neighbour as oneself, to conform humbly, that is, to physical and social laws.

If it be true that it is the aim and the condition of a just development to bring the individual into sympathetic relations with the sufferings and the doings of his kind, it is plain that he who, distrustful of every one, pursues eagerly his own selfish schemes, having no regard to his altruistic functions as a unit in the social organism, must be on the road to initiate degeneracy of some kind. Intense egoism of this sort does in fact divide into two main branches, as the degeneracy increases through generations—namely, the insane and the criminal types, each of which has its various subdivisions. That the children's teeth are set on edge when the fathers have eaten sour grapes was not the mere dream of a seer's fancy, but the piercing insight into a natural law by which degeneracy increases through generations. Crime and madness are the active outcome of antisocial tendencies. It is well known how hard a thing it is sometimes to distinguish between these two forms of human degeneracy. There are, on the one hand, many criminals who exhibit such evident signs of defect or unsoundness of mind that it is impossible to say confidently whether they ought to be sent to an asylum or to a prison; and, on the other hand, there are insane persons who evince such criminal and vicious tendencies that one cannot help feeling that the discipline of a prison would be the best treatment for them: both proceed in descent from the same antisocial stem, and it is no wonder that their varieties intermingle indistinguishably in the borderland where they touch.

Those who have had much to do with the treatment of insane persons have not failed to note the marked mental peculiarities of their near relations in many instances, and to lament that they oftentimes show themselves more distrustful, more difficult to reason with, more impracticable, than the member of the family who is confessedly insane. In the first place, they have such an intimate radical sympathy of nature with those tendencies of character which have culminated in insanity in him, that they cannot sincerely see alienation which is patent to all the rest of the world: they will minimise bit by bit, finding reason or excuse for each strange act, feeling, or idea, until they have accounted for all the strangeness of it, and it only remains for the patient listener to confess that the palpable madness was after all very natural in him, and that their relative is not mad like other mad persons, or at any rate that what would be great madness in all the rest of the world is not madness in him. In the second place, as a consequence of their essential likeness and sympathy of nature, they will question, dispute, carp at every restraint which those under whose care he is may find it necessary to place upon him; notwithstanding that they may have been obliged to send him from home and to put him under control because he was an intolerable trouble or an actual menace and a danger, they will talk as if they would exact a mode of treatment which entirely ignored his insanity, and will end probably, if he does not get better, in the firm belief that his disease has been caused and kept in action by the improper treatment to which he has been subjected. The worst of them would risk the chance of his attendant being killed by a lunatic rather than suffer what they call his sensitive disposition to be hurt by the necessary means of control, and if such a catastrophe happened their genuine sympathies would be with him, not with the victim of his violence. Their intensely suspicious and distrustful natures, their tortuous habits of thought, their wiles and insincerities, their entire absorption in a narrow selfishness, mark a disposition which is incapable of coming into wholesome relations with mankind; it is of a character to lead to guile in social intercourse, to petty fraud in business, and, when the conditions of life are hard and tempt

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to evil-doing, even to crime, and which in any case is pretty sure to breed insanity or crime in the next generation. Moral feeling is based upon sympathy; to have it one must have imagination enough to realise the relations of others and to enter ideally into their feelings; whereas these persons have not the least capacity of going in feeling beyond the range of their family, unless it be to embrace a favourite cat or dog, and are governed by an intense and narrow family selfishness. They are capable sometimes of an extraordinary self-sacrifice for one another within that small circle, but they are completely shut up within it. Being in such slight and unstable relations with their kind, what wonder that a son or daughter who has descended from such an unsound stock and who most likely sucked in suspicion and egoism with the mother's milk, should get so far astray as to be loosened from wholesome bonds of social relation and to become insane or criminal!

Good moral feeling is to be looked upon as an essential part of a sound and rightly developed character in the present state of human evolution in civilised lands; its acquisition is the condition of development in the progress of *humanization*. Whosoever is destitute of it is to that extent a defective being; he marks the beginning of race-degeneracy; and if propitious influences do not chance to check or to neutralize the morbid tendency, his children will exhibit a further degree of degeneracy and be actual morbid varieties. Whether the particular outcome of the morbid strain shall be vice, or madness, or crime, will depend much on the circumstances of life, but there is no doubt in my mind that one way in which insanity is generated *de novo* is through the deterioration of nature which is shown in the absence of moral sense. It was the last acquisition in the progress of *humanization*, and its decay is the first sign of the commencement of human degeneracy. And as absence of moral sense in one generation may be followed by insanity in the next, so I have observed that, conversely, insanity in one generation sometimes leaves the evil legacy of a defective moral sense to the next. Any course of life then which persistently ignores the altruistic relations of an individual as a social unit, which is in truth a systematic negation of the moral law of

human progress, deteriorates his higher nature, and so initiates a degeneracy which may issue in actual mental derangement in his posterity.

When we make a scientific study of the fundamental meaning of those deviations from the sound type which issue in insanity and in crime, by searching inquiry into the laws of their genesis, it appears that these forms of human degeneracy do not lie so far asunder as they are commonly supposed to do. Moreover, theory is here confirmed by observation; for it has been pointed out by those who have made criminals their study that they oftentimes spring from families in which insanity, epilepsy, or some allied neurosis exists, that many of them are weak-minded, epileptic, or actually insane, and that they are apt to die from diseases of the nervous system and from tubercular diseases. One might venture to describe, and to place side by side as having near relations to one another, three neuroses—the epileptic, the insane, and the criminal neurosis—each of which has its corresponding psychosis or natural mental character. In like manner as the form of every living creature answers to its habits, it desiring only what it can attain by means of its organs, constructed as they are, and its organs never urging it to that which it has not a desire for, so it is with the particular neurosis of that congeries of nerve-centres which constitute specially the organ of mind; it inspires a desire for and determines a tendency to that form of mental activity, in other words, to that development of the psychosis, which is the fullest expression of its function. The sufferer from any one of these neuroses represents an initial form of degeneracy, or a commencing morbid variety, of the human kind, and life to him will be a hard struggle against the radical bias of his nature, unless he minds not to struggle and leaves it to the free course of a morbid development. He is sadly weighted in running the race that is set before him, since he has an enemy in his camp, a traitor in his own nature, which is ever ready to conspire with external adversities, and often lends them a secret help, without which they would be powerless to overcome him.

When the criminal inmates of a prison are studied, as they need to be more scientifically than they have yet been, they are

not found to be quite so much alike as a common name would imply; indeed, they may rightly be divided into three principal classes—(*a*) the first class, consisting of those who, not being really criminally disposed, have fallen in consequence of the extraordinary pressure of exceptionally adverse circumstances; (*b*) the second class, of those who, having some degree of criminal disposition, might still have been saved from crime had they had the advantages of a fair education and of propitious conditions of life, instead of the disadvantages of an evil education and of criminal surroundings; (*c*) the third class, of born criminals, whose instincts urge them blindly into criminal activity, whatever their circumstances of life, and whom neither kindness, nor instruction, nor punishment will reform, they returning naturally to crime when their sentences are expired, like the dog to its vomit or the sow to its wallowing in the mire. It illustrates the strength of the instinctive repugnance to anti-social beings that while compassion is oftentimes felt for a criminal of the first class, and apology made for his crime, not the least pity is felt nor the least allowance made for the fearful tyranny of his bad organization under which the criminal of the third class groans and succumbs. Clearly society might justly commiserate the criminal at the same time that it deliberately punished him by sequestration for its own certain protection and for his possible reformation.

In this relation it is interesting to note how much a desire of concealment and a feeling of disgrace still attach to the occurrence of insanity in a family, despite all that may be said with regard to its nature as a defect or a disease calling for compassion. The feeling has at bottom a certain justification in the truth that insanity is a mark of family degeneracy, the initiation of a morbid variety of the human kind, a proclamation of failure in adaptation to the complex social and physical conditions of civilised life. The sufferer is an outcast from the social system, being unable to conform to the laws which govern social organization and function. There always has been, and for a long time to come there will no doubt still be, a feeling of distrust of and repugnance to the anti-social unit who has fallen from his high rational estate as a being who can feel, think, and act

with his kind, and whose thoughts and deeds are incompatible with the social well-being; he will lie under a social ban, and the family to which he belongs will feel the reflected stigma.

The foregoing considerations make it plain that if all sorts and conditions of insanity were swept clean from the face of the earth at one stroke, so that hereditary predisposition could not work as a factor in its production, no long time could elapse before a new start was given to one or other of its forms of degeneracy. It is a mere question of time when a deviation from the laws of social well-being shall reach such a pitch that the individual who is the outcome is unfit to take his place and perform his functions as a social element, and must be treated as a morbid variety; degeneracy of the moral being must ensue in consequence of a persistent disregard of these laws as surely as disease or death of body will ensue from a persistent disregard of the laws of physical health; and he who is going the way of degeneracy from the ideal type of wholesome manhood plainly cannot help, but will hinder that evolution of the social organism which, as it is the effect, we may take to be in the purpose, of nature's development. All those who are going this downward way, along whatever special path, we might class together under the head of *anti-social* elements; there would be many varieties of them, ranging from the first beginnings of degeneracy to the extremest forms thereof.

It would not perhaps be too absolute a statement to make—That one of two things must happen to an individual in this world if he is to live successfully in it: either he must be yielding and sagacious enough to conform to circumstances, or he must be strong enough, a person of that extraordinary genius, to make circumstances conform to him. If he cannot do either, or cannot manage by good sense or good fortune to make a successful compromise between them, he will either go mad, or commit suicide, or become criminal, or drift a helpless charge upon the charity of others.

Having thus set forth the meaning of insanity as an aberrant phenomenon in the social organization, and so hinted at the conduct of life which is best suited to prevent it, I go on now to treat more particularly of that definite predisposition to it

which is produced by similar or allied disease in one or other of the immediate ancestors.

Morbid Heredity.—This is a subject respecting which it is not possible to get exact and trustworthy information. So strong is the feeling of disgrace attaching to the occurrence of insanity in a family, and so eager the desire to hide it, that persons who are not usually given to saying what is not true will disclaim or deny ostentatiously the existence of any hereditary taint, when it is known certainly to exist or is betrayed plainly by the features, manner, and thoughts of those who are denying it. Not even its prevalence in royal families has sufficed to make madness a fashionable disease. The main value of the many doubtful statistics which have been collected by authors in order to decide how large a part hereditary taint plays in the production of insanity is to prove that with the increase of opportunities of obtaining exact information the greater is the proportion of cases in which its influence is detected; the more careful and exact the researches the fuller is the stream of hereditary tendency which they disclose. Esquirol noted it in 150 out of 264 cases of his private patients; Burrows clearly ascertained that it existed in six-sevenths of the whole of his patients; on the other hand, there have been some authors who have brought the proportion down as low as one-tenth.[1] Some years ago I made a tolerably precise examination of the family histories of fifty insane persons taken without any selection; there was a strongly marked predisposition in fourteen cases—that is in 1 in 3·57, and in ten more cases there was sufficient evidence of family degeneration to warrant more than a suspicion of inherited fault of organization. In about half the cases then was there reason to suspect morbid predisposition. I have recently inquired into the histories of fifty more cases, all ladies, the opportunities being such as could only

[1] Elaborate statistical tables which have been gathered from public asylum reports, in order to exhibit the proportions of instances in which hereditary predisposition has existed, have never been of any value, except so far as they served to occupy or amuse those who were at the pains to compile them; only where the inquirer is brought into the most intimate relations with the friends of the patients can he make an approach to accuracy, and even then it will be an approach only.

occur in private medical practice, and with these results: that in twenty cases there was the distinct history of hereditary predisposition; in thirteen cases there was such evidence of it in the features of the malady as to beget the strongest suspicion of it; in seventeen cases there was no evidence whatever of it. In the second fifty cases my opportunities of getting information were more favourable in consequence of more frequent personal intercourse with the friends, and it sometimes happened that the information sought for was obtained quite accidentally after heredity had been denied. What is the exact proportion of cases in which some degree or kind of hereditary predisposition exists must needs be an unprofitable discussion in view of the difficulty and complexity of the inquiry; suffice it to say broadly that the most careful researches agree to fix it as certainly not lower than one-fourth, probably as high as one-half, possibly as high even as three-fourths.

Two weighty considerations have to be taken into account in relation to this question: first, that the native infirmity or taint may be small or great, showing itself in different degrees of intensity, so as on the one hand to take effect only when conspiring with more or less powerful exciting causes, or on the other hand to give rise to insanity even amidst the most favourable external circumstances; and, secondly, that not mental derangement only in the parents, but other forms of nervous disease in them, such as epilepsy, paroxysmal neuralgia, strong hysteria, dipsomania, spasmodic asthma, hypochondriasis, and that outcome of a sensitive and feeble nervous system, suicide, may predispose to mental derangement in the offspring, as, conversely, insanity in the parent may predispose to other forms of nervous disease in the offspring. We properly distinguish in our nomenclature the different nervous diseases which are met with in practice according to the broad outlines of their symptoms, but it frequently happens that they blend, combine, or replace one another in a way that confounds our distinctions, giving rise to hybrid varieties intermediate between those which are regarded as typical.

This mingling and transformation of neuroses, which is observed sometimes in the individual, is more plainly manifest

when the history of the course of nervous disease is traced through generations; if instead of limiting attention to the individual we go on to scan and track the organic evolution and decay of a family—processes which are sometimes going on simultaneously in different members of it, one displaying the outcome of its morbid, another of its progressive tendencies—it is seen how close are the fundamental relations of certain nervous diseases and how artificial the distinctions between them sometimes appear. Epilepsy in the parent comes out perhaps as some form of insanity in the offspring, or insanity in the parent as epilepsy in the child. Estimating roughly the probable breeding results of a number of epileptic parents, one might say that they would be very likely to lose many children at an early age; that the chances were great that some children would be epileptic; and that there was almost as great a risk that some would become insane. Chorea or other convulsions in the child may be the consequence of great nervous excitability, natural or accidentally produced, in the mother. In families where there is a strong predisposition to insanity, one member shall sometimes suffer from one form of nervous disease, and another from another form: one perhaps has epilepsy, another is afflicted with a severe neuralgia or with hysteria, a third may commit suicide, a fourth becomes maniacal or melancholic, and it might even happen sometimes that a fifth evinced remarkable artistic talent. Neuralgic headaches or megrims, various spasmodic movements or *tics*, asthma and allied spasmodic troubles of breathing will oftentimes be discovered to own a neurotic inheritance or to found one. The neurotic diathesis is fundamental; its outcomes are various, and determined we know not how; but they may, I think, be either predominantly sensory, or motor, or trophic in character.

Were we only as exact as we could wish to be in our researches we ought then, in studying hereditary action and its issues, to mark the different roads. It is plain there may be (*a*) Heredity of the same form—that is, when a person suffers from the same kind of mental derangement as a parent had which he seldom does except in the cases of suicide and dipsomania; (*b*) Heredity of allied form, as when he suffers from

another kind of mental derangement than that which his parent had—is maniacal, for example, when he or she was melancholic; and (*c*) Heredity with transformation of neurosis—when the ancestral malady was not mental derangement of any sort, but some other kind of nervous disease. Whatever the exact number of cases of mental disorder in which hereditary predisposition of some degree or kind, derived from the preceding or from a more remote generation, is positively ascertained, it may be asserted broadly that in the majority there has been a native instability or infirmity of nervous element in the individual whereby he has been unable to bear the too heavy burden of his life, and has broken down in mind. Complex and various as the constitutional idiosyncrasies of men notably are, it is obvious that statistics can never yield exact and conclusive information concerning the causation of insanity; here, as in so many other instances of their employment, their principal value is that they make known distinctly the existence of a certain *tendency*, so to speak, which, once we have fairly grasped it, furnishes a good starting-point for further and more rigorous researches: they indicate the direction which a more exact method of inquiry should take.

It will not be amiss to take note here that the filiation of nervous disease is displayed more plainly in the so called functional disorders, in which we are not able to detect any morbid change of structure after death, than in the so called organic diseases, in which there is visible deterioration of structure. The reason probably is this: functional diseases mark an intrinsic disorder of nerve element itself, of ultramicroscopical delicacy—intranervine so to speak—while the gross destruction of nerve-structure which we observe in organic disease is usually a secondary effect, extranervine, the primary disease having originated in the walls of the blood-vessels or in the elements of the connective tissue. For example, when an extravasation of blood breaks down the nerve structure in the neighbourhood of the burst vessel, it is the degenerate artery which is at fault; and when a syphilitic or a cancerous tumour grows in the brain to the detriment of the nervous structure on which it encroaches steadily, it has had its origin not in the nerve

element, but in the perivascular spaces or in the elements of the connective tissue. In both cases we have to do with a disease of nutrition rather than with an essential disease of nerve element. The mental and nervous symptoms which occur are incidental to the progress of the disease, not of its essence, being due either to the direct destruction, or to the irritation, direct or reflex, of nerve structure by the extravasated blood or the morbid growth; and hereditary action, if it showed itself at all, might be expected to show itself in degenerate blood-vessels or in similar morbid growths in the brain or elsewhere in the body.

Nevertheless it must have chanced to every physician who has had much to do with nervous diseases to have seen cases in which a parental apoplexy has seemed to have distinctly predisposed to insanity in the offspring. I call to mind an instance in which four grown up members of a family of ten children are already insane, and more will probably become so. I know nothing more of their hereditary antecedents than that neither father nor mother was insane; both were extremely energetic and industrious, and they built up from the humblest beginnings by their joint exertions a large and lucrative business in London. The mother was of an anxious, inconstant, impatient, and somewhat irritable temperament, always actively employed and an eager woman of business, and she died at a good age. The father, who was of a sanguine, choleric, and active temperament, died two years after her from apoplexy, having had a previous attack from which he had recovered. Though warned very gravely after the first attack to be careful and temperate in work and in habits, he paid not the least regard to the admonition, but was eagerly employed in extending his business to the moment when he was struck down by the fatal attack. In this case the apoplectic catastrophe was plainly not the beginning of the line of pathological degeneracy; account ought to be taken of the neurotic temperament which went before it, the eager, continued, and somewhat turbulent function of which, involving a full and brisk determination of blood to the brain, might well produce a too great and unintermitting strain upon the walls of the bloodvessels, and so occasion degeneration of their structure;

wherefore it was not the actual bursting of the weakened vessel, but the antecedent conditions of nerve element, which should be accounted the true predisposing cause. This has been the real order of events, I believe, in other cases in which apoplexy has appeared to predispose to insanity: in one generation might be noted irritability, a tendency to cerebral congestion, with passionate and violent outbreaks, ending perhaps in an apoplectic stroke; in the next generation a tendency to cerebral hæmorrhage, and the appearance of such neuroses as epilepsy, suicidal disposition, and some form or other of mental derangement.

There is reason to think that an innate taint or infirmity of nerve-element may modify the manner in which other diseases commonly manifest themselves; for example, where it exists, gout flying about the body will occasion obscure nervous symptoms which puzzle the inexperienced practitioner, and it will sometimes issue in a downright attack of insanity, instead of showing itself by its ordinary inflammations. On the other hand, there is no doubt that a parental disease which does not affect specially the nervous system may notwithstanding be at the foundation of a delicate nervous constitution in the offspring: scrofula, phthisis, syphilis perhaps, gout and diabetes appear sometimes to play this part. On going through an idiot asylum the appearance of scrofula among its inmates is sufficiently striking; perhaps two-thirds, or even more, of all idiots are of the scrofulous constitution.[1] Lugol, who wrote a treatise on scrofula, professes to have found insanity by no means uncommon amongst the parents of scrofulous and tuberculous persons, and in one chapter he treats of hereditary scrofula from paralytic, epileptic, and insane parents. In estimating the value of observations of this kind, however, we may easily be deceived unless we are careful to reflect that, independently of any special relation between the two diseases, the enfeebled nutrition of scrofula would be likely to light up any latent predisposition to insanity which there might be, and so might seem to have originated it when it was only a contributory factor, and, on the other hand, that insanity, and especially those

[1] *On Idiocy and Imbecility.* By William W. Ireland. 1877, p. 24.

forms of it in which nutrition was much affected, would foster the development of a predisposition to scrofula or phthisis.

Several writers on insanity have taken notice of a connection between it and phthisis which they have thought to be more than accidental. Schroeder van der Kolk was confident that a hereditary predisposition to phthisis might predispose to or develop into insanity, and, on the other hand, that insanity predisposed to phthisis. With phthisis, however, there commonly goes, as is well-known, a particularly eager, intense, impulsive, and sanguine temperament, which may breed a more insanely disposed temperament in the offspring, apart from any influence which the actual tubercular tendency may be supposed to have or to have not. I am the more apt to think this the explanation, because there is a third-rate artistic or poetic temperament, altogether wanting in sobriety, breadth, and repose, and manifesting itself in intense but narrow idealisms, of an extravagant or even grotesque character sometimes, or in caterwauling shrieks of emotional spasm, put forth as poetry, which closely resembles the phthisical temperament, and which is very likely to breed insanity. There is no question in my mind that insanity and phthisis are often met with as concomitant or sequent effects in the course of family decadence, whether they predispose to one another or not; they are two diseases through which a family stock that is undergoing degeneracy gradually becomes extinct, especially in those cases where the degeneracy is the outcome of breeding in and in until all variety and vigour have been bred out of the stock. When we are searching for the predisposing conditions of a morbid neurosis in a particular case, and fail to discover any history of antecedent insanity or epilepsy, we shall do well then to inquire whether phthisis is a family disease. It is alleged that as many as two-thirds of all idiots die of phthisis. According to Dr. Clouston's observations, made at the Morningside Asylum, tubercular deposit is twice as frequent in the bodies of those who die insane as it is in the bodies of those who die sane, and he professes to have found a distinctly greater frequency of hereditary predisposition to insanity among the tubercular than among the non-tubercular patients. There is not, I think, sufficient reason to suppose that

the remarkable remission of the symptoms of insanity which undoubtedly takes place often during the exacerbation of phthisis in a patient who has the two diseases, with the active recurrence of the mental symptoms when the signs of phthisical activity abate, testifies to any special connection between them; for it appears to be no more than an instance of such abatement of mental symptoms as is observed when other acute disease befalls in an insane patient.

Diabetes is a disease which often shows itself in families in which insanity prevails: whether the one disease predisposes in any way to the other or not, or whether they are independent outcomes of a common neurosis, they are certainly found to run side by side, or alternately with one another, more often than can be accounted for by accidental coincidence or sequence. For the present I am content to note the fact that the children of a diabetic parent sometimes manifest neurotic peculiarities, without devising an explanation which must be hypothetical. This we know: that diabetes is sometimes caused in man by mental anxiety; that it is produced artificially in animals by irritation of the fourth ventricle and some adjacent parts of the brain; and that a great many diabetic patients die of phthisis. Perhaps I might set it down as a true generalization that the morbid neurosis, when it is active and gets distinct morbid expression, may manifest itself in four ways—(*a*) in disorder of sensation—for example, paroxysmal neuralgia; (*b*) in disorder of motion—for example, epilepsy; (*c*) in disorder of thought feeling, and will—mental derangement; (*d*) in disorder of nutrition, whereof diabetes is the earlier and phthisis the later stage.

The late M. Morel of Rouen prosecuted some original and instructive researches into the formation of degenerate or morbid varieties of the human kind, showing the steps of the descent by which degeneracy increases through generations, and issues finally, if unchecked by counteracting influences, in the extinction of the family. When some of the unfavourable conditions of life which are believed to originate disease—such as the poisoned air of a marshy district, the unknown endemic causes of cretinism, the overcrowding and starvation of large cities,

continued intemperance or excesses of any kind, frequent intermarriages in families—have engendered a morbid variety, it is the beginning of a calamity which may gather force through generations, until the degeneration has gone so far that the continuation of the species along that line is impossible. Insanity, of what form soever, whether mania, melancholia, moral insanity, dementia, may be looked upon then philosophically as a stage in the descent towards sterile idiocy; as might be proved experimentally by the intermarriage of insane persons for two or three generations, and as is proved undesignedly sometimes by the disastrous consequences of frequent intermarriages in foolish families. The history of one family which Morel investigated with great care may be quoted as an extreme example of the natural course of degeneration when it goes on unchecked through generations. Were it an invention only, it would be one of those inventions that teach excellent truth. It may be summed up thus:—

First Generation.—Immorality, depravity, alcoholic excesses, and great moral degradation in great-grandfather, who was killed in a tavern brawl.

Second Generation.—Hereditary drunkenness, maniacal attacks ending in general paralysis in the grandfather.

Third Generation.—Sobriety, but hypochondriacal tendencies, delusions of persecution, and homicidal tendencies in the father.

Fourth Generation.—Defective intelligence. First attack of mania at sixteen years of age; stupidity and transition to complete idiocy. Probable extinction of the morbid line; for the generative functions were as little developed as those of a child of twelve years of age. He had two sisters, who were both defective physically and morally, and were classed as imbeciles, To make the proof of morbid heredity more striking, it may be added that the mother had an adulterous child while the father was confined in the asylum, and that this child did not exhibit any signs of degeneracy.

In this history of a family we have an instructive example of a retrograde movement of the human kind, ending in so wide a deviation from the normal type that sterility ensues; it is the

opposite of that movement of progressive specialization and increasing complexity of relation with the external which mark advancing development. All the moral and intellectual acquisitions of culture which the race has been slowly putting on by organized inheritance of the accumulated experience of countless generations of men are rapidly put off in a few generations, until the lowest human and fundamental animal elements only are left in an abortive state: in place of sound and proper social elements which may take their part and discharge their function harmoniously in the social organism we have morbid elements fit only for excretion from it. The comparison of the social fabric with the bodily organism is well founded and instructive. As in bodily disease there is a retrograde metamorphosis of formative action whereby morbid elements are produced which cannot minister to healthy function, but will, if not got rid of, occasion disorder or death; so in the social fabric there is likewise a retrograde metamorphosis whereby morbid varieties or degenerations of the human kind are produced, which, being antisocial, will, if not rendered innocuous by sequestration in it, or if not extruded violently from it, give rise to disorder incompatible with its stability. How exactly do the results of degeneracy accord with what was said concerning the aim of human progress and the fundamental meaning of insanity!

Let it be noted that however much man may degenerate from his high estate he never actually reverts to the exact type of the animal, though he may sink in idiocy to a lower stage of degradation than it; when he has been stripped of all his essential human qualities and degraded almost to his bare animal instincts, he certainly presents an animal likeness which may justify the description of his condition as a *theroid degeneracy;* but he is unlike in these respects—first, that his mental wreck yields evidence of the height from which he has fallen, and, secondly, that the fundamental instincts want the vigour and wholesome activity of the animal, or are actually debased. The latter can, by virtue of its healthy instincts, adjust itself successfully to its surroundings and flourish; he, unable to do so by reason of the debasement of his instincts or

of their unfitness to cope with the complexity of his surroundings, would perish soon but for the helpful care of his kind.

In the lowest forms of insanity and idiocy there are sometimes exhibited remarkable animal-like instincts and traits of character, which may even go along with corresponding conformation of body: witness the stories told—I know not how truly—of idiot mothers who, after delivery, have gnawed through the umbilical cord; the idiot described by Pinel, who was much like a sheep in appearance, in habits, and in his cry; the idiot described by Dr. Mitchell, who presented a singular resemblance to a monkey in his features, in the conformation of his body, and in his habits; the habit of rumination of food which has been observed in some insane persons and idiots, and the savage fury and the bestialities exhibited by others:—all these testify to the brute brain within the man's, and may be looked upon as instances of partial reversion, proofs that the animal has not yet completely died out of him, faint echoes from a far distant past testifying to a kinship which he has almost outgrown. It may be thought a wild notion that man should even now display traces of his primeval kinship when countless ages have confessedly elapsed since he started on the track of his special development, but a little consideration will take from the strangeness of it. In the first place, long way as he is from the animals, he still passes in the course of his embryonic development through successive stages at which he resembles not a little the permanent conditions of certain classes of them; he may be said, in fact, to represent in succession a fish, a bird, a quadruped in his course before he becomes human; and these transitional phases are presumably to be interpreted as the abstract and brief chronicle of the successive throes or stages of evolution through which nature went before man was brought forth. Whether that be so or not, the metamorphoses are proofs at any rate that the foundations of his being are laid upon the same lines as those of the vertebrate animals, and that he has deep within him common qualities of nature which, when the higher qualities of his special nature are gone, will manifest themselves in animal-like traits of character. In the second place, let any one consider curiously the fundamental instincts

of self-conservation and propagation, resolutely laying bare their roots, taking note of their intimations in children long before their meaning is understood by them, and giving attention to their manifestations among all sorts and conditions of men, savage and civilised, he will not fail to perceive and confess how thoroughly animal is man at bottom. He will apprehend this the more clearly if he goes on to trace, as he may, the development of many of the highest qualities of human intelligence and feeling from their roots in these fundamental instincts. Our sympathies with other living things, our interests in their sufferings and doings, our success in understanding them and making ourselves understood by them, our power to train and use them for our services, would be impossible but for a common foundation of nature.

It has been a question whether a father or a mother was more likely to transmit an insane bias to the children. Esquirol found that it descended more often from the mother than from the father, and from the mother to the daughters more often than to the sons; and to this opinion Baillarger subscribes. From an elaborate report to the French Government by M. Béhic it would seem that it is most likely to pass from father to son and from mother to daughter; for out of 1,000 admissions of each sex into French asylums he found that 264 males and 266 females had suffered from hereditary predisposition; that of the 264 males 128 had inherited the disease from their fathers, 110 from their mothers, and 26 from both parents; and that of the 266 females, 100 had inherited from fathers, 130 from mothers, and 36 from both parents. It might be questioned whether the sex of the parent in itself has much directly to do with determining the line of descent to son or daughter; it is not perhaps that the male inherits preferentially from the male, and the female from the female, by virtue of sex, but that there is more insanity inherited from one or the other according as there are more male or female children among the offspring. If male children have preponderated in the family of the father who transmits the insanity to his children, and if he displays in marriage that superior potency in propagation by which his family tendency obtains and male children preponderate among his offspring, there will most likely be more

cases of insanity descending from father to son, but if female children preponderate among his offspring, it is probable that there will be a stronger stream of descent from father to daughter To get at real information we should have to go deeper and to discover the unknown causes which determine sex. It is hard to understand that a daughter who resembles an insane father in her whole temperament of body and mind more than a son does should be less likely than the son to inherit a morbid taint of character from him. Mr. Galton's [1] first inquiries concerning hereditary genius led him to the conclusion that, contrary to common opinion, the female influence was inferior to the male in transmitting ability, but when he came to revise his data more closely, he saw reason to conclude that the influence of females is but little inferior to that of males in such transmission. It may be said with equal truth probably both of ability and insanity that while transmission to the same sex and transmission to the other sex are common enough, the relative frequency of their occurrence is yet uncertain.

Some writers subscribe to the plausible theory which has come down from antiquity, that madness, like other hereditary diseases, is most likely to be transmitted to the child which resembles most in features and disposition the insane parent, and that a person who has the misfortune to be so descended may therefore take comfort to himself if he is unlike that parent. However, the conclusion must not be made absolute; it does not follow that a child who resembles a parent in features shall have a similar disposition, since there is assuredly no constant relation between resemblance of features and of moral disposition; and of course it is not where the bodily features are alike, but where the mental disposition is of the same kind, that we should expect to observe such operation of the law of heredity. I have noticed too in some cases that a likeness to one parent or to his or her family type which comes out strongly at one period of life may wane gradually and be replaced by a greater likeness to the other parent or to his or her family type at a later period of life; the son who calls to mind his mother at twenty years old perhaps calls his father to mind at forty; and the daughter who was

[1] *Hered. Gen.* p. 63.

like her father at twenty puts on more of her mother's similitude at forty. It is plain then that a son or a daughter who had been unlike the insane parent might as time went on take up with the family resemblance a tendency to the parental disease.[1] In any case there is no doubt that a child born after an outbreak of parental insanity is more likely to suffer from insanity than one that was born before the outbreak.

In considering the period of life at which a hereditary predisposition to insanity or any other such predisposition will sho w itself in actual disease, it should be borne in mind that certain organs or systems of organs are particularly active at certain ages, when they will naturally be more prone to fall into that disordered action to which they are intrinsically disposed. In like manner they may be less predisposed to one and more predisposed to another kind of morbid action when their decay and the decline of their functions begin in old age. In infancy, as Petit has pointed out, the lymphatic and the nervous systems predominate, for which reason scrofula and epilepsy are the hereditary diseases which then most show themselves. As years go on the muscular system undergoes great development, the sexual organs begin their function, and the whole vascular system is very active; wherefore inflammatory diseases are most apt to occur, pulmonary diseases to accompany or to follow the development of the chest, and nervous derangements of a hysterical or allied nature to attest the revolution which the development of the sexual organs produces in the entire economy. Before puberty nature's chief concern has been with physical development; but with the new desires and impulses which spring up after puberty, when the individual life begins to expand into social life, the mind undergoes a transformation,

[1] A man may get great help in self-knowledge sometimes by observing and reflecting on the characters of the different members of his family—father, mother, uncles, brothers, sisters, &c., for he may see in them the developed outcomes of hidden tendencies in himself, the written-out exposition, as it were, of what is understood in him. When he cannot understand why he should have acted in a certain way on a particular occasion, a trait in his brother's or his child's character may furnish the explanation. Note in this relation how the same face in different aspects and expressions suggests the features of different members of the family, and how the dead person's face sometimes shows a likeness scarcely perceived in life.

and the consequence is that hereditary insanity may declare itself; if not directly after puberty as the result of the natural physiological action becoming pathological, still in the years that immediately follow it, when the mind is most tried, being under a strain of energy in the novel adjustment to the conditions of active life, or when overworked in the subsequent years of eager competition during manhood. Many men break down too in these years from the enervating effects of sexual excesses upon an excitable and feeble nervous system, and of course women may break down under the trials of pregnancy and parturition. In later manhood rheumatism and gout attest, the former perhaps a muscular system which, having reached the prime of its energy, now discovers a strain of weakness or begins to decline; the latter, a decay of the powers of assimilation and nutrition which is not acknowledged prudently by giving them less to do. At a more advanced age still the abdomen seems to take up the tale: the energy of feeling and desire, which has its physiological source in the visceral organs and inspires vigorous self-assertion and practical will, abates gradually as they become dull and weary; the result being a tendency to sombre and gloomy feelings which may pass into hypochondria and melancholia. Lastly in old age the tissues degenerate and the cerebral vessels give way in apoplexy; or the brain shrinks in decay and senile dementia ensues.

Consanguineous Marriages.—Whether these marriages breed degenerate offspring is a question which has been much disputed, some writers having impugned the general opinion that their effects are bad. It is a subject concerning which it is difficult to make exact inquiries, and impossible to arrive at trustworthy results; and Mr. G. Darwin, who undertook a series of painstaking inquiries lately, was obliged to abandon them without having reached conclusions which he could put forward with any confidence; so far as they went, however, his inquiries seemed to show that there was not good reason to declare that such marriages had any ill effect.[1] Inasmuch as the wisdom of mankind is greater than the wisdom of any individual in any matter of common experience, where no special means of

[1] *Journal of Statistical Society*, June 1875.

observation have been used, because the area thereof is so much greater, the numerous springs which feed it flowing into the common receptacle from all quarters and in all ages, I cannot help thinking that we ought justly to attach great weight to the prohibitions of intermarriages of near of kin which have been made by all sorts of peoples in all times and places: they are apparently an argument of the universal belief of their ill effects. Amongst the lower races the range of prohibition is much greater than in the civilised world, extending to the most distant relatives by blood. Certainly the popular conviction nowadays is that such intermarriages are more prone than not-akin marriages to breed idiocy, insanity, and deaf-mutism. Whosoever wishes to test the opinion with animals let him try experiments with a select breed of pigs, breeding in and in for several generations, and never crossing them with any strain from without, and he will find in full time, if his experiments coincide with mine accidentally made once, that his sows have no young or only two or three at a litter, and that they are very likely to savagely worry those which they have: that he must, if he would go on keeping pigs, cross or change his breed. For the last dozen years or so a record has been kept of the number of mares among racers which have proved barren or have prematurely slipped their foals; and it deserves notice, Mr. Darwin says, as showing how infertile these highly nurtured and closely interbred animals have become, that not far from one third of the mares fail to produce living foals.

The main or only argument which those who reject the popular belief put forward is to point to some remarkable instances, such as the celebrated racehorse Eclipse, of the higher qualities of the kind in the products of close interbreeding. Granting the special qualities developed in these cases to be of as high a nature as they are assumed to be, all that the examples really prove is that sometimes interbreeding has no bad effect; they prove nothing with regard to the question whether the general results of interbreeding are not bad. The lesson which we ought to learn from them is to go beneath the general fact of interbreeding, and to search for those more intimate and special conditions which determine good results in a few

instances, and bad results in many other instances; not to stay satisfied with the bare experience of interbreeding, but to discover the ill conditions which, sometimes failing, commonly accompany it.

A theory that has been propounded to explain the different effects of interbreeding is that when there is any strain of weakness in the family, such as madness, or deafness, or consumption, it intensifies the bad elements, and so causes disastrous results; wherefore when the sexual elements which combine are perfectly sound and stable no ill consequences ensue. Mr. Darwin's recent patient and careful inquiries into the effects of cross and self-fertilization in the vegetable kingdom are most instructive in this relation. They have shown that plants gain distinct advantages from cross-fertilization in larger and better growth, in increased capacity to resist adverse external circumstances, and in increased fertility; and that the introduction of a fresh stock to remedy the evils of interbreeding is as marked in plants as it has long been known by breeders to be in animals. He has come to the conclusion that the advantages of cross-fertilization are the result, not of any mysterious virtue in the union of distinct individuals, but of the different conditions to which the individuals have been subjected during previous generations, and to the differentiations which have been thereby produced in them; for he has noticed that cross-fertilization by plants that have been in similar external conditions is not beneficial. From want of such differentiations he believes it is that self-fertilization works injuriously. Applying this doctrine to the interbreeding of animals we shall conclude that the bane of near-akin intermarriages springs—first, from the persons having inherited similar peculiarities of nature, and, secondly, from their having been brought up in similar external conditions, whereby the peculiarities have been fostered and no variation has been elicited. This being so, it is plain that the results need not always be bad; if there are innate essential differences between cousins, or if, not being much different essentially, they have been bred and reared in very different conditions, there will be such wholesome differentiations of natures as to obviate any tendency to the exaggeration of

peculiarities by intermarriage, and the results may be excellent. Breeders are accustomed to separate male and female animals of the same offspring early in life, and to put them in widely different conditions, when they intend them to interbreed; then they get good results. This agrees with the aphorism of Hippocrates, that we ought to change the constitutions of individuals in order to prevent the diseases to which they are hereditarily predisposed, which is to be done, he says, by placing them in different circumstances from those by which their parents were surrounded.

It will not be amiss to bear in mind, when drawing conclusions from observation of the results of animal interbreeding, that the breeder's object often is to exaggerate and fix a particular variation or peculiarity of the animal which is advantageous not to it, but to him, or only to it through him, not to breed the completest animal of its kind, or to cultivate a variation which might suit the animal best: a racehorse is not fit for much else besides racing, nor a certain breed of sheep fit for much else except to get fat upon turnips. We cannot apply that principle incontinently to human beings, in whom on the whole it would seem best not to exaggerate a particular quality, but to breed as complete a nature as possible, a being capable of fair development all round.

Another caution may fitly be suggested—namely, to take heed not to over-estimate the range of the limited differentiations which different conditions of life can produce, within the terms of their lives, in two persons of the same family whose natures are alike fundamentally; for development can only proceed upon the lines laid in the nature, following its radical tendencies, and all variations which different external conditions can produce will be superficial and transitory, having small influence in interbreeding compared with the deep and permanent sameness of nature. Try as hard as one can to quell nature, one cannot quench it; it will come out in the critical moments of life, and will show itself in hereditary transmission. It is possible that a man may resemble his aunt more than his father or mother, and that his female cousin, whose mother the aunt is, may be very like her mother; and if

they two marry, the result might conceivably be as bad as if brother and sister married; but if the two were as unlike as two persons who were not in the least akin to one another, by reason of their representing different lines of the ancestral pedigree, then there might be little or no risk. Even in that case, however, it is proper to remember what has been said concerning the latency of qualities in the individual of one generation which may nevertheless blossom in his offspring; and the possibility that the union of two unlike cousins might chance to issue in the development of some of these latent like qualities. Prudence would dictate the avoidance of intermarriages of near-a-kin in all cases, and particularly so in those cases in which there is not distinct evidence of radical differences so great as those which there are between persons not in the least related to one another.

This theory of the mode of operation of interbreeding agrees with what was previously said concerning the sexual union of unsuitable natures who were not related to one another by kinship. When two persons of mean, suspicious, and distrustful character marry they are likely to intensify the antisocial peculiarity, which may culminate in such a want of balance in the offspring that he cannot mix at all with his kind, is a complete discord in nature. In like manner when marriage takes place between two persons of an intense but narrow artistic or poetic temperament, whose thin idealistic aspirations, miscalled great imagination, are not informed by that sincere and wholesome converse with realities which lays up a capital of sober sense—in whose minds the emotional element has, so to speak, run to seed—they are likely enough to breed an unstable product, which may be looked upon as a pathological evolution of their natures. The further misfortune is that the natural tendency to an intensification of the neurotic type, declaring itself by a sympathy of feelings, tastes, and pursuits, draws such persons to cultivate each other's society and so to fall in love and marry. Or if a person of this temperament should marry a woman of sounder and more sober temperament who takes a wholesome view of the exigencies and enjoyments of life, his narrow self-feeling will be much hurt, he will wail at what he

suffers from want of sympathy and of appreciation, and will perhaps separate from his wife on the ground of incompatibility. Then again these persons choose by a natural affinity those external circumstances of life which are suited to foster rather than to check the special tendencies of their natures, not enduring repugnant circumstances and getting the benefit of them in wholesome discipline and self-culture, as a sounder and wiser nature would; they solicit not differentiations but intensify peculiarities of nature until these become pathological. They do consciously, in fact, what is done blindly when family peculiarities are intensified by intermarriages of near of kin. Lastly, they mismanage their children as they mismanage themselves, training them, wittingly or unwittingly, along the lines of their abnormal tendencies. No wonder, after such preparation and training, that a being is developed eventually of so irregular and unstable a nature that he is practically a morbid element and can take no part in the functions of the social organism.

Those who have made a study of the causes of deaf-mutism are satisfied of the ill effects of blood-kinship of parents. Some affirm that there are more cases of congenital deafness from the marriage of first cousins than from all other causes put together; while others think congenital deafness in one or both parents a more fruitful source of congenital deafness than any other. Certain it is that it is a common thing, when enquiring about the relatives of pupils in the different institutions for the deaf and dumb, to hear that a parent, or an uncle, or an aunt, or a cousin was congenitally deaf. It is obviously in those cases in which there is a tendency to deafness in the family that the marriage of first cousins will be most injurious, because it will be likely to intensify the defect, but why such intermarriage by itself, when there was no tendency to deafness in the family, should occasion it, we know not any more than we know in the least why blue-eyed cats should be deaf. There are correlations of organic structure and function, physiological and pathological, which we must be content to observe and note for the present without being able to give the least explanation of them. Deaf persons are prone to marry

those who are similarly afflicted; being unable to mix comfortably with persons who can hear, they are drawn to others like themselves with whom they can converse on equal terms, and so intermarry, propinquity and sympathy breeding love, and transmit the evil from generation to generation. The advocates of the "German" system of teaching and training the deaf and dumb—the system which is based upon articulation and lip reading—claim one advantage of it to be that it tends to prevent such intermarriages, as it enables the deaf to apprehend what is said by perception of the movements of the lips, and so to mix better with their fellow-creatures. In like manner, it is a right training to remove a person of an insane temperament from habitual intercourse with a person of a similar temperament, and to subject him to quite other external influences, inasmuch as the change is fitted, by fostering variations of character, to produce a more stable nature, and, by widening his circle of social intercourse, to lessen the probability of marriage with a similarly constituted person.

With these remarks concerning consanguineous marriages I pass from the consideration of the antecedent conditions which lay the foundation of a predisposition to insanity in the individual, and go on to consider the conditions of life which favour its development. One may take it to be broadly true that the circumstances which augment a predisposition to insanity, so that the disease ultimately breaks out, are just the circumstances which are calculated to generate it *de novo*—namely, all those things which help to put an individual out of healthy relations with his social and physical surroundings.

CHAPTER IV.

THE CAUSATION AND PREVENTION OF INSANITY (*continued*).

Conditions of Life.—In dealing with the subjects which may be brought under this comprehensive heading it will be necessary to be as brief and concise as is consistent with clearness.

A question has been much discussed, and is not yet settled satisfactorily, whether insanity has increased with the progress of civilisation and is still increasing in the community out of proportion to the increase of the population. Travellers are agreed that it is a disease which they seldom meet with amongst barbarous peoples. But that is no proof that it does not occur. Among savages those who are weak in body or in mind, the sick and the helpless, who would be a burden to the community, are often eliminated, being either killed or driven into the bush and left to perish there; certainly the weak units are not carefully tended, as they are among civilised nations. In this way not only is the amount of existing insanity rendered small, but its propagation to the next generation is prevented. Admitting the comparative immunity of uncivilised peoples from insanity, it is not difficult to conceive reasons for it. On looking at any table which sets forth the usual causes of the disease, we find that hereditary predisposition, intemperance, and mental anxieties of some kind or other cover nearly the whole field of causation. From these three great classes of causes savages are nearly exempt. They do not intermarry, the prohibition of marriage extending among them to distant blood-relations, and, as I have just pointed out, they do not much propagate the disease from one generation to another,

because it is got rid of to a great extent among them by natural or artificial means of elimination. Secondly, they do not poison their brains with alcohol, at any rate not until the white man brings it to them; when they do obtain it, they no doubt abandon themselves to great debauches, but they cannot obtain the regular supply which would enable them to keep their brains day after day in a state of artificial excitement; and it may fairly be questioned whether alcohol, however and in whatever quantities it may be taken, is so likely to produce mental derangement in the undeveloped brain of a savage, which has so little mental function to perform, as in the more complex and specialized structure of a civilised brain.[1] Lastly, the savage has few and simple wants springing from his appetites, and them he gratifies: he is free from the manifold artificial passions and desires which go along with the multiplied industries, the eager competitions, the social ambitions of an active civilisation; he is free too from the conventional restraints upon his natural passions which civilisation imposes, and suffers not from a conflict between urgent desire of gratification and the duty to suppress all manifestations thereof, a conflict which sometimes proves too great a strain upon the mind of a civilised person.

On the other hand, it may be thought that the savage must suffer ill consequences from the unrestrained indulgence of his fierce sensual passions. But it might not be amiss to consider curiously whether savage nudity provokes sensuality so much as civilised dress, especially dress that is artfully designed to suggest what it conceals. There is no scope for the imagination where nothing is concealed and suggested, and it may be that clothing is sometimes a stimulus to immodest thoughts, and that, like the conventional covering of the passions, it inflames desire. Be that as it may, the savage is not disquieted by fretting social passions: with him there is no eager straining beyond his strength after aims that are not intrinsically worth the labour

[1] Cameron, in his *Journey across Africa*, says that he met with one man only who was suffering from delirium tremens: it was the only instance of this disorder which he saw in Africa, though drunkenness was common. The supply of pombé, the intoxicating liquor, often falls short, because the corn from which they make it is not abundant.

and vexations which they cost, no disappointed ambition from failure to compass such aims, no gloomy dejection from the reaction which follows the successful attainment of an over-rated ambition, no pining regrets, no feverish envy of competition, no anxious sense of responsibility, no heaven of aspiration nor hell of fulfilled desire; he has no life-long hypocrisies to keep up, no gnawing remorse of conscience to endure, no tormenting reflections of an exaggerated self-consciousness; he has none, in fact, of the complex passions which make the chief wear and tear of civilised life. His conscience is a very primitive affair, being no more than a sense of right attaching to the beliefs and customs of his tribe, but such as it is he seldom goes against it; he may cheat, lie, steal, violate all the dictates of a true moral sense, especially in his relations with the members of other tribes; but he obeys his tribal conscience, as the animal obeys its instinct, without feeling a temptation to violate it. He is extraordinarily conservative, the custom of his fathers being for him the fullest justification of any belief or practice, however monstrous or irksome; he is free therefore from the perils which to unstable natures lie in the excitement produced by revolutionary change and in the adjustment to new relations exacted thereby. So it comes to pass that he is not subject to the powerful moral causes of mental derangement which act upon the civilised person, and that he cannot suffer from some of the forms of derangement which afflict the latter.

These considerations favour the accepted notion that insanity is less common among uncivilised than among civilised peoples, and that there is an increased liability to mental disorder going along with an increase in the complexity of the mental organization. Certainly it is in accordance with common sense to suppose that a complex machine, like the civilised brain, which is constructed of many special and delicate parts working together in the most nicely adjusted relations, will be exposed to more risk of derangement of action and be more likely to go wrong than a simpler and coarser machine, the less various parts of which have less fine and complicated relations. As there is a greater liability to disease and the possibility of

many more diseases in a complex organism like the human body, where there are many kinds of tissue, an orderly subordination of parts, and a working of the whole in every part and of every part in the whole, than in a simple organism where there is little differentiation and less complexity of structure; so in the complex mental organization having the manifold special and complex relations with the external which a state of civilisation implies there are plainly the occasions of more easily produced and more varied derangements than in the comparatively simple mental organization of the savage. We might expect that mental sufferings would be as few and simple in an infantile stage of society as they are in the infancy of the individual, and the morbid outcomes of them as few and simple also. The native Australian, who has not in his language any words for vice and justice, nor in his life any true moral relations, having no such ideas as the words express and no such sentiments as social relations stir in an ordinarily intelligent European, cannot ever present an example of true moral insanity; before he can undergo such moral degeneration he must first be humanized and then civilised; mental organization must precede mental disorganization.[1] That degenerate nervous function in young children manifests itself in convulsions rather than in mental disorder; that the lower animals seldom suffer from mental disorder; that it is of comparatively rare occurrence among savages, and that it takes one of two or three simple forms when it does occur among them—are facts which are owing to one and the same cause, namely, a want of development of the mental organization. As is the height so is the depth, they are opposite and equal: with the progress of mankind to a higher stage of evolution there are correlative possibilities of retrograde change; the weaker members who cannot bear the strain of progress will fall by the wayside; and an increased quantity as well as an increased variety of

[1] A particular sense, it is true, may be more acute in a savage than in a civilised person, *e.g.* sight, hearing, or smell, as is the case also in the animal; but neither in savage nor animal has any one of these senses the delicate *shades* and *varieties* of susceptibility which it has in the civilised person, who may accordingly have varieties of hallucinations of them, when disordered, which the savage cannot have.

mental derangement will bear witness that the individual perishes, while the race grows more and more.

Rising some steps higher than savages to a people which, having long ago reached a certain level of civilisation, has ever since remained stationary at it, we find it stated that though diseases of the nervous system are by no means uncommon among the Chinese, cases of mental alienation are comparatively few—that is to say, if suicides are not counted as madness; for the Chinese will go to his death by suicide as quietly and methodically as he would go to his bed.[1] Perhaps this infrequency of insanity is what might have been expected from the natural character of the Chinaman, who is placid, steady, equable, nowise disquieting himself about business, religion, or politics, but doing his work in a calm methodical way, and accepting good or ill fortune alike with equanimity. It must be borne in mind, however, that lunatics are very harshly treated in China, being usually tied up, sadly neglected, and cruelly used by their friends and relations; and this sort of treatment cannot fail to lessen the number of existing cases, apart from any question as to the number of occurring cases.

Alarming statements are often made concerning the rapid increase of insanity which is supposed to be going on year by year in civilised countries; and the figures which are quoted certainly look formidable. In 1844 there were in England and Wales 20,611 registered insane persons; in 1859 the number had risen to 36,762; in 1869 it was 53,177; and on the 1st January, 1878, it was 68,538. Or, calculating the proportion of idiots and lunatics to the increasing population, it was, in 1859, 18·67 to 10,000; in 1869, 23·93; on the 1st January, 1878, 27·57.[2] The broad truth is that there is about one registered insane person to 365 of the population now, while the proportion in 1859 was one in 540. The very greatness of this increase, however, might well raise a suspicion that it has not been due mainly to an increased production of insanity in the population; for whether the course of human events during the last quarter of a century has been good or bad, it certainly has

[1] *Journal of Mental Science*, 1875, p. 31.
[2] *Thirty-Second Report of the Lunacy Commissioners*, 1878.

not differed so much from that of former times or differed so much and so capriciously during the quarter of a century, as such a difference in the quantity of insanity, were it due to it, would mean. Without doubt the main part of this increase is owing to the more stringent regulations which from time to time have been made and enforced for the registration and protection of insane persons, whereby many that were never heard of officially at one time are now duly registered and counted. When the admissions of each year into asylums are examined, which represent pretty fairly the numbers of occurring cases, it is observed that a marked rise in the numbers has followed the enactment of some new Act of Parliament, the direct effect of which has been to force insane paupers into asylums: the increase has not been steadily progressive, but has taken place rather by leaps and bounds which have answered the stimulus of each fresh parliamentary enactment. It will be noted furthermore that the increase is mainly among paupers, since the ratio of private lunatics to the population (per 10,000) has been as follows:—

Year—	1859.	1865.	1873.	1874.	1875.	1876.	1877.	1878.
Males	2·81	3·16	3·43	3·49	3·47	3·44	3·42	3·45
Females	2·26	2·34	2·61	2·69	2·72	2·77	2·78	2·76
Total	2·5	2·74	3·01	3·08	3·09	3·10	3·09	3·09

Thus there has been little change during the last five years—an increase of only half a lunatic in 10,000 persons since 1859.

On examining the admissions of private patients each year and calculating their ratio to the increasing population of the country, it will be found that the figures do not point to a steadily increased production of insanity in the non-pauper class; and they are the more significant when it is borne in mind that the more numerous and powerful causes which are supposed to be at work to augment the liability of the community to mental disease will affect the classes from which private patients come at least to an equal degree with, and probably to a greater degree than, the classes which supply the pauper patients. It cannot be said that they yield real support to the opinion of the alarmists that so many more persons go mad now than in the days of our grandfathers.

Agricultural counties furnish a larger proportion of lunatics than manufacturing districts, and those counties in which the wages are low, like Wilts, a larger proportion than those in which the wages are high. Low wages of course mean poverty and bad nourishment, and lunacy shows a distinct tendency to go hand in hand with pauperism. Moreover the stagnant, unintellectual life of an agricultural labourer is less conducive to mental health than the more active and varied intellectual life evoked by the pursuits and interests of a manufacturing town. Mental exercise is the true foundation of mental health; and when a person who by virtue of being born of civilised parents has inherited the mental organs and aptitudes fitting him for a certain height and variety of moral and intellectual development, makes no use of them, but allows them to waste and degenerate, so initiating decay of his higher nature, he is in favourable conditions for the occurrence of some form or other of more positive mental derangement. He is not like the savage who, having no such inheritance, suffers not any ill consequences from mental stagnation; being the heir to ages of culture, he has the responsibilities of his inheritance: he cannot divest his nature of the privileges of its higher birth, nor himself of the duty to exercise them fitly, nor exempt himself or his posterity from the sure penalties of neglect of them.

The candid observer who surveys the ways of men in the state of modern civilisation cannot choose but confess that many of their most cherished aims are unworthy of the zeal and energy with which they are pursued. They may be summed up compendiously in the words "to get on in the world," by which is mostly meant to get rich and to rise a step or two in the social scale. Without doubt it is a good and excellent thing that there should be so much desire and energy displayed in straining for an aim of some sort, forasmuch as, were there not, no progress could be made; but it is often a grievous thing as regards the individual and his family that his aims and work are not more consciously and systematically altruistic; that he does not realise plainly that he is a member of a social body whose individual functions are subordinate to the welfare of the whole. His practical worship being to get money and enjoy it,

attested as real religion is, by faith and works, and his professed religion, not attested by faith and works, being to despise the things of this world and to look upon his sojourn in it as merely a preparation and a discipline for a life to come, his actual aim is to serve two masters who require quite opposite services, holding to the one without despising the other. Unhappily for success in this course, such a divided allegiance has been pronounced by high authority to be impossible; and the result of the radical inconsistency of aims is a want of fundamental harmony and sincerity of nature, which is a poor defence against the assaults of adversity: like a house, the foundations of which are not solidly laid on one consistent plan, it will be likely to fall when the storm comes. A sincere and searching examination of the quality of the aims upon which he concentrates the real hopes, aspirations, and energies of his life, and of the foundations of the beliefs which, professing, he does not act upon, and of those which, professing not, he does act upon, were he capable of it, could not fail to reveal to many a one how unstable is the foundation of his mental structure, and how ill fortified it is to withstand the stealthy advances and direct onslaughts of disease.

It cannot be disputed that the pursuit in which a man is engaged habitually, which is ever in his thoughts, and to success in which he bends all his energies, does modify his character, and that the reaction upon character of a life spent solely in the business of getting rich is hurtful. It is not only that the fluctuations of fortune sometimes disturb or overthrow the balance of a mind that is engaged in large speculations, or that failure in some great crisis, frustrating the hopes and the work of a life, prostrates the individual's energies and drives him melancholic, but it is that the narrow selfishness of his life-aim, sapping with steady certainty the feelings and responsibilities of a larger human brotherhood than mere family clannishness, weakens and withers the altruistic elements of his nature, and so in his person deteriorates the nature of humanity. There is no more efficient cause of mental degeneracy, perhaps, than the mean and vulgar life of a tradesman whose soul is set entirely upon petty gains; who, under the sanction of the customs of

his trade, practises systematic fraud and theft; and who thinks to outweigh the iniquities of the week by the sanctimonious observance of the Sabbath. Such an one is not likely to beget children of sound moral constitution; and for him to hope to found a family which shall last is little better than to hope to build on quicksand a house which shall stand. The deterioration of nature which he has acquired will, unless a healthier female influence chance to countervail it, be transmitted as an evil heritage to his children, and show itself in some form of moral or intellectual deficiency; perhaps in extreme duplicity and vice, perhaps in outbreaks of positive insanity.

The maxims of morality which were proclaimed by holy men of old as lessons of religion indispensable to the well-being and stability of families and nations, are not really wild dreams of inspired fancy, nor the empty words which preachers make them; founded on a sincere recognition of the laws of nature working in human events, they were visions of eternal truths of human evolution. Assuredly the "everlasting arms" are beneath the upright man who dealeth uprightly, but they are the everlasting laws of nature which sustain him who, doing that which is lawful and right, leads a life that is in faithful harmony with the laws of nature's progress; the destruction which falls upon him who dealeth treacherously and doeth iniquity, "observing not the commandments of the Lord to obey them," are the avenging consequences of broken natural laws. How long will it be before men perceive and acknowledge the eternity of action, good or ill, and feel the keen sense of responsibility and the strong sentiment of duty which so awful a reflection is fitted to engender? How long before they realise vividly that under the reign of law on earth sin or error is inexorably avenged, as virtue is vindicated, in its consequences, and take to heart the lesson that they are determining by their conduct in their generation what shall be predetermined in the constitution of the generation after them? Crime, vice, madness, every unwelcome sort of ill-doing, comes by law, not by chance, not by casualty but by causality: "Shall there be evil in a city, and the Lord hath not done it?"

Religion.—Among the conditions of life which have a vital

influence upon character, either to strengthen or to weaken it, must be reckoned the religious atmosphere in which a person is born and reared. The mighty question of the working of religion generally, apart from any particular form of religion, upon the minds of men for good or evil I forbear to enter seriously upon, not only because of the difficulty and delicacy of the subject, but because it would be impossible to do justice to a matter of such transcendent importance in a brief and incidental manner, even were the occasion and the ability ready. In the outset it would be necessary to consider what effect a belief in the supernatural, as almost universally harboured by mankind, has had upon the growth and development of human thought and upon the formation of human character; whether its tendency on the whole has been and is now to strengthen the understanding and to further its development, or to weaken and stunt it. When one looks at the desolating effects of superstitious customs based upon beliefs in the supernatural among savages at the present day, which must plainly shut out any chance of progress so long as they last, and must from the first have instantly and ruthlessly quenched any impulse of progress that might show itself in a particular individual, the indisputable answer might seem to be that the tendency had been baneful. If we look again to the earlier ages of Christendom, when Rome was ascendant and its persecuting fires were in full blaze, and reflect that any deviation from the routine of the established belief, were it ever so good, was zealously extinguished as a pernicious thing,—the logical theory of the Roman Church being that new doctrine should be stamped out as a dangerous centre of infection,—we may imagine in a lame fashion how many excellent impulses to new developments of thought were extinguished as soon as they showed themselves.

Furthermore, the celibacy of the priesthood and the numerous monasteries that were thickly scattered over the country withdrew from freedom of thought, from the true service of mankind, and from a legitimate share in the propagation of the race, many of the best men and women of the age; and the rigid system of a uniform and changeless belief which was forced and fixed upon the minds of men, barring all inquiries

into the phenomena of nature, could not fail to prevent intellectual development. Poetry, painting, sculpture, and architecture were the channels through which men of genius found compensating outlets for the productive energies of their nature. But notwithstanding that in their great works mankind happily gained some compensation, the sceptical inquirer may ask whether the art of a great painter might not have been put to better purposes of human elevation than to paint the same saints over and over again; and may hold that a few extraordinary developments along the paths that were left open were not an adequate set-off for the vast amount of intellect which was systematically repressed by the prohibitions of authority. Full freedom for the entire race to search, and know, and work in whatever direction inclination may urge or occasion invite would seem to be now the most certain foundation of human progress.

But it is certainly not to be denied that a belief in a supernatural intervention in human affairs might be useful at one stage of human evolution, and indeed essential to social progress, just as it is essential to a child's welfare to believe in and respect its own parents, who may nevertheless be actually unworthy of respect, and yet may be mischievous at a later stage when it has done its work and undergoes decay, the intellect having outgrown it; the more so when it has been corrupted by the interests of priestcraft and used to promote the ends of organized imposture. The only present concern with the belief is to know whether its influence upon the human mind is good or ill now; whether it helps or hinders intellectual and moral progress. How can it help if it be not true and be known to be not true? To affirm that the course of nature may be capriciously interfered with at any moment by a power which is outside nature, and that the observed sequence of events is but a sequence at will, would be, were it more than lip-doctrine, to take from man the most urgent motive to study patiently the laws which are at work, in order that he may bring his life into conformity with them, and to weaken much or to destroy altogether the responsibility which he should feel to make nature better through his means, which he will do best by making the best of himself. It is the plain duty,

and should be the steadfast aim of man, to carry on in his future evolution the evolution which has gone on in the past; and this he can do only by recognition of the uniformity of nature. Prayers and sacrifices to fetishes, material or spiritual, will not help, for neither prayer nor sacrifice will obviate the consequences of want of foresight or want of self-discipline, nor will reliance on supernatural aid make amends for lack of intelligent will. Herein lies the imputable mischief of prayer, that it is an imbecility of will; and when it acts, as it commonly does act, by strengthening will in a reflex way to accomplish what is prayed for, that is to say, through the energy imparted to will by the belief that the prayer will be specially answered if it be well it should be so answered, the sceptic might question how far it is a benefit to get such effects by an illusion—in a way which is like what children "make believe"? Whoever solicits by sacrifice or prayer a happy issue of some venture, if he gets his wish, gets it by the ordinary operation of natural law; the god whom he addresses may be deaf, asleep, on a journey, it matters not in the least to the result. Nor is there any more evidence that the affairs of the spiritual world are not equally matters of law and order; he who prays for the creation of a clean heart and for the renewal of a right spirit within him, if he gets at last what he prays for, gets it not as a miraculous gift from on high, but through the ordinary laws of moral growth and development, in consequence of painstaking watchfulness over himself and the continual exercise of good resolves. Were he to fall down upon his knees in the same way once or twice a day without praying, and thereupon to calmly review his past conduct and to make firm resolutions to do well for the future in that wherein he had done ill before, the result would be the same. Nor could it fail to be better for the strength and wholeness of human character in the end that there should be entire sincerity in this matter.

Whatever then may have been its use in times past, what the free inquirer has to consider now is, whether a belief in a fetish does not mark a certain perversion or defect of intellectual development, and prayer or sacrifice founded upon it a certain perversion or defect of will; whether the fostering of it does not produce insincerity or mar unity of character; and whether, as

the human mind rises to a higher evolution, growing in insight by more exact knowledge of, and in power by corresponding adjustment to, those all-pervading laws of order and harmony through which alone the supernatural is manifest, the invisible made visible, a belief which is the prohibition of intelligent inquiry and fatal to an independent human bearing will not help but hinder intellectual development, will not strengthen but weaken moral character. By holding notions which are not founded on reason and cannot be reasoned about, inasmuch as they are assumed to transcend or may actually contradict reason, as a part of the common stock of its belief, the mind goes counter to the very principles of its intellectual being, undermines its own foundations, proceeds with a fundamental inconsistency declaring itself in every phase of its growth. What wonder that with the way so prepared and made ready it accepts with ease, when illness comes, extravagant delusions that are utterly contrary to reason!

But there is another side to the question which it would not be right for the free inquirer to leave out of sight. It will be said that the belief in an ever-present help in time of need is a priceless stay and comfort in all the sorrows, needs, afflictions and other adversities of life, and that it sustains in the hour of trial many a sore-stricken and heavy-laden soul which, but for it, would give way and strive no more. Certainly there are few ills that have not some compensating element of good, and it were strange indeed if a creed which has plainly been a necessary phase of thought in the progress of mankind had been all mischief. Here again, however, comes the solemn question for men, whether it can be well for mankind now and in the long run to have the help of so consoling a belief if it be not true? If it be confessed practically, as it is by the daily course of every man's life, that no miraculous intervention ever disturbs the serene and stern uniformity of natural law, that no helping hand from on high is ever held out specially to raise up them that have fallen, is not the harbouring of a belief in supernatural aid likely to produce weakness by blunting the sense of responsibility which a man has to be strong with his own strength, and the profession of it liable to become an insincerity or a

hypocrisy injurious to character? It may be a sad thing to strike away that crutch which alone seems to support the feebleness of humanity, but it is plain that for man to lean habitually and heavily on a crutch is not the way to learn to walk firmly; he will do *that* best by risking many falls and by making more skilful trials after each fall; and in like manner he who has to learn and to do in a world of natural law will find his true good in getting strength through suffering, skill through trial, victory through obedience, and not in reliance on supernatural interpositions which have hitherto occurred for the most part where there was no need for their occurrence, the work being done without them, and have failed to occur where they were most wanted—where their help would have been not superfluous, but serviceable. It is easy to perceive that the savage is no better, but worse, for the prayers and sacrifices which he makes to his fetish; and when the reason why he is not better but worse for such ignorant reliance is sincerely considered, it will be seen that it applies with equal truth to any one who puts faith in any sort of fetish, it matters not whether spiritual or material. That a supernatural power will interpose to save a man's soul alive who is not doing his own best to save it for himself is as mischievous a superstition, *quoad* the soul's welfare, as the savage's superstition that his fetish will preserve his body from disease when he takes no pains to keep it in health himself is hurtful to his bodily welfare: mental hygiene is impossible in the one case as bodily hygiene is in the other.

No doubt it may be said that it would be impossible to cultivate and satisfy the emotional element in human nature and to kindle moral enthusiasm for the arduous toil of virtue without a personal object of love and reverence; but it is an assertion which may plausibly be disputed. Buddha had no personal God, yet he was filled with a deep and calm emotion which, diffusing itself through every fibre of his being, inspired a life of unparalleled self-renunciation and virtue. Spinoza had no personal God, being deemed an atheist by most persons, but he was unequalled in the simplicity and virtue of his humble life, in his sincere love of truth, and in his earnest devotion to it. An assembly of freethinkers and atheists will be sure to applaud

enthusiastically all expressions of human sympathies, moral sentiments, and virtuous reflections. So long as man has organic viscera he will have emotion enough, whatever his beliefs or disbeliefs may be: there need be no fear that he will lose his emotional nature and become a hard intellectual machine when he no longer puts up prayers or offers sacrifices to a personal God of like nature and passions with himself. If he apply himself systematically to that reverential study of nature which it is the aim of science to pursue; to that close observation of and sympathy with her multitudinous and ever-changing moods which artist and poet cultivate; if he cherish that living interest in human sufferings, and aspirations, and doings of which every being has more or less, but which rises in some men to a lofty height of moral enthusiasm; if he cultivate that sense of oneness with all nature which philosophy opens, and to which poetry gives its sublimest expression—he will have room enough for all the emotion which he can profitably feel and express. When I consider this matter it always appears to me that Shakespeare was not wanting in depth of feeling or in profitable application of it, and I cannot sympathize therefore with the apprehension that human nature will be robbed of its emotion so long as it has the whole of nature, physical and human, to spend it upon.

It is purely a gratuitous and unfounded calumny to impute that man who has risen to the height of his present moral stature by feeling with his kind and working for it, will cease to feel with it and to work for it when he ceases to pray to a personal God who has created countless multitudes of his kind to foredoomed torture through all eternity for sin of which they are innocent! If a crowd is assembled to see a brave man fling himself into the raging sea and battle with its wild waves in order to save human life, or do any other feat of danger and skill—be it only to climb a greasy maypole—we observe how excited and sympathetic it becomes; and shall we suppose that the long toil of humanity along that most steep and arduous moral path which leads to its higher evolution—the failures of those who fail and the successes of those who succeed—will quicken no feeling, kindle no enthusiasm? It is absurd to think that mankind

will cease to feel emotion, even though it should say in its heart that there is no personal God; it cannot help firing morality with emotion; and it may be that a healthier feeling will be quickened and a sounder emotion stirred when it is no longer infected by the taint of superstition. If it come to pass that man is robbed of that narrow and intensely personal feeling which is poured out in apprehensive wails about the salvation of his own soul, or in emotional shrieks by writers of the spasmodic and fleshly school of poetry, or in morbidly subtile analysis of overstrained feelings of any sort, there will be no harm done; for it is a sort of emotion that is as unwholesome as a hysterical ecstasy. Let him attain instead to that calmer, deeper, wider, and healthier emotion which is subordinated to pure insight into the harmonies of nature and to philosophical survey of its serene order, and is applied objectively to give warmth of tone and colour to their expression in words. The creed of nature is not shrieking self-assertion, but serene self-surrender; not man against the universe, but man as a part of the universe; not individual life with the single aim of securing a blissful immortality, but individual life in wholesome subordination to the general life.

In matter of fact it may be doubted whether any one ever does feel the strong personal love of a supernatural power which he persuades himself that he feels; whether it is not a delusion and a snare; whether, when he imagines he has wrought himself into the proper emotional mood of mind, he has not really wrought himself into an artificial, vague, and somewhat morbid state of feeling, which is by no means so holy as he believes. How there can be the definite relation of a genuine healthy feeling between a finite natural being and an infinite supernatural being passes comprehension when the attempt is sincerely made to realize what is meant. It would be to feel the unfeelable, to know the unknowable, to limit the illimitable—a contradiction in terms, a nonsense.

Here I am brought to take notice of what appears to be sometimes a great evil incident to the ordinary teachings of religion—namely, the extreme stress which is laid upon the importance of the individual, the consequent habit of looking

to the welfare of his own soul as his chief concern, and the cultivation of a regular introspection of his feelings as a means. All these things are adapted to develop an exaggerated self-feeling. The probings of the heart, the gloom of repentance, the stings of remorse, the musings of meditation upon matters of conscience, which are fostered as signs of a keen and sensitive conscience, are often the unwholesome outcome of an exaggerated self-consciousness, and are more likely to lead to madness than to good relations and sound work in the world. One notices a marked subjective phase of feeling in most persons soon after the development of puberty, shown in indefinite longings, dreamy poetical moods, and all sorts of vague aspirations; consequently it is a period of life when the mind is in a state favourable to introspection, when it easily acquires the habit, and when the habit runs quickly to excess. Women are naturally more prone to religious worship than men, and more apt to fall into a morbidly subjective habit, first, because of the preponderance of the affective life in them, and, secondly, because they have not the distracting and correcting and intellectually hardening influences of outside interests and pursuits which men have. If unmarried women chance to come, as by reason of these conditions they are apt to do, under the ignorant and misapplied zeal of unwise priests who mistake for deep religious feeling what is really morbid self-feeling springing at bottom from unsatisfied instinct or other uterine action upon mind, the mischief is greatly aggravated.

It were well if those who make it their business to guide the consciences of mankind through the manifold changes and chances of life were to be at the pains to inquire how much supposed religious feeling may be due to physiological causes, before they sanction or enjoin a repeated introspection of the feelings. He whose every organ is in perfect health knows not that he has a body, and only becomes conscious that he has organs when something wrong is going on; in like manner a healthy mind in the sound exercise of its functions is little conscious that it has feelings, and only gets very self-conscious when there is something morbid in the processes of its activity. The ecstatic trances of such saintly women as Catherine de

Sienne and St. Theresa, in which they believed themselves to be visited by their Saviour and to be received as veritable spouses into his bosom, were, though they knew it not, little else than vicarious sexual orgasm; a condition of things which the intense contemplation of the naked male figure, carved or sculptured in all its proportions on a cross, is more fitted to produce in young women of susceptible nervous temperament than people are apt to consider. Every experienced physician must have met with instances of single and childless women who have devoted themselves with extraordinary zeal to habitual religious exercises, and who, having gone insane as a culmination of their emotional fervour, have straightway exhibited the saddest mixture of religious and erotic symptoms —a boiling over of lust in voice, face, gestures, under the pitiful degradation of disease. On such persons the confessional has had sometimes a most injurious effect, more especially in those churches which, aping Romanism in their ritual, have not placed confession under the stringent regulations and safeguards with which the Roman Catholic Church surrounds it. The fanatical religious sects, such as the Shakers and the like, which spring up from time to time in communities and disgust them by the offensive way in which they mingle love and religion, are inspired in great measure by sexual feeling: on the one hand, there is probably the cunning of a hypocritical knave or the self-deceiving duplicity of a half-insane one, using the weaknesses of weak women to minister to his vanity or to his lust under a religious guise; on the other hand, there is an exaggerated self-feeling, rooted often in sexual passion, which is unwittingly fostered under the cloak of religious emotion, and which is apt to conduct to madness or to sin. In such case the holy kiss of love owes its warmth to the sexual impulse which inspires it consciously or unconsciously, and the mystical religious union of the sexes is fitted to issue in a less spiritual union.

Without doubt an excessive development of the emotional life in any other direction would be equally pernicious. All that the unwise religious teacher can be blamed for is his disposition to foster the egoistic development of emotion, without considering

its real origin, by the overwhelming importance which he teaches the individual to attach to himself and his destiny. Instead of urging him to lessen the gap between himself and nature until he loses self in a sympathetic oneness with nature, he stimulates him to widen it more and more until he rises to the insane conceit of himself as something entirely distinct from nature—an unrelated, spiritual essence, for whose benefit the universe and all that therein is has been specially created. Assuredly were not man now, as he always has been, instinctively wiser than his creeds, were he not moved by a deeper impulse than consciousnesss can give account of, he would make no progress in evolution.

On comparing the best pagan modes of thought with Christian modes of thought a doubt might be raised whether the latter have not sometimes been less favourable to a calm and stable mental development. Contrast, for example, the widely different views and feelings with which death was regarded. To the pagan it was the twin brother of sleep, the youth with inverted torch, the natural rest at the end of the long day's task of life which the wise man would not fear, but welcome; to the Christian it was presented in all the horrors imaginable, as the consequence and the punishment of sin, the king of terrors, the last enemy, the opportunity of exulting fiends to clutch their shrieking prey, the possible gate to unspeakable torments through all eternity. I find it impossible to conceive the countless hours of torment, the unspeakable agony of mind, which this doctrine must have caused since it was first propagated: what quivering reflections, what keen anguish of remorse, what agonizing apprehensions, what torturing self-examinations, what appalling fears have been occasioned in anxious and tender consciences by a doctrine which, far outdoing in barbarity the most barbarous superstition that savage ever conceived, is still preached from a thousand pulpits in every civilised country, notwithstanding that there is not a person of sincere understanding who rigorously analyzes his thoughts and sternly realizes what the doctrine means can say from the bottom of his heart that he believes it. Hope and fear, which are based upon the self-conservative instinct in its relation to the future, are two most powerful passions in human

nature, and it is upon them that religion has fastened and works with all the powerful machinery of its system; its aim and effect being to produce not wholesome subordination of feeling to reason, but an unwholesome predominance of emotion. Happily human conduct has again shown itself wiser than human creed: men concern themselves more about the most trivial events of the actual to-morrow than about the most momentous issues of the possible life to come; motives lose in force in proportion as they recede in distance; and the fear of punishment and the hope of reward after death, which always seem to be possibilities afar off, do not work with any force upon the hearts of the vast majority of those who profess to be affected by them. Without doubt it does happen from time to time that a person of anxious and foreboding temperament, brooding over his sins, falls into a sort of spasmodic horror of the dread eventuality of eternal damnation, and becomes melancholy-mad, believing himself to have sinned beyond possibility of forgiveness and to be eternally lost; but in such case the religious delusion is oftentimes no more than the convenient and sufficient shape which the mental depression takes in order to get adequate expression, and it is not unlikely that the person would have equally gone insane and have had some other gloomy delusion if he had not known religious doctrine. A more deep and widespread mischief attributable to the doctrine of future rewards and punishments, is the deadening of the feelings and the blinding of the intelligence of men to the certain laws by which their sins, errors, and ill doings of all sorts are avenged upon themselves or upon others in this world, and to the stern responsibilities to observe and obey which the reign of natural laws imposes upon them.

One consideration more, and I pass from this subject. Looking to the exalted moral code which is inculcated as the essential rule of Christian practice, some attempt should be made to weigh the actual effect on character of the solemn profession of principles and precepts which appear to be too exalted to be reconciled with the exigencies of practical life. The Christian religion is a religion of passivity rather than of activity; it teaches mankind how to suffer better than how to do in the

world; and if its principles were faithfully carried out in practice they could not fail in the end to leave the good man at the mercy of the knave. It was a gospel which could be preached with more consistency and sincerity to a world which was thought to be close upon its end, when nothing better could be done than to prepare for it, than it can be to a world which has gone on, and goes on, as if it were never coming to an end. In commerce, on the exchange, in political life, in all the departments of practical activity, a man must have another creed and another practice. On the one hand, then, he fulfils, as essential to his present well-being, the law of natural selection, by which the strong takes advantage of his strength and the weak is made to pay the penalty of his weakness; on the other hand he professes, as essential to his eternal well-being, the altruistic doctrine that he should not lay up for himself treasure on earth, that he should prefer his brother in all things to himself, that when he is smitten on one cheek he should meekly turn the other also to the smiter. But it cannot be conducive to the strength and harmony of intellectual and moral character that there should be a fundamental contradiction between faith and works whereby life is made a shifting compromise, or a systematic inconsistency, or sometimes an organized hypocrisy; and one cannot help thinking that it would be well that, instead of a rule of life consisting of natural selection irregularly and occasionally tempered by Christianity, there should be established a fundamental harmony between religion and practice. If accepted doctrines will not grow to new requirements they must be changed, since no doctrine can claim to bind rigidly the belief of mankind for all time, or can so bind it without putting a stop to mental development.

These general reflections upon the working of religion upon human character will indicate how little use it is to discuss, as is sometimes done, whether insanity occurs more often in one sect of Christians than in another. There are no statistics upon which we can venture to place the least reliance to decide the question. Any sect which fosters habitual emotional excitement, or lends its authority to extraordinary displays thereof, will favour the production of instability of mind and so predispose to the easy overthrow of its balance. When the religion is

mainly a social observance which it beseems a person of respectability, willing to stand well with his neighbours, to conform to, it will in this country most likely be the religion of the Church of England, which suits well success in life and a respectable social position; not exacting any show of zeal from nor imposing any galling yoke upon its members, for the most part eschewing anything that is extreme, claiming only from its bishops that they should evince no tendency to deviate into originality or zeal, and, as an established religion in alliance with social institutions and the governing classes, aiming to preserve the established state of things. But it must honestly be admitted that this Church does not reach those who are in poverty and affliction, whose daily lives are daily hard struggles to live, who most need a gospel or glad message to solace and sustain them. These, if they profess any religion at all, belong mostly to one or other of the two religious divisions into which the two extreme and opposite parties in the English Church insensibly pass—to Roman Catholicism at the one end, or to one of the sects of Dissenters at the other end; for the Church of England stands as a Church of passage between Roman Catholicism and Dissent, as all forms of Protestantism are logically creeds of passage between Roman Catholicism and a complete emancipation from belief in the supernatural. In weighing, then, the effect of religion as predisposing or not to insanity, we have practically to do with Roman Catholicism, actual or abortive, or with Dissent in one or other of its forms.

There is no reason to believe that the Roman Catholic religion has any special tendency to produce insanity among those who are within its pale. It does not encourage throes of emotional spasm, its infallibility is a fast anchor for distressed souls to hold by, and the morbidly tender conscience is eased sometimes of the burden which weighs upon it by the clear sense, calm judgment, and trained sympathy of an experienced priest who dissipates exaggerated apprehensions and administers fitting spiritual remedies.[1] Moreover, the assured belief that sins can be remitted through penances, and that the priest is divinely

[1] That is one side of the matter: an injudicious or dishonest priest, encouraging morbid outpourings, may do infinite mischief.

empowered to grant absolution from them, will not fail to have a like comforting effect. A priesthood standing as mediator between the trembling slave and his offended master, and invested with a delegated authority to mitigate terrors, may not be an altogether hurtful institution where a belief in the capricious intervention of a supernatural power in human affairs prevails: it is a compensating artificial support for the intellectual feebleness and moral impotence produced by a debilitating creed, the necessary complement of it. No unbiased mind can doubt that the unquestioning faith demanded by priests and accorded by disciples, and the pretence that all truth has been delivered into the keeping of the Church from the beginning, are inimical to the true interests of mankind, a hindrance to its progress, and a standing menace to its dignity; not a whit less so than the unquestioning credence and trembling submission which the savage yields to the claims of his fetish. Savage and Catholic may boast of being untroubled by doubt, but they gain their peace of mind at the cost of an arrest of the development of the understanding.

The philosophical observer who has given close attention to the extremer forms of Protestantism in their relation to character, such as are known as Evangelicalism, must have noticed how often they go along with an extraordinary insincerity or actual duplicity of character. I mean not to insinuate that the tendency of an evangelical faith is to engender duplicity of character; the reason of the connexion probably is that persons of that character are attracted naturally to a form of creed which, making large use of the sort of emotion that springs from self-feeling, yields them the gratification of a suitable emotional outlet, and by the habitual employment of a conventional religious phraseology keeps out of sight, or at any rate veils thickly, the gross variance between high profession and low practice which the use of a common language could not well fail to bring clearly home. They use conventional language without ever sincerely analyzing its meaning, because they find in it fit expression for certain narrow feelings that have been associated with it, and are more comforted by the phraseology than if they really understood it; it has become a

shibboleth to them, the sign of special grace, like that blessed word Mesopotamia, the sound of which yielded so much comfort to the old woman of the village. They are not the conscious hypocrites which they seem; they are inconsistent without really feeling their inconsistency; the two diverse developments of their nature do not interwork, and they go on with an incoherence of character which they never realise, not otherwise than as an insane person will go on quietly in a daily routine of life that is utterly inconsistent with a fixed delusion which he has all the while concerning himself. A nature of this sort is well fitted to breed insanity; my experience, indeed, has led me to look upon it as a singularly effective cause of degeneracy in the next generation.

Admitting that a person's religious profession is very much the expression of his character and of its mode of development, and no more therefore the real cause of his insanity, if he falls insane, than religion is the real cause of the insanity of one whose overweening self-conceit has culminated in a delusion that he is an inspired prophet—the fundamental tendency in each case having fallen upon conditions favourable to its morbid growth in the religious views and practices adopted—it might still be argued that any body of men which separates itself from the rest of the world as a specially favoured religious sect, hugging itself in the belief of the exclusive possession of vital spiritual truths which the rest of mankind fail to apprehend, and living apart as a sort of chosen people, adopts a course which is injurious to character and errs from the true path of healthy progress. The pride of opinion, the conceit of superiority, the narrow and complacent spirit of the sect react upon the characters of the individuals who compose it, and, isolating them from wholesome relations with their kind, instigate these sectaries to a special and unsound mode of thought concerning the world and their position in it. Moreover, their conduct is apt to suffer: there is no small danger of their devotion being not to truth, but to sect in the first instance, and of their acquiring an esoteric and an exoteric conscience; the former for use among their co-religionists, and the latter, of quite another kind, for use among the rest of mankind. These sectarian divi-

sions in the intellectual and moral sphere are as injurious to true religious progress as the divisions of a nation into tribes suspicious of or hostile to one another would be to the true interests of the nation: we may compare them to the divisions into scattered tribes which prevailed among mankind in the early stages of its progress, before it had reached the height of national union and had grown to the apprehension of the higher moral relations which such an union involves. What the strength of the religious bond is, how effectual to hold a people together, is well shown by the example of the Jews, who, having no state, no country, no common language, no bond of unity except a common religious belief kept alive by a common ceremonial, have remained a distinct people until this day. The Armenians furnish another but less striking instance of the strength of the religious tie.

Theoretically religion should be the bond of unity to gather all mankind into one brotherhood, linking them in good-will and good work to one another; whereas practically it has hitherto been that which has most divided men, and the cause of more hatreds, more wars, more disorders, more persecutions, more bloodshed than all other causes put together. In order to preserve peace and order, therefore, the state in modern times has been compelled to divorce itself practically from religion and to leave to each sect liberty to do as it likes so long as it meddles not by its tenets and its ceremonials with the interests of civil government. Toleration of all religious doctrines and practices, so long as they do not touch the practical concerns of life, has become the necessary maxim of state policy; very much as in a lunatic asylum, where it is found impossible to make the inmates think in a common way to common ends, full liberty of delusions is left to each inmate so long as he does not act upon them in such a way as to interfere with the order of the establishment. It is not a little inconsistent that the sects should raise the outcry they do against irreligion which are themselves the negation of true religion. Then again, what high treason against humanity have their partizans perpetrated! They have robbed it of its highest achievement, the most perfect life of self-renunciation which has been lived on earth, by translating it from a human to

a divine category, and so have done their best to wither its hopes and paralyze its efforts to repeat that great achievement.

But I must not continue reflections which would carry me far beyond the scope of this work: the end of the whole matter for the present is that if the prime condition of true religion be to get quit of the belief of special supernatural interventions in human affairs, physical or moral, the maintenance of such belief cannot be a strength but a weakness to the mind, and so far will predispose to derangement of it.

Education.—Next in importance to the inborn nature is the acquired nature which a person owes to his education and training: not alone to the education which is called learning, but to that development of character which has been evoked by the conditions of life. Undoubtedly a person may be well-educated by experience who can hardly read or write, as it happens sometimes that a person has a great deal of learning and is nevertheless very ill-educated. Writers on insanity discuss the question whether educated persons are more liable to go mad than uneducated persons, agreeing not always in their conclusions; and in the reports of lunatic asylums numerous statistics are given to show how many patients have received a "good" education and how many have had little or no education. The statistics are of no value, and the speculations founded on them, how ingenious soever, must be vain until there is some agreement as to what is meant by good education.

Many persons consider it no true education which does not instil into the mind of youth from the earliest dawn of intelligence the doctrines and the stories of the Bible as most sacred truths, having an authority which reason can add nothing to if it confirm them, nor take anything from, if it contradict them; and until lately it was generally thought to be a proper and sufficient education to teach boys to understand the Greek and Latin languages and some mathematics, and girls not even so much as that. If what has been before said concerning a belief in the supernatural be true, and if man's power of acquiring knowledge and weighing evidence through reason is not checked and controlled in the most arbitrary manner by revelation, it is plain that a great part of the human race, instead of being educated,

has been persistently miseducated for a long time; and if recent reforms in the kind of instruction given in schools be just, it is plain that past generations had nothing like a proper education in that wherein they were not miseducated. The right questions then for writers to discuss would be not whether education has increased or lessened the liability to insanity, but whether the miseducation in vogue has enervated or vitiated human thought and feeling and so predisposed to disorder of them, and whether a better education may not counteract the evil. For it will be admitted on all hands that the best education would be the strongest barrier against mental derangement which it would be possible to raise; a pity it is therefore that men are not agreed as to what is the best system of education.

For my part I desire to think that there is a great deal of undeveloped mentality in the mass of mankind which past education has scarcely touched, but which an improved and extended system of education will bring by degrees into activity, to the great profit of the race in its future travail. The basis of a better system must be a sincere recognition of the reign of law throughout nature, mental as well as physical, and of the momentous responsibility to act in conformity with knowledge. No one can doubt that the study of the natural sciences, by which are made known the complex operations of laws in the various domains of nature, does furnish a valuable training of the intellect by teaching how to observe accurately, to reason soundly from facts, and to think sincerely; truth in them being pursued entirely for its own sake without regard to preconceived opinion or to the claims of authority, and patience in inquiry, humility of attitude, and veracity of thought being essential qualities in the true servant and interpreter of nature. Moreover, new insights into the secrets of nature lead to new adjustments on the part of man to his complex surroundings and to corresponding new gains in power: his best gains are to the best gain of nature, and the best gains of nature are his true gain. If he fails by searching to find out a law and so acts in ignorance of it, or if, knowing it, he disobeys it recklessly or wilfully, he certainly brings punishment upon himself or upon others; he is contending with an adversary who neither makes

mistakes nor overlooks them, foregoes no advantage, feels no pity, inexorably exacts the full forfeit of failure, and who is not to be bribed by offerings nor placated by prayers: he must suffer for his sin, and, learning wisdom through suffering, do more wisely for the future in that wherein he erred in the past. What moral discipline can be better than that; what more suited to make men take earnest pains to do well? Actual intercourse with nature is the best schoolmaster, teaching, as it does, the lessons of experience which actually do guide men in the conduct of life; for the maxims of worldly prudence according to which they act in their dealings with one another and in their worldly affairs are sincerely held and faithfully observed; being founded upon experience of the harm which ensues from disregard of them, they have a real and constant influence upon conduct which the maxims of philosophy and even the doctrines of religion have not. Were these doctrines based securely and plainly upon the same positive basis of experience, and were they to appeal as directly to the reason of mankind, it is probable that there would be the same unwillingness to perpetrate the folly of disobeying them.

It may be alleged, no doubt, that the formation of character implies much more than a mere increase of knowledge, whether by the inductive or other method, and more than an increase of the intellectual power which increased knowledge confers; but the answer to that objection is that the knowledge of the reign of law in nature does guide our impulses to wiser and therefore better action, that good action promotes in time corresponding moral development of character in the race, and that this moral effect is multiplied by the recognition of the reign of moral law in the domain of human evolution.[1] The repetition

[1] I have not the least intention to argue that the study of the physical sciences is a moral regenerator of the individual who pursues it, or that scientific men are any more free than other people from envy, jealousy, vanity, and other mean passions. On the contrary, they seem more prone to them, probably because they are few and come into close competition. Moreover, I do not fail to recognize the folly of the scientific superstition entertained by some persons, that scientific study is a particularly exalted labour, which is of unspeakable value, and should be held in supreme reverence apart from its bearing on human welfare. Science is simply knowledge, and is neither more nor less valuable than other knowledge

of good action generates the habit of doing well, function developing structure, and the habit of doing well generates a moral feeling in regard to such action, which it becomes at last a pain to go against. Those who, following Comte, insist that the impulses to action come not from the understanding but from the feelings, and thereupon go on to affirm unreservedly that the understanding has nothing to do with the springs of human conduct, have stopped at a half-truth which Comte would have repudiated. "Man," he said, "becomes more sympathetic in proportion as he becomes more synthetic and more synergetic:" in other words, in proportion as he constructs for himself a truer and more complete theory of his relations to nature, physical and human (*synthesis*), and acts more faithfully with and for his kind (*synergy*), so will he develop in his nature a quicker and fuller human *sympathy* and have stronger moral impulses springing therefrom. The enforcement of sanitary measures to improve the dwellings and the condition of the poor might have been preached in vain had not infectious fevers bred in pestilent quarters taught the lesson of a common humanity by a very effective sort of sympathy between man and man—the contagion of disease; but now that the laws of health are becoming known and public efforts are being systematically made to get some observance of them, we perceive that a feeling of repugnance to disease-breeding conditions, a sort of sanitary conscience, is gradually being engendered, out of which we may expect to spring more urgent impulses to do away with them.

This example of what is going on now may serve to illustrate how the moral sense of mankind was originally developed out of moral action; for the moral sense embodies in its nature and displays in its function the kind of action through which it has in the long course of ages been ingrafted as an instinct or feeling in the human heart; the altruistic action having been first entered upon in a feeble way from a dim perception of its service to the social life, and continued because of the unity and

that helps men how to live. Moral progress must be looked for particularly in the pursuit of social and moral science, and in the working of general scientific knowledge upon the race gradually through generations.

strength which it gave to the community. In like manner we may observe in the process of deterioration of character how habitual action modifies feeling and desire: no one ever becomes suddenly a monster of baseness, losing all sympathy with goodness and evincing a positive relish for iniquity in an instant, any more than he gets any other acquired taste in an instant; but by a course of wicked deeds, the first of which was done perhaps against the grain under some strong temptation, the next with less repugnance, and the next more easily still, such a deterioration of nature is wrought by degrees in him that the evil stirs not a repugnant feeling, but an actual desire to do it. Good impulses to act come out of good feelings as bad impulses come out of bad feelings, and good feelings are slowly ingrained in human character, become instinct in it, by a course of wise doings. Should it ever come to pass that mankind attains to so complete a knowledge of all the laws of nature in its manifold and complex operations as to perceive instantly the right way of obedience for wisdom to take in any event and to take it, there will be developed a conscience so calm, so strong, so all-embracing that to sin against it will be looked upon as crime or madness: the freedom of the will will be the freedom of madness.

It may be objected that men obey the law of gravitation every moment of their lives without having any moral feeling generated with regard to it; but the objection, when fairly contemplated, is not of much weight. In the first place, the law of gravitation is a physical law, the violation of which is followed directly by punishment to the individual, whereas the consequences of the violation of a moral law necessarily affect others and are usually remote; the individual who breaks it injures not only himself, but the society of which he is a member—that is the essence of the transgression: he strains the bond of the social state. By reason of the community of kind in men and of the sympathy which there is between them as members of a common body who, though having different offices, serve a common end, and therefore suffer in common from individual wrong-doing, their sympathies and antipathies are necessarily stirred, and feelings of approbation of what is done right and

of disapprobation of what is done wrong accompany obedience to and infraction of moral law. The difference between a physical law and a moral law in this relation is much like the difference between a mechanical structure and a living organism: the whole house may not be much hurt by the decay or injury of one or two of the bricks of which it is built, but the whole body will not fail to be affected by the decay or injury of one or two of the organs which constitute it. To violate the law of gravitation is a folly; to violate the moral law is a sin, for it is an injury to the social organism: the former offence is a sin against *science*, that is, knowledge; the latter is a sin against *con-science*, that is, that essential human feeling which has been sublimed out of the relations of the communion of men in the social state. Of the social communion of men the moral sense is the highest fragrance, as the religious conscience is the highest fragrance of the communion of the saints.

When Christians assemble together in holy communion to break bread in memory of the life and sufferings of their Saviour, they solemnly renew and attest their conviction of the essentiality to human welfare of the sublime moral truths which he proclaimed in speech, realised in his life, and suffered for in his death, and quicken their sense of them, which is apt to grow dull in the rude conflicts of the world. They get strength and comfort to go on the narrow way of uprightness from this assembling of themselves together in solemn meeting, out of their consent of faith and the infection of sympathy; for they are beings of the same kind, struggling with the same trials, bearing the same sorrows, and looking forward to the same end of their labours under the sun. But it cannot therefore be argued that there is anything which does not come by ordinary mental laws, anything supernatural, in the moral enthusiasm which is kindled in these circumstances; if a number of persons were gathered together in the same sympathetic way to fan some unwise emotional excitement and to do some foolish thing, as for example to dance and shake furiously after the manner of the Shakers until they were exhausted, the excitement would be augmented, and the infection of it would spread by sympathy in the same way.

The infection of emotion has, as history shows, given rise to many moral epidemics. However plainly we acknowledge the operation of law in human thought, feeling, and conduct, there must always be, so long as men continue to be of the same *kind*, and susceptible therefore to the infection of a common emotion, so long as no favoured ones among them rise to the level of a higher kind from which they can contemplate apart with God-like serenity the doings of their former fellows, a quick feeling of personal and social concern with respect to the operation of moral law which there is not with respect to the operation of physical law ; and from this feeling it is that we derive the ethical impulse, the imperative moral mandate, which accompanies the perception of the right way to take to promote human weal and dictates the duty to take it.

It may be anticipated perhaps that the time will come, though it is yet afar off, when the feelings of anger and retaliation which are now roused by criminal and vicious doings will be extinct, and when those who perpetrate them will be thought so irrational as to be looked upon with the same feelings with which lunatics are looked upon now. In this relation it is instructive to take notice how complete a revolution in the feeling with regard to the insane has taken place within the last half century, with increase of knowledge of what insanity is: their irrational beliefs and turbulent deeds roused indignation formerly, and were dealt with by harsh measures of punishment, as if they were voluntary ; now, however, since better knowledge of insanity has been gained, those who have to do with the insane look upon their delusions with curiosity or compassion, and are not moved to anger by their perverse and violent deeds ; however much annoyed or distressed by them, they would no more think of getting angry and retaliating by punishments than they would think of punishing an unwelcome rainy day ; but it is instructive also to note that the old sentiments still linger in the breasts of ignorant people, and are vigorously expressed in outbursts of angry vengeance whenever an insane person who has done homicide is rescued from the gallows. It were a good thing if men could reach the same height of philosophy in contemplating the evil doings of their

fellows who are not in lunatic asylums: if instead of being embittered by treacherous dealing, afflicted by evil speaking and slandering, soured by ingratitude, made revengeful by wrong, angered by stupidity, they could look upon such things as natural and inevitable events, much as they look upon the vagaries of insanity or upon bad weather, and be nowise disquieted by them. Such attitude of mind need not in the least preclude suitable steps being taken to frustrate acts of treachery and to render criminals harmless, any more than it now precludes the adoption of the necessary measures to place lunatics under proper care and control.

Passing from consideration of the general method and aim of true education, I may point out that the sound and strong character which it might be expected to form would be well fortified against some of the most common exciting causes of insanity—those passions, namely, which often make shipwreck of the mental health; for the passions are like the wind which swells the sail, but sometimes, when it is violent, sinks the ship. To get rid of an overweening conceit of self, by bringing home to the individual true conceptions of his humble relations and subordinate purpose in nature—which I take to be one good use of the overwhelming immensity of the heavens and of the revolving multitudes of stars—would help to moderate and control the emotional or affective element in his nature, inability to moderate and control which is real slavery; and to do that would be to get rid at one stroke of the so-called moral causes of mental disease. Sorrow for loss of fortune or loss of friend, envies, hatreds and jealousies, disappointed ambition, the wounds of exaggerated self-love, anxieties and apprehensions, and similar heartaches, all of which have their footing in a keen self-feeling, and gain undue activity from the want of a proper development of the rational part of the nature, would not then produce that instability of equilibrium which goes before the overthrow of the mental balance. What hold could disappointed ambition have upon him who soberly weighed at their true value the common aims of worldly ambition, who perceived the degradation to be gone through in order to attain them, who foretasted the bitterness of achieved success when they were attained, and

who set before himself definitely as his true aim in life, for which he worked definitely, the highest development of which his intellectual and moral nature was capable? His heart could never be deeply corroded by envy who cared not whether he did a great thing or whether somebody else did it, the only true concern being that it should be done, whose imagination realised the littleness and the transitoriness of the greatest of great fames, and whose clearly conceived and steadfastly pursued aim it was to reach a passionless serenity of mind. There could be no overwhelming grief from loss of fortune in him who appraised at its true value that which fortune can bring, and that which fortune can never bring; nor would he be hurt by the pangs of wounded self-love who saw before him as final end absorption of self into the all, and had learned and practised as means thereto the lesson of self-renunciation.

If it be said that this ideal of education is hardly within the reach of any one, and far beyond the reach of the great mass of mankind, who would drift from all moral anchorage were they loosed from the bondage of religious creed, I answer that it is not really more out of reach than the ideal of Christian life and doctrine; that it is seen to be the goal of the road on which men are actually travelling so far as they go forward in evolution, and not, like the Christian ideal of doctrine, a point which is more and more divergent with every step forward which they make in real life and thought; and finally, that a high ideal to aim at, so long as it is not absurdly impracticable, is an excellent means of training, it being the pursuit and not the achievement which makes the pleasure and profit of labour. Any one who makes a searching examination of the varieties of human feeling which are correlated with the different sorts and conditions of human life may convince himself that it is a baseless opinion that men would cease to have moral feeling if they ceased to believe in heaven and hell; they never can, nor ever do, free themselves from the ever-present and ever-working influence of the social organization of which they are units; being of the same kind, the kind is in them, and shows itself in common feeling. If the social medium be no better than one of thieves and harlots, there will still be formed, as there always is, a

particular thief's conscience or harlot's conscience, to violate which will occasion uneasiness of mind or be thought to bring ill-luck: the peculiar sort of honour which exists among thieves and among prostitutes is not derived from any perverted abstract feeling of right and wrong, but is developed as a necessary condition of their living together in any sort of social harmony. It is notorious that a man of honour, so-called, would be more disgraced among his fellows by his refusal to pay a gambling debt than he would be by perpetrating a heartless seduction: the conventional feeling of the society in which he moves is more powerful than a higher moral feeling. Men are found everywhere to seek that which brings them fame and reputation, and to avoid that which brings them shame and dishonour among their kind, although that which is esteemed may be profoundly immoral, and that which is despised may be essentially noble. "Where riches are in credit," says Locke, as though he had forethought of the England of to-day, "knavery and injustice that produce them are not out of countenance, because, the state being got, esteem follows it, as in some countries the crown ennobles the blood." These examples go to show the error of the opinion that the formation and the power of a moral sense depend upon a belief in a supernatural power and in a future life; it is impossible that men should dwell together in unity, as they do in complex society, without the development and function of moral sense.

It will be the aim of a wise self-training to develop true thoughts and sound feelings in the mind, and so to coordinate them in exercise that they shall be available, when required, as the best volition; and the means to this end are not observation and reflection only, but more particularly action. The formation of character is a slow and gradual process which goes on in relation with the circumstances of life: what men do habitually that they will be. It is useless to give advice that runs counter to the affinities of a character which has been formed by a life-exercise; it cannot assimilate it. He who has always done ill will find it as hard to amend his ways and do well as one who has always spoken English to speak another language; as he must learn speech by speaking, so he must learn well-doing by

doing well. "Cease to do evil, learn to do well," is the maxim of a sound mental philosophy. The proper counsel of a physician to one who consults him concerning what he shall do to be saved, because of a well-grounded apprehension that his mind will give way, would, were it candid and compendious, oftentimes be—Learn to unlearn. I have often felt despair when I have been asked anxiously by such a one what books he should read in order to fortify his mind against insanity; for the hopeless problem presented was how to efface in a day the growth of a life—nay, perhaps of a line of lives—how to undo a mental organization. If there has not been sound discipline to guide the growth of character through the stages of its gradual formation, there will be small hope of bending it, when it is formed, to new trains of thought and feeling.

Every nature has its particular tendencies of development which may be fostered or checked by the circumstances of life, and which, according as they are of good or bad kind, and according to the external influences which they meet with, may minister to his future weal or woe. Too often it happens that an injudicious training aggravates an inherent fault. Parents who, having themselves a weak strain in their nature, have given their children the heritage of a morbid bias of mind, are very apt unwittingly to foster its unhealthy development; they sympathise so essentially with it that they do not perceive its vicious character if they do not actually admire it, as men are not offended by the bad odours of their own bodies, and leave it to grow unchecked by a wise discipline, or perhaps stimulate it by the force of a bad example. "He is so spoiled," says the silly mother placidly of her child, as though she was saying something that was creditable to it, or at any rate that was not very discreditable to her, little thinking of the terrible meaning of the words, and of the awful calamity which a spoiled life may be. It may justly be questioned whether the whole system of education at the present day does not err on the side of dangerous indulgence. No doubt such harshness and neglect as might be likely to repress cruelly a child's feelings, and to drive it to take refuge in a morbid brooding, or in vague and visionary fancies, would be a great wrong, but a foolish indulgence, through which

it never has infixed in its nature the important lessons of renunciation and self-control, is not less pernicious. Can it be wondered at that persons whose minds, when they are young, have never been trained to bear any unwelcome burden, should break down easily into insanity under the strain of severe trials in later life? The aim of early education ought to be sound intellectual and moral discipline rather than much learning of any sort; to fill a child's mind with details of knowledge in order to make it a prodigy of learning is likely enough to prepare for it an early death or an imbecile manhood; but nothing can be better than the careful fashioning of its intellect into a trained instrument by which knowledge may be acquired readily, and with habits of accuracy, and the formation of a stable character, which, through the constant practice of self-denial, obedience, self-control, shall embody those lessons of a good moral experience which the events of later life will not fail to enforce rudely.

The common system of female education, which is now falling fast to pieces, was ill adapted to store the mind with useful knowledge and to train up a strong character; had it been designed specially to heighten emotional sensibility and to weaken reason it could hardly have been more fitted to produce that effect. Its whole tendency has been to increase that predominance of the affective life in woman which she owes mainly to her sexual constitution, and the intellectual and moral outcome of which is seen in judgment by feelings, in intuitive perceptions rather than rational appreciation, and in conduct dictated by impulse rather than by deliberate will. Hitherto she has been trained to no outlook but marriage, and to cultivate only such accomplishments as might be most useful to attain that end; through generations her character has been so informed; when therefore the end is missed all else is missed. Disappointed of marriage, to which her whole nature tends, there has been no outlet of action in which the energies of her feelings might be discharged vicariously, and she is ill fitted to bear the stress of disappointment with the long train of consequences, physical and moral, which it draws after it.

Undoubtedly cases do occur from time to time of mental

derangement in unmarried women, especially of the upper and middle classes which appear to have been caused mainly by the frustration of this fundamental instinct of their being, and by the want, in the present social system, of suitable spheres of activity in which its energy might have vicarious expression. Between the instinctive impulses with the emotional feelings that are connected with them and the conventional rules of society which prescribe the strictly modest suppression of any display of them, a hard struggle is not unfrequently maintained. The keen self-feelings and passionate longings, heightened to a morbid pitch by continual brooding, perhaps take a religious guise as the only channel through which they can be expressed freely without impropriety; and the occasional result is a form of mental derangement marked by a strange mixture of erotic feelings and religious visions or delusions. With the improvement of female education and with the new openings for female labour we may expect the predominance of the affective life to be somewhat lessened, the resources for work to be systematically used, and higher aims than frivolous amusements to be pursued; and the reaction of a different mode of life upon female education and upon female nature cannot fail to be considerable.

Thus much concerning education in its bearing on the production of insanity. If the foregoing opinions be correct, it is clear that any increase of the disease which may be taking place now is no proof that education will always fail to check such increase; it is an argument only that a method of education which is faulty at its foundation does not help to prevent insanity, if it does not actually help to produce it. It is still in the working of a sound education and training that we expect not only to neutralize a predisposition to mental derangement in the individual, but to counteract any tendency to an increase thereof in the community which may spring from the evils accompanying the benefits of civilisation; the external advantages of which may naturally lead in the end to a better internal culture, so furnishing in its higher stages a remedy for some of the mischief which it produces in its earlier stages.

Sex.—It has been a disputed question, which is not yet settled definitely, whether more men than women go mad. Esquirol

thought that men more often went wrong, but he omitted in his calculations to take sufficient account of the preponderance of women in the population, that preponderance being greatest between the very ages of twenty and forty, when insanity most often occurs, and he was also led astray by drawing his conclusions from a comparison of the *existing* cases instead of the *occurring* cases in the two sexes. It is worthy of remark that more male than female children are born: in England during ten years (from 1857 to 1866) the proportion of male children born alive to females was about 104·5 to 100; in France during 44 years it was 106·2 to 100; in Russia the average proportion was 108·9 to 100; among Jews it is higher still; but inasmuch as more males are stillborn than females, as more die early, especially during the first year of life, and as more perish by accident or emigrate, it comes to pass in the end that females preponderate in old settled countries. Out of a population of 24,854,397 in England and Wales there were 12,097,547 males, and 12,756,850 females, and of these on January 1st, 1878, 31,024 males and 37,514 females were known to be insane. The ratio of male lunatics to the population was 25·64 per 10,000, that of female lunatics 29·40; and pretty nearly the same relation will be found to hold for the corresponding ratios of the last eighteen years.[1] We may take it then that the excess of female lunatics is greater than is accounted for by the excess of the female population, and that some other cause or causes must be sought for to explain it. In matter of fact the number of men actually admitted into asylums, which may be taken roughly but fairly to represent the number of *occurring* cases among men, is found, when the records of asylums are examined, to be considerably above that of female admissions. One cause of the preponderance of female lunatics certainly is the much greater proportionate mortality among male lunatics, this being due mainly to the fatality of a single disease, namely, general paralysis, which is almost confined to men, seldom

[1] Among private lunatics the ratio is, and always has been, higher for males, being 3·45 against 2·76 for females per 10,000. One reason probably is that it is easier to keep insane females at home among classes above paupers.

attacking women; and to this main cause may be added another subsidiary cause, namely, the greater proportion of relapses which has been observed to take place in women. For these reasons it is that women accumulate in asylums more than men; and this accumulation, taken in connection with the excess of females in the population, is probably enough to account for the excess of existing female insanity.

Dr. Thurnam concluded at the end of his patient inquiries that men were more liable to mental derangement than women; and that is the general belief now. Granting it to be true, it must not therefore be supposed that it is because of anything in the constitution of men which renders them more liable to such derangement; on the contrary, there are obviously disturbing conditions peculiar to the female constitution which are more fitted to be occasions of mental disorder—to wit, the constitutional change at puberty, pregnancy, child-bearing and its sequences, and the climacteric change, with each one of which we can connect a definite variety of insanity. The true reason no doubt why more men go mad is that they are exposed in the strugges of life to more numerous, varied, and powerful causes of mental disturbance. The strain of work for competence or wealth, the anxieties and apprehensions of business, the burden of family responsibilities weigh more heavily as a rule upon men who are the bread-winners than upon women; intemperance again, which is one of the most active causes of insanity, is a much more active cause among men than among women; and there are other excesses, especially sexual excesses, to which they are more prone and which do them more hurt than they do women. In fact these three classes of effective causes are enough to outweigh the greater tendency to mental disorder which lies in the nature and functions of the female organization, as well as the nervous instability which women acquire in the present social system by reason of defective education, aimless lives, frivolous amusements, and the lack of resources of work. The right conclusion at the end of the whole matter would seem to be that while there is no very sensible and certain difference between the proportions of men and women who become insane, as the causes actually operate, men are exposed

to more numerous and powerful extrinsic causes, and women, by virtue of their sexual organization, to more numerous and powerful intrinsic occasions, of insanity. In proportion as women invade those departments of work which men have hitherto appropriated they will expose themselves more and more to those extrinsic causes of derangement, and it is a grave question whether they will not find themselves overborne by the joint action of the weight from without and the weakness within.

Age.—I have pointed out already that the relative activity of different organs and tissues at different ages plays some part in the occurrence of particular diseases at those ages, and that it is especially so when there is an organic predisposition to disease. It is not surprising then that mental derangement is uncommon before puberty; for up to that time the part of the nervous system which ministers to muscular action is in active function, and the consequence is that epilepsy is the most common nervous disease. Still all forms of insanity except general paralysis do occur even so early in life. Most often it has then the character of mental defect, and may be classed under idiocy or imbecility; the mental organization being incomplete, its disorders bear witness to its undeveloped state. Even those cases which are described as examples of mania, because of great excitement and activity of mind and body, might in most instances not unfitly be classed as cases of idiocy or imbecility with maniacal excitement. At first sight it is surprising enough that striking examples of moral insanity should be met with in quite young children; but it is certain that instances do occur not of true moral imbecility only, where the unfortunate beings, who are perhaps not of quite normal intelligence, have been born without the least capacity of moral feeling, but instances also of active display of all sorts of immoral impulses with acute intelligence of the purely selfish and cunning type. Between the ages of sixteen and twenty-five insanity is more frequent, because of the great revolution which then takes place in body and mind, of the new passions which spring up, and of the fresh start in mental development which is made; but it is most frequent of all during the period

of full mental and bodily development—from twenty-five to forty-five years of age—when the functions are most active and when there is the widest exposure to causes of disorder. The internal revolution which takes place in women at the climacteric period leads to many outbreaks of melancholic derangement between forty and fifty ; and it has been thought that a sort of climacteric change occurs in men also, usually between fifty and sixty, when insanity sometimes shows itself. In old age senile dementia is the most common form of derangement; it is the pathological term of the natural decay of mind which occurs when nature—

> "As it grows again towards earth,
> Is fashioned for the journey, dull and heavy."

Occupation and Condition in Life.—Whether one profession, trade, or pursuit more than another favours the occurrence of insanity is not really so much a question of the effect of the particular pursuit as of the habits of those who follow it and of the spirit in which they follow it. Among the lower classes of society it is for the most part a question of sobriety and temperance against intemperance and riotous living. In the classes that are above the lower, when a man sets before himself as his aim in life riches or social position, not for any good use of what he gets by his toil and cares and heartburnings, but as an end in itself, let his business be what it will, he is pursuing a not very worthy end, and will be likely to do so in an intemperate way, if not by actually unworthy means. If the social system be one in which riches are held in great esteem, and his passionate ambition is to get rich, he will not boggle much at the knavery which helps him to his end, and which will be overlooked by such a society in the admiration which it bestows upon success. Even when a man has made success or reputation in business the exclusive aim of his life, not out of a mere desire to become rich, but out of an eager energy and honest love of doing his work well; when he has by long concentration of desire and work upon it grown so completely to it as to make it the entire current of his life, that to which all his thoughts, feelings, and actions turn habitually, and in which they

are engrossed—other interests being as it were little and accidental eddies that escape for a short time only the attraction of the main stream—he is ill fortified by mental culture against the shock when hope is shattered, his pride of opinion brought low, and the fabric which he has raised with all the eagerness and energy of an intense egoism levelled to the ground by a crushing blow of misfortune. Nay, the belief only that such a catastrophe is threatened may be enough to overthrow him; for if nine out of ten parts of his being and energies are absorbed in the successful prosecution of his work, and that has had a severe check, where is an adequate recuperative and distracting force to come from? He is not unlikely to sink into an agitated apprehension, and from that state to lapse into despairing melancholy.

It was a common notion at one time that governesses were victims of insanity out of all proportion to their numbers, and much sympathy was spent upon them in consequence. But the opinion was not well founded. It originated in the observation that a great number of governesses were received into Bethlehem Hospital—as many as 110 in ten years; the reason of which was not that so many more of them than of other classes went mad, but that they were just the persons who fulfilled best the conditions of charitable admission into that hospital, being poor enough to be unable to pay for care and treatment in private asylums, but yet not poor enough to be paupers and suitable for admission into county asylums.

If it be true, as is said, that persons who work with the head are more liable, on the whole, to mental disease than those who work with the hand, and that they are less likely to recover when they have had an attack, we may easily understand the reason to be that a more complex and delicate mental organization, with its greater variety and activity of function, will furnish more frequent occasions of disorder, and that the disorder will do greater hurt to the finer and more delicate instrument. But it would probably be a fuller statement of the truth to supplement it by adding that those who work with the heart are more likely to fall insane than either headworkers or handworkers; for the causes of the derangement are to be found not so much in the

strain of the intellectual work as in the passion and feeling which are put into it, and which are the real wearing force. It is not in fact the nature of the occupation, but the temperament of the individual, which determines mainly what emotional wear and tear there shall be; one person may fret and consume his heart with anxiety in the small cares of a petty business, while another shall conduct the complex affairs of a mighty nation with unconcern of feeling.

All privileged or so-called aristocratic classes have in their privileges the conducive elements of corruption and decay, and degeneracy of one sort or another is likely, sooner or later, to appear and spread among them. Doubtless it is a good and praiseworthy thing to reward eminent service to the state by conferring honours and privileges upon the deserving individual; but that such privileges should descend as a heritage to his posterity for ever, whatever their quality, is a custom which, were it proposed to be established now for the first time, would probably be encountered with incredulous amazement. The matter is of course worse when the honour is conferred for services which mark the dishonour of those who have rendered them.

A nation which wishes well to itself will aim to unite its people in the bond of unity, brotherhood, and equality, not to divide them into privileged social castes and orders. It is impossible to say positively what degree of truth there is in the often made statement that insanity is of disproportionate frequency among the so-called aristocracy of this and other countries. If it be true, one reason may be too close and too frequent intermarriages such as are likely to occur where clanship prevails, and do occur certainly in royal families. In this country, however, we observe powerful causes silently working to break down the exclusive barriers of caste and to widen the area of selection for breeding; a wealthy banker, brewer, gin-distiller, contractor, manufacturer, or person of that kind of consequence, who has gained all the wealth which his heart desires, is commonly an unsatisfied man until he has wriggled into a higher social position, and, more blessed still, has allied himself or his family by marriage to some titled family; and the younger sons and the daughters of titled families who, owing to the law of

entail and the privileges of primogeniture, are needy in proportion to their pretensions, gladly seek by marriage into wealthy commercial families the means to support their social position. It may be doubted whether such marriages commonly turn out well so far as health and vigour of offspring are concerned. The reasons I take to be these: first, that men who have made it the sole work of their lives to get money, and having got it have had no higher aim than to use it to gratify a contemptible social passion, are not such as are likely to breed sound moral constitutions in their children; and, secondly, that the needy members of titled families who sell themselves for subsistence instead of earning it by honest labour are as little likely to be fitted to breed well.

There seems to be no doubt that, other things being equal, insanity is more frequent among unmarried than among married persons: a fact of which it is not difficult for an ingenious person to invent several theoretical explanations.

One consideration more it will be proper to take notice of before leaving this subject. Over-population, which prevails in some civilised countries, is the cause of numerous ills to mankind, amongst which we may probably reckon an increase of mental disorders. In the eager and active struggle for existence which goes on where the claimants are many and the supplies are limited, and where the competition therefore is fierce, the weakest must needs suffer, and some of them, oppressed by poverty, fretted by constant cares, and overwhelmed by anxieties, will break down into madness. Moreover the overcrowded and unhealthy condition of dwelling-houses which over-population occasions cannot fail, in conjunction with insufficient nourishment, to lead to deterioration of the health of the community, and so to predispose to disease of different sorts. Not fevers only and epidemic diseases, but scrofula, phthisis, and other constitutional states marked by general deterioration of nutrition, are engendered and transmitted as evil heritage from generation to generation.

It is not that the child inherits necessarily the particular disease from which the parent suffered, but it inherits probably a constitution in which there is an inherent aptitude to some

kind of morbid degeneration, or which is destitute of the reserve force necessary to meet successfully such extraordinary strains as the trying occasions of life cannot fail to exact sometimes. Disease not being, as it was so long thought to be, a specific morbid entity which, like some evil spirit, takes hostile possession of the body or of a particular part of it, and must be expelled by some specific drug, but a state of greater or less degeneration from healthy life in an organism whose different parts constitute a complex and harmonious whole, it is plain that a disease of one part of the body will not only affect the whole sympathetically at the time, but may well lead to a more general infirmity of constitution in the next generation. Whatever weakens the organism of the mother may certainly be a cause of idiocy of the offspring, especially when the debilitating cause acts during pregnancy. No doubt the special morbid outcomes of the inborn infirmity will be determined in some measure by the external conditions of life: we ought always to take into account the *without* as well as the *within*. If a person has inherited a generally feeble constitution, and if the circumstances of his life chance to be such as put a great strain upon his brain and nervous system, he is not unlikely to suffer from some form of mental or nervous disorder: the man, for example, who has responsibilities to which he feels himself unequal, or is harassed by pecuniary anxieties or by domestic troubles, or the woman whose life a worthless husband makes a daily round of dreary suffering, will show the general want of constitutional reserve force by the derangement of the special organ on which the strain falls.

It is natural to feel sympathy with madmen when one sees how the fine and sensitive nature of one has broken down under the wearing grind of the coarse and rude experiences of life; how the thoughts of another have oftentimes deviated from the beaten track into brilliant flashes of quick insight; how eagerly animated with the spirit of enthusiasm a third has shown himself; but while sympathizing with their sufferings and their fate, we must still confess that their failure meant weakness, and that they succumbed because it was right they should succumb. Albeit it is a sad thing to see a person fall

from a height and break his neck, it would perhaps be a sadder thing for the law of gravitation to be suspended for a moment in order to save his neck, and for the universe to go to wreck. It is sad to contemplate the spectacle of Lear, driven mad by his daughters' ingratitude, and shrieking to the pitiless heavens in shrill senile lamentations, but it would be a sadder thing in the end if so little insight into character, so little prudence, and so little self-control as he showed were to issue in a prosperous and peaceable old age. The aim of man's development being to bring himself gradually into more and more special and complex relations with his social and physical environment, by intelligent observation of the laws which govern these relations and by corresponding adaptations on his part, he must fail if he is unequal to the struggle imposed upon him, whether it be from inherited weakness or from any other cause, just as a tender plant must wither and die in a poor soil where hardier plants compete with it. Nay, he may fail if he is not weak, but only unfortunate; for as one seed may be as sound and vigorous as another seed and yet perishes if it fall upon barren ground, so may a fairly strong man unhaply chance upon evil circumstances against which he contends in vain. The benevolent observer could have wished him to have fallen upon better times and among kinder surroundings, but it is useless to repine; he has passed away as an abortive being, and must be counted one of those countless germs which nature sheds in lavish profusion, and never brings to development.

In a certain sense then one may take comfort and be glad intellectually that failures should fail; for if the weak were not defeated in the struggle for existence, it would be because the strong, holding back to the slower pace of their infirmities, used not their strength, and so robbed the world of the right which it has to, and the advantage which it would get from, the full use of their superior powers. An increase of mental disease in a country means not necessarily the degeneracy of the people; the capability of development being the capability of degeneration, like height and depth opposite and equal, it is not hard to understand that when progress is going on actively retrograde

action may be going on side by side with it, that madness may be a waste of the individual to the profit of the race—dead reason thrown off by vigorous mental growth—a seeming evil which is truly a phase in the working out of higher good. Man rises in humanization at the cost of his kind, mounting upwards over the ruins of the races that have successively come and gone before him, and it would be as absurd to lament the disappearance of the once mighty nations whose places now know them no more as to lament the mental degeneracy which correlates mental progress.

Thus much concerning the remote or predisposing causes of insanity. It remains now to set forth the direct or proximate causes of defect or derangement of the supreme centres of intelligence. In doing this it will be most convenient, and in the end most scientific, to group them as the causes of disorder of the sensori-motor and spinal centres have been grouped[1]—in other words, to treat of the causation of insanity from a pathological point of view.

[1] *The Physiology of Mind.*

CHAPTER V.

THE CAUSATION AND PREVENTION OF INSANITY (*Continued*).

B. *Pathological.*

The Proximate Causes of Disorder of the Ideational Nervous Centres.

In proceeding to consider those causes or intrinsic conditions which, more immediately going before mental disorder, may be called proximate, I shall first treat briefly of the actual defects, observed or inferred, of structure and of development in the intellectorium commune. I treat of them because it is necessary to give a general idea of what is known concerning them now, and I treat of them briefly only, because what is known yet is but a hint, as it were, of what remains to be discovered hereafter.

1. *Original Differences in the Constitution of the Supreme Nervous Centres.*—Undoubtedly there exist great natural differences between different people in respect of the development of their cerebral convolutions. In the lower races of men these are visibly less complex and more symmetrical than in the higher races; the anatomical differences going along with differences in intellectual and moral capacity. If a Bushman, with his inferior type of brain, were placed in the complex circumstances of civilised life, though he might represent a high grade of development of his lower type, to all intents and purposes he would be, as Gratiolet allows, an idiot, and would, unless otherwise cared for, inevitably perish in the severe competition for existence. Were

a person born amongst civilised people with a brain of no higher order than the natural brain of the Bushman, in consequence of some arrest of its natural development, it is plain that he would be more or less of an idiot; a higher type of brain, arrested by morbid causes at a low grade of development, is brought to the level of a lower type of brain which has reached its full development. As Von Baer long ago pointed out, the actual position of a particular animal in the scale of life is determined, not by the type alone, nor by the grade of development alone, but by the product of the type and the grade of development.

The principal varieties of defective brain met with cannot be described in detail here; suffice it to say that all sorts and conditions of incomplete growth and development have been observed in different instances.

There are idiots of the *microcephalic* type, in whom an arrest of cerebral development has taken place, and a palpably defective brain is met with in consequence. Malacarne was at the pains carefully to count the laminæ of the cerebellum in idiots and in men of intelligence, and he found them to be less numerous in the former than in the latter. Now these laminæ are less numerous in the chimpanzee and the orang than in man, and still less numerous in other monkeys; so far, therefore, there is an approximation in some idiots to the simian type of brain. Mr. Paget has described an idiot's brain in which there had been a complete arrest of development at the fifth month of fœtal life: there were no posterior lobes, the cerebellum being only half covered by the cerebral hemispheres, as is the case normally in many of the lower animals. Dr. Shuttleworth found in the microcephalic brain of an imbecile that although the frontal and parietal lobes were fairly developed the temporo-sphenoidal lobes were small and deficient in front, and their convolutions and fissures incompletely marked; the occipital lobes were quite rudimentary, exhibiting no fissures and convolutions, so that the greater part of the cerebellum was uncovered.[1] Gratiolet found in the brain of a microcephalic idiot, aged seven, the under surface of the anterior lobes much hollowed,

[1] *Journal of Mental Science*, October, 1878.

with great convexity of the orbital arches, as is the rule in the monkey.[1]

Mr. Marshall has carefully examined, and described in an elaborate paper, the brains of two idiots of European descent: the convolutions were fewer in number than in the apes, individually less complex, broader, and smoother—"In this respect," he observes, "the idiots' brains are even more simple than the brain of the gibbon, and approach that of the baboon (Cynocephalus) and sapajou (Ateles)."[2] Though he agrees with other observers that the condition of the cerebra in the idiots is neither the result of atrophy nor of a mere arrest of *growth*, but consists essentially in an imperfect evolution of the cerebral hemispheres or their parts, dependent on an arrest of *development*, he points out the strong grounds there are for inferring that, after the cessation of evolutional changes, the cerebra experience an increase of size generally, or a mere growth of their several parts. Consequently the cerebra are much larger than fœtal cerebra in which the convolutional development is at a similar stage; the individual convolutions themselves, though the same in number, are necessarily broader and deeper; and the result might conceivably be a brain of fair size which was still imperfectly developed. Many more instances have been recorded of idiots' brains in which there was a defect of convolutions when compared with a normal Caucasian brain; the principal convolutions being more simple and symmetrical, and the secondary ones sometimes wanting. Whatever its defects, however, an idiot's brain never resembles a monkey's exactly, any more than an idiot ever resembles exactly a monkey in mind: it is not a complex mechanism brought to the condition of a simpler mechanism, but a complex mechanism imperfectly constructed, and less fit for its purposes therefore than the simpler mechanism.

Not only is the brain-weight in microcephalous idiocy very low absolutely, as the instructive tables of Dr. Thurnam show, but the relative amount of brain to body is "extraordinarily" diminished. Thus in the two idiots described by Mr. Marshall

[1] *Anatomie Comparée du Système Nerveux.*
[2] *Philosophical Transactions, loc. cit.*

the proportion of brain to body was only as one to 140 in the female, and as one to sixty-seven in the male, the normal proportions being as one to thirty-three and as one to fourteen respectively.

It is not necessary that I quote more authorities to prove that small-headed idiots have small brains, and sometimes even fewer and more simple convolutions than the chimpanzee and the orang; that man made a *morbid kind* by an arrest of development may be brought to a lower level than that of his nearest of kin among animals.[1] A strict examination of the stories of so-called wild men, as of Peter the Wild Boy and of the young savage of Aveyron, has proved that these were really cases of defective organization—pathological specimens.[2] The interest of them lies in this, that as idiots show a rude reversion sometimes towards a lower type of brain which is natural to a lower animal, so in their habits and instincts they sometimes exhibit evidence of a reversion to the fundamental instincts of animal nature.

In some idiots and imbeciles, especially those of the Cretin type, where the morbid condition is endemic, the defect seems to depend on certain morbid changes which affect primarily the skull rather than the brain. Injurious influences, affecting the general processes of the bodily nutrition, prevent the normal growth of the bones, which undergo a premature ossification of their sutures; the consequence of which is that the general expansion of the skull, which should take place as the brain grows, is prevented, or that a narrowing of the skull is produced at the part where this happens. Secondary wide interference with the development of other parts of the skull and compensating enlargements in other directions follow the primary evil when it is partial, and give rise to cranial deformi-

[1] Absence or defect of the corpus callosum has been sometimes met with after death, but seldom; other cerebral deficiencies will commonly coexist with it; and in most of the cases of this sort there was idiocy or some degree of mental weakness during life. Dr. Julius Sander has collected ten cases, which appear to be all the cases hitherto recorded of this defect, and described them in Griesinger's *Archiv für Psychiatrie und Nervenkrankheiten*, b. i. 1868.

[2] *Observations on the Deranged Manifestations of the Mind.* By J. S. Spurzheim, M.D. Also *Lectures on Man.* By W. Lawrence, F.R.S.

ties of various kinds. It is common to observe in imbecile children, especially in such as are of a scrofulous temperament and in those who have an insane inheritance, a very narrow and deeply arched palate, which is described as saddle-shaped; it is a deformity which seems to be connected with a defective growth of the bones at the base of the skull; and when it exists without actual imbecility it usually goes along with only a slender understanding. Of necessity the natural growth of the brain is hindered by those morbid changes; and it is no wonder that the deformed head is accompanied with a torpid, apathetic character and with great mental deficiency. However, the defects of brain and bone may be concomitant effects. As the evil changes are commonly not manifest until a year or more after birth, an objection might well be made to the description of them as *original* defects; but whatever the real nature of the deterioration of nutrition which is at the bottom of the mischief, whether it be of malarious or scrofulous nature, it admits of no question that it acts upon the child through the mother perniciously, and predetermines its defect.

An arrest of the development of the brain occurring soon after birth may give rise to idiocy just as certainly as an arrest which has taken place some time before birth. Specious objection might be made to the description of the defect as original; but when we reflect that the important development of the brain as the supreme organ of the conscious life, as subserving the mental organization, really takes place after birth, we may admit that a defect which frustrates development is practically original, albeit not strictly congenital. There are not a few idiots in whom the brain and body appear to be well formed, while the mental development remains at the lowest stage. Epilepsy is oftentimes such a cause of idiocy, but it is not possible in all cases to assign a definite cause of the arrest.

In some instances of apparently normal brains with deficient intellect, it is found on examination that the ventricles are more or less dilated and contain more than their normal quantity of serous fluid; intermediate conditions, indeed, are met with between the normal state in this respect and the vastly dilated ventricles and expanded cerebral substance of the

extremely hydrocephalic brain. In other instances where the brain looks normal to the naked eye, or is actually hypertrophied, microscopic examination has shown that its normal or abnormal size is owing not to the natural quantity or to a natural increase of its proper elements—namely, the nerve-cells and fibres,—but to an abnormal increase of the connective substance, entailing perhaps eventual atrophy of them and their capillaries. In other instances the pathologist cannot find the hidden defect in the seemingly perfect organ; nor need we wonder much at that when we reflect that most important intimate physical and chemical changes may exist without being detected by any means of research that we are yet in possession of. There is nothing indeed to prevent whole territories of cells in the cerebral convolutions being wanting without the pathologist being able to find it out. Lastly, the fault may lie in the distribution, quality, and activity of the blood circulating in the brain; the active supply of good blood which is necessary to full and quick intelligence being prevented, either by a defective quality of the blood occurring as a part of the general defective nutrition, or by a feeble or defective heart, which is not very uncommon in idiocy.

Other idiotic creatures have the development of body as well as mind arrested. The extremest cases of the kind are those in which there has been a complete cessation of growth at an early period of childhood, without any observable deformity. Dancel has recorded the case of a girl, aged twenty-four, who had developed normally up to the age of three and a half years, after which no further growth took place until she reached eighteen and a half years, her bodily and mental condition being that of a child of three and a half years old. At twenty-one she increased a little more in size, and then remained unchanged for the rest of life. Baillarger exhibited, in May, 1857, to the French Academy of Medicine, a young woman aged twenty-seven, who had only the intelligence and inclinations of a child four years old, and who was about three feet high. I have seen a somewhat similar instance in an idiot man. Such extreme cases are well suited to excite surprise and curiosity; they are, however, only gross results of a deficiency in developmental power which

is often met with in a less degree, and which is actually witnessed in every degree. The truth is, that every element of the body shares usually in the defective vitality of idiocy. In any large idiot asylum idiots are to be found who, without any particular deformity, without any observable disease or defective development of brain, are generally sluggish both in bodily and mental development; their size is small; their sexual development takes place late in life, or perhaps does not take place at all; their circulation is languid, and their sensibilities are extremely dull; their movements are not brisk, but feeble and heavy, and sometimes partially paralyzed; their skin gives off an offensive odour; their teeth are carious and soon drop out. In mental capacity they are in advance of the true idiots, for they can learn a little, are capable of remembering, and perhaps imitate cleverly: some of them constitute the "show-cases" of the idiot asylum when they are in it; and, when they are not, they may become difficult cases for medico-legal inquiry, if, in consequence of the strength of their passions and of their deficiency of moral power, they do some deed of criminal violence, as they are more likely to do after puberty than before it. All the concern that we have with them here is to draw from them the certain conclusion that there may, by reason of unknown conditions affecting nutrition, be every degree of imperfect development of mind and body down to actual incapacity to develop at all; wherefore imbecility cannot be measured by any constant standard, but must always be a matter of degree.

The causes of the defective cerebral development which is the physical condition of idiocy are often traceable to parents. Frequent intermarriage in families seems in some cases to lead to a degeneration which manifests itself in individuals by deaf-mutism, albinoism, and idiocy.[1] Parental intemperance and excess, according to Dr. Howe, hold high places as causes of convulsions, idiocy, and imbecility in children; out of 300 idiots in the State of Massachusetts, whose histories were investigated by him, as many as 145 were the offspring of intemperate parents.[2]

[1] "On Consanguineous Marriages." By Arthur Mitchell, M.D.—*Edinburgh Medical Journal*, 1865.

[2] *Report on the Causes of Idiocy in the State of Massachusetts.*

But other inquirers who have been at the pains to critically test his statistics have not been able to accept so high a proportion. It is not doubted that the parent who makes himself a temporary lunatic or idiot by his degrading vice does sometimes propagate his kind in procreation, and entail on his children the curse of a hopeless fate. Many remarkable instances have been recorded by different authors. Guislain mentions a family of maniacs born of a woman who was drunk every day. In the Mechanics' Institution at Manchester are the casts of the small heads of seven idiots; their father was a desperate drunkard, and as he kept a public-house, he was almost always drunk, or had just been so, or was about to become so. Nothing particular was known of the habits of his wife. They had eight children, the first seven of whom, who were the idiots in question, were born while the father was under the influence of his drunken habits. Having dissipated his property he had no longer the means to get drunk, and the last child, a daughter, which was born while he was sober from compulsion, was perfectly sane, and was married in due course.[1] "A man," says Marcé, "who had several times, in consequence of excessive drinking, had symptoms of insanity, married twice: with his first wife he had sixteen children, fifteen of whom died within a year of convulsions; the survivor is epileptic. With his second wife he had eight children; seven have fallen victims to convulsions, and the eighth is scrofulous."[2] The natural term of insanity proceeding unchecked through generations is, as Morel has shown, sterile idiocy. When man frustrates the purposes of his being, and selfishly ignores the laws of hereditary transmission, nature takes the matter out of his hands and puts a stop to the propagation of degeneracy. Great fright or other mental agitation affecting the mother during gestation, or irregularities and excesses on her part, and injury to the child's head during parturition, may occasion a congenital mental defect in it. But many of the causes of idiocy operate after birth up to the third or fourth year. They are epilepsy, the acute exanthemata, perhaps syphilis, and certainly starvation, dirt, and overcrowding.

[1] Dr. Noble, *Elements of Psychological Medicine.*
[2] *Traité Pratique des Maladies Mentales.* Dr. L. V. Marcé, 1862.

When there are no such signs of degeneracy as warrant the suspicion of idiocy or imbecility, there is still large room for physical causes of psychical defect which we cannot detect. The sensibility of nervous structure, whereby an impression made at one point is almost instantaneously felt at any distance, is the consequence of delicate, active, but occult movements of its molecules, which, like thermal oscillations or undulations of light, or the intimate molecular conditions of colour, belong to that inner life of nature that is still impenetrable to our most delicate means of investigation, still inaccessible to our most subtile inquiries. Who can declare the nature of those hidden molecular activities which are the direct causes of our different tastes and smells? Could we but learn what these intimate operations essentially are, we might perhaps attain to a knowledge of the intimate constitution of bodies which we hardly dream of now; indeed it seems not impossible that in the scientific cultivation and development of the senses of taste and smell, as the eye, the ear, and the touch have been cultivated and developed, we may ultimately gain some means of insight into the inner recesses of nature.

A second reason why there may be numerous and serious defects of nervous structure which cannot yet be discovered is based upon the infinitely complex and exquisitely delicate structure of the cortical layers of the hemispheres. It must be confessed that many physical paths of nervous function in the supreme centres may be actually obliterated without our being any the wiser, for it was only yesterday, so to speak, that men succeeded, after infinite patient research, in demonstrating a direct communication between the different nerve-cells, and between nerve-fibres and cells. The obliteration of such a physical communication in the supreme centres might plainly render impossible a certain association of ideas, or the transference of the activity of the idea to an outgoing nerve-fibre—a particular function and expression of mind. The convolutions being formed of several delicate superimposed layers, it is natural to suspect that the defective intelligence of idiocy may be due to a defective development or to an entire absence of one or other of the higher of these

layers, which may be presumed to minister to the more abstract functions of mind.

Thirdly, it must be admitted that, all question of defect of physical structure put aside, the extremest derangement of function may be due to chemical changes in the complex constitution of nerve-element—changes which, in the present state of knowledge, are still less discoverable than physical changes. Examine the cells of a man's brain at the end of a day of great mental activity, and at the beginning of a day after a good night's rest; what difference would be detectable? None whatever; yet the actual difference is between a decomposition and a recomposition of nerve-element—between a capacity and an incapacity of function.

It is beyond question, then, that there may be modifications of the polar molecules of nerve element, changes in its chemical composition, and defects in the physical constitution of nervous centres, which, entirely undetectable by us, do nevertheless gravely affect function, and are so attested. As defective sensibility and motility betray defective motor and sensory centres, so defective intelligence betokens defective mind-centres.

This is a conclusion which ought to be kept well in mind when we are tempted to speculate concerning the unknown physical conditions of an *inherited predisposition* to insanity. To affirm that all men are born equal, as is sometimes heedlessly done, is to make as untrue a proposition as it is possible to make in so many words. There is as great a variety of minds as there observably is of faces and of voices: as no two faces and no two voices are exactly alike, so are no two minds exact counterparts of one another. Each person presents a certain individuality, characteristic marks of features and disposition which distinguish him from any other person who may resemble him ever so closely; and I hold it to be true that every special character which is displayed outwardly is represented inwardly in the nerve-centres—that it is the outward and visible sign of an inward and invisible constitution of nerve-structure. Men differ greatly, then, both in original capacity and in quality of brain: there is a continuity of intelligence between the highest genius and the lowest stupidity, distinguished men being raised

as much above the average standard of ability as idiots are sunk below it. In some persons there is the potentiality of great and varied development, whilst in others there is the innate incapacity of any development. There are manifest differences in the fundamental functions of reception and retention: in some the mental reaction to impressions is sluggish and incomplete, and, without being idiots, they are slow at perception and stupid; in others, the reaction, though not quick, is very complete, and they retain ideas firmly, although they are slow in acquiring them; in some, again, the reaction is rapid and lively, but evanescent, so that, though quick at perception, they retain ideas with difficulty; while in others the just equilibrium between the internal and external exists by which the reaction is exactly adequate to the impression, and the consequent assimilation is most complete. These natural differences in the taking up of impressions plainly hold good also of the further processes of digestion and combination of ideas, which in the progress of mental development follow upon the concrete perception. It is easy to perceive then that we have, as original facts of nature, every kind of variation in the quality of mind and in the degree of reasoning capacity, and that it is as gross a mistake to endow all persons with a certain fixed mental potentiality of uniform character as it would be to endow them with the potentiality of a certain fixed bodily stature.

Viewed on its physical side, as it rightly should be, a predisposition to insanity means an actual defect or fault of some kind in the constitution or composition of the nerve element which functions as mind; there is an instability of organic composition, which is the direct result of certain unfavourable physical antecedents. The retrograde metamorphosis of mind, manifest in the different kinds of insanity, and proceeding as far as actual extinction in extreme dementia, is the further physical consequence of the hidden defect. I have insisted much that the physical structure of the mental organization embodies in its nature and gives out in its function the kind of activity which determined its formation, and I desire now to have it particularly noticed that the defective nerve-structure of an insane predisposition is an example of this truth. It owes its unstable

nature to the unstable and ill-regulated conduct of parents or other ancestors; being the materialization of past, it is the potentiality of future, irregularities. It is easy to point, on the one hand, to the nervous substance of the infertile idiot's brain, and on the other hand, to that of the philosopher's, and to maintain that the kind of nerve-structure of which they are constituted is the same, as it certainly appears to be; but so long as we have no exact knowledge of the constitution of nerve-element such an assertion is an unwarrantable assumption, and, while the functional effects are so vastly different in the two cases, there are valid reasons to contradict it.

The conclusion, then, which we have reached is, that an individual who, by reason of a bad descent, is born with a predisposition to insanity has a native nervous constitution which, whatever name may be given to it, is unstable or defective, rendering him unequal to bear the severe stress of adverse events. In other words, the man has what I have called *the insane temperament.* Were it thought fitting to give a name to this temperament or diathesis, as in algebra we use a letter to represent an unknown quantity, it might properly be described as the *Diathesis spasmodica* or the *Neurosis spasmodica*: such names expressing very well an essential character of the temperament—that is, the want of equilibrium between the different nervous centres, their tendency to in-coordinate and disruptive action. There is some inherent instability of nervous element whereby the mutual reaction of the nerve-centres in the higher walks of nervous function does not take place properly, and due consent or co-ordination of function is replaced by irregular and purposeless independent action. The person is prone under all circumstances to strange or whimsical cranks of thought and caprices of feeling, or to eccentric or extravagant acts, and likely under the pressure of extraordinary circumstances to suffer an entire overthrow of his mental equilibrium: there is, as it were, a loss of the power of self-control in the nerve-centres, an incapacity of calm, self-contained activity, subordinate or co-ordinate, and energy is dissipated in explosive discharge, which, like the impulsive action of the passionate man, surely denotes an irritable weakness. For here, as elsewhere, co-ordination of function

signifies power, innate or acquired, and marks exaltation of organic development; self-restraint being a higher power than self-abandonment.

Is it not plain how impossible it is to do full justice to any individual, sane or insane, by considering him as an isolated fact? Beneath his conscious activity and reflection there lies the unconscious inborn nature which all unawares mingles continually in the events of life—the spontaneity whence spring the sources of desire and the impulses of action; for the conscious and the unconscious, like warp and woof, together constitute the texture of life. No one, be he ever so patient and apt in dissimulation or crafty in reticence, can conceal or misrepresent himself always; in spite of consummate art his real nature reveals itself constantly by slight and passing signs, of which he is himself unaware, in the movements of the part which he plays, and bursts out of the restraints of hypocrisy in the most earnest pulsations of his life. The inborn nature constitutes the foundation upon which all the acquisitions of development must rest; it is the substratum in which all conscious mental phenomena are rooted. When it is defective radically, no systematic labour will avail to counterbalance entirely the defect: if the attempt be made to build the superstructure of a large, vigorous, and complete culture upon the rotten foundations which an inherited taint of nerve element implies, something will be wanting; some crack in the building will betray the instability of the foundations, even when the whole structure does not fall "in ruin hurled." Any mental philosophy which takes not notice of the foundations of the character, but ignores the important differences of individual nature, does not truly reflect the facts, and must be provisional and transitory. It is guilty of the same error as that into which an introspective psychology falls when, isolating the particular state of mind, and neglecting the antecedent conditions upon which it has followed, it pronounces the will to be free; by isolating the individual, and forgetting that he is but a link in the long chain of nature's organic evolution, it transforms him into an abstract and impossible entity, and often judges his actions with an unjust judgment

Here I have the misfortune to be in seeming contradiction with so sound and sober a thinker as Locke, who, admitting natural faculties to be great gifts, declares acquired habits to be of more value, and many excellences which are looked upon as natural endowments to be, when examined into more narrowly, the product of exercise. "Defects and weaknesses in men's understandings," he says, "come from a want of right use of their minds. There is often a complaint of want of parts, when the fault lies in a want of a due improvement of them." No doubt that is so; at the same time it is certain that there is oftentimes a want of parts which no training will make good, and that the hope of training rests upon a possession of the ordinary gifts of nature. If a man's nature have a radical flaw in it, he can no more get entirely rid of it by training than the idiot, whose want of parts is incontestable, can raise his intelligence to the average level by much study, or than a short man can, by taking thought, add one cubit to his stature. Acquired habits may do much to compensate natural deficiencies, but the misfortune is that the deficiency often shows itself in a constitutional inability to acquire the habit. Moreover, superior excellences of parts can only be built upon corresponding foundations.

2. *Quantity, Quality, and Distribution of the Blood.*—The grey centres of the brain, and the cortical layers of the hemispheres especially, are richly supplied with blood-vessels, even when comparison is made with the notably abundant supply of the spinal centres; fully one-fifth of the whole quantity of the blood in the body going to the head. The ideational centres need for the due exercise of their functions a rapid renewal of arterial blood, an active interchange of some kind continually going on between it and their elements; indeed, as I have previously argued, the life of a nerve-cell may be looked upon as a continual metastasis, its substance being decomposed during function and recompounded during rest, and the blood being the agent that brings what is wanted for repair and carries away what is effete after function. The quantity and quality of the blood, therefore, circulating through the supreme centres, must affect their functions in an important manner, as will appear more clearly when it is considered that they are the most sensi-

tive elements of the body in this regard. When the most expert chemist is unable to detect anything unusual in the atmosphere of a room in which many people are met together, a delicate woman may get a headache and actually faint away. If a mixture of air and carbonic acid in certain proportions be inspired like chloroform, it will, like it, act as an anæsthetic, paralyzing consciousness; and if the blood be charged with a stronger dose of the gas, the nerve-elements are stifled outright.

When there is a rapid flow of healthy blood through the supreme cerebral centres, a quick interchange goes on between it and the nerve-cells, and the excitation and interaction of ideas proceed with vivacity. The effect of active thought is to produce such a determination of blood, which in turn is the necessary condition of the continuance of the active function. But when a natural determination of blood degenerates into a greater or less stasis or congestion, as it may easily do when intellectual activity is too much prolonged, or when congestion is otherwise produced, then there is an inability to think; torpor and confusion of thought, depression and irritability, swimming in the head, disturbance of sight and of hearing, delirium and convulsions in the worst event, testify to a morbid condition of things. It is striking how completely a slight congestion of the brain will incapacitate a person for mental activity, and how entirely the strong man is prostrated thereby: an afflicting stagnation of ideas accompanies the stagnation of blood; and he, heretofore so strong and self-confident, realizes in vivid affright on how slight a thread hangs the whole fabric of his intellect. If the morbid state should, instead of remaining passive, or passing away altogether, become active, as it does when actual inflammation occurs, then the function of the cerebral centres becomes irregular and degenerate; co-ordination is lost, as it is in the spinal cord under like circumstances, and a wild and incoherent delirium attests the independent and, if I might so speak, convulsive action of the different cells: the delirious ideas are the expression of a condition of things in the supreme centres which is the counterpart of that which in motor centres utters itself in spasmodic movements or convulsions. The destruction of co-ordination of function is the abolition of volition; and such

purposeless or dangerous acts as the delirious being performs are dictated by the morbid ideas that are excited by the abnormal physical condition. Some writers have thoughtlessly spoken of this degenerate activity in its earlier stages as increased mental activity, as they have also spoken of active inflammation as increased vital action; not otherwise than as if convulsions were accounted signs of strength, or as if the tale of an idiot because it is full of sound and fury, though signifying nothing, were the index of high mental activity.

Dr. Mason Cox pointed out long ago that the pulses in the radial and carotid arteries sometimes differed from one another in the insane, being soft and weak in the former—for it is seldom much affected at the wrist even in active madness—when it was full and hard in the latter; and Dr. Burrows, who also called attention to irregularities and discrepancies in arterial pulsation, took notice that the carotids might differ from each other, and both or either of them from other arteries. Of no small interest, in relation to the influence of the supply of blood to the brain, are the vigour and revival of function that are sometimes imparted by an attack of fever to brain enfeebled by chronic insanity; patients in even advanced state of disease may become quite rational for a time during fever, and relapse after its subsidence; or a demented patient, who usually exhibits no spark of intelligence, may quicken into a certain mental activity.[1]

[1] Examples of such temporary revival of cerebral functions during fever have been related by various authors, and are well known to physicians who have much to do with the insane. The following may suffice here:—"The following case, related to me by a medical friend, will serve to show that even in idiocy the mind may be rather suppressed than destroyed. A young woman, who was employed as a domestic servant by the father of the relater when he was a boy, became insane, and at length sank into a state of perfect idiocy (dementia). In this condition she remained for many years, when she was attacked by a typhus fever; and my friend, having then practised some time, attended her. He was surprised to observe, as the fever advanced, a development of the mental powers. During that period of the fever when others are delirious, this patient was entirely rational. She recognized, in the face of her medical attendant, the son of her old master whom she had known so many years before; and she related many circumstances respecting the family, and others which had happened to herself in her earlier days. But, alas! it was only the gleam of reason; as the fever abated, clouds again enveloped the mind; she sank into her former deplorable state, and remained in it

Several cases have been recorded in which actual recovery from insanity has followed an intercurrent attack of typhoid fever, scarlatina, and variola; but the rule certainly is that the amelioration or modification of the mental state which commonly occurs during the fever passes away as the fever subsides. It may be presumed that the excitement and the quickened circulation of the brain either stimulate the indolent and exhausted nerve-cells in which force is generated, or open up obstructed paths of association, not otherwise than as the stimulus of alcohol stirs up forgotten ideas in a healthy brain and quickens their associations. If this be so, it is an interesting proof that the nerve-cells and the paths of normal association are not so damaged or broken up as to be beyond restoration even in advanced madness; the former are deadened and the latter blocked, as it were, but the continuity of structure is preserved; and both are capable of doing their proper work again when reanimated by a strong stimulus of a suitable kind.

Since the time of Hippocrates it has been known that when there is too little blood in the brain symptoms are exhibited very like those which are produced by a congestion of blood: pain and swimming in the head, mental torpor and confusion of thought, affections of the senses and of movement, and in extreme cases convulsions and delirium, occur in consequence of anæmia of the brain as certainly as they do in consequence of congestion. In both cases the due nutrition of the nerve-cell, which is the agent of cerebral function, is greatly hindered; and much of the ill effect is similar, though the cause appears to be so different. The intimate causes are not so different as they seem, when we proceed to analyze the conditions comprised under the terms anæmia and congestion. In that unceasing active relation between the organic element and the blood by which the due reparative material is brought and waste matter carried away, it amounts to much the same thing whether, through congestive stasis of the blood, the refuse is not carried off and reparative material brought to the spot where it is wanted, or whether a

until her death, which happened a few years afterwards."—*Description of the Retreat near York*, p. 137. By Samuel Tuke. 1813. See also *Journal of Mental Science*, July, 1872.

like result ensues by reason of a defective blood and deficient circulation: it is little matter to the inhabitants whether the street is blocked, or whether its entrance is closed, so long as free circulation is prevented.

If the carotid arteries of a dog be tied, and pressure be then made on its vertebral arteries, as was done by Sir A. Cooper, the functions of the brain are entirely suspended; the animal falls into a deep coma, its respiration ceases in a few moments, and it appears to be dead; but if the pressure be removed from the vertebral arteries, the manifestations of life reappear, and the animal regains rapidly the integrity of its cerebral functions. In like manner sleep may be produced in the human subject by strong pressure upon the carotid arteries in the neck; and if we may believe the authority of an old writer on insanity, such pressure has, while it was continued, actually suspended mental excitement sometimes, and restored intelligence. In melancholia and in dementia the languid circulation in the cold and livid hands and almost insensible skin is very notable; and it is plain that if the cerebral circulation is in anything like the same relaxed and feeble state there is quite enough to account for the mental symptoms. The wanderings of mind just before going to sleep, the delirium which breaks out sometimes as convalescence from fever sets in, the distress of the melancholic patient when he wakes in the morning, are perhaps due in part to a diminution of the proper blood-supply to the brain. It should be noted that an irregularity in the blood-supply with consequent derangement of nutritive action will lead to a condition of brain comparable with what we call *irritation* in other organs; falling short of actual inflammation, it is marked by an undue impressionability, a diminution of proper functional energy, a ready excitability to action of a perverted kind; and it is the exact counterpart in the highest centres of a similar condition in the sensory and motor centres which, similarly caused, shows itself in those perversions of sensation and motion which are classified as hyperæsthesia and hyperkinesia.

Temporary irregularities in the supply of blood to the supreme nervous centres may, and often do, pass away without leaving any ill consequences behind them; but when they recur

frequently, and become more lasting, their disappearance is by no means the disappearance of the entire evil: the effect has become a cause which continues in action after the original cause has been removed; and permanent mental disorder may be thus established. Once the habit of morbid action is fixed in a part, it continues as naturally as, under better auspices, the normal physiological action. It is always, therefore, of great importance to give timely heed to the earliest warning of its presence which morbid action gives; but it is of paramount importance to do so in the case of organic element so exceedingly susceptible and so exquisitely delicate as nerve element.

It is a question whether one has not to do with local rather than with general irregularities of the circulation in most cases of mental derangement in which there is reason to suspect vascular disturbance. So little do we yet know exactly of the intimate physiology of the vaso-motor system that we can only guess at the precise character and mechanism of these local irregularities; but we know enough to be sure of a wide-reaching and important function of the vaso-motor system in the economy. Mental causes may no doubt occasion them; it is probable that all active emotions are accompanied by changes in the circulation through vaso-motor inhibition, and that such vascular disturbances may be produced by them within the brain very much as blushing is produced over the face and neck by shame, or as relaxation of the sphincters is sometimes caused by fear. Then again circulation-disturbances within the brain will react upon the innervation-centres of the heart and large vessels within the medulla oblongata, and so affect the pulse secondarily: in melancholia, for instance, we sometimes notice a slow, irregular, and intermittent pulse, while the patient is depressed and anxious and apprehensive, which becomes full and regular so soon as the anxiety and apprehension pass off. Severe primary disease of the brain probably acts upon the pulse through the same mechanism; for a pulse of about sixty-eight, quick and jerky, not actually intermittent, but irregular, being now faster and now slower, without any evident regularity in its irregularities, is thought to warrant a strong suspicion of the existence of such disease. Abdominal disturbances will

also gravely affect the cerebral vaso-motor centres; in relation to which an experiment by Goltz is instructive. On tapping sharply on the abdomen of a frog the heart and vessels of which he had previously exposed, he found that after a tap or two the heart stopped, beginning to beat again after a short pause. At the same time the abdominal vessels, especially the veins, dilated widely. The tapping irritates the mesenteric nerves; the impression is transmitted by them to the inhibitory centres in the medulla; and the consequence is, first, inhibition of the heart, and, secondly, of the vaso-motor centres of the intestinal vessels. What is to hinder disorder of an abdominal organ from producing in like manner a local circulation-disturbance within the brain? We know it will produce a condition favourable to certain emotional moods, and we suspect such moods to be accompanied by vascular changes. The more closely we look, the more clearly it appears that the phenomena of the whole mental and bodily economy form one circle of operations, essentially interworking, and ever coming back upon one another.

A vitiated blood quickly affects the function of the supreme cerebral centres. Alcohol yields the simplest instance in illustration of the disturbing action on mind of a foreign matter introduced into the blood from without: here, where each phase of an artificially produced insanity is passed through successively in a brief space of time, we have the abstract and brief chronicle of the history of insanity. Its first effect is to produce an agreeable excitement, a lively flow of ideas, and a general activity of mind—a condition not unlike that which oftentimes precedes an attack of mania; then there follow, as in insanity, sensory and motor troubles and the automatic excitation of ideas which start up and follow one another without order, so that more or less incoherence of thought and speech is exhibited, while at the same time passion is easily excited, which takes different forms according to the individual temperament; after this stage has lasted for a time—in some longer, in others shorter—it passes into depression and maudlin melancholy, as convulsion passes into paralysis; the last scene of all being one of dementia and stupor. The different phases of mental disorder are compressed into a short period of time because the

action of the poison is quick and transitory; but we have only to spread the poisonous action over years, as the regular drunkard does, and we get a chronic and enduring insanity in which the foregoing scenes are more slowly acted. Or, if death, cutting short the career of the individual, puts a stop to the full development of the tragedy in his life, we may still have it played out in the lives of his descendants; since the drunkenness of the parent sometimes becomes the insanity of the offspring, which thereupon, if not interfered with, goes through the downward course of degeneracy described. It is worth while to take note by the way how differently alcohol affects different people according to their temperaments, ever bringing forward the unconscious real nature of the person: one it makes a furious maniac for the time being; another it makes maudlin and melancholic; and a third under its influence is stupid and heavy from the beginning. So it is with insanity otherwise caused: the individual constitution or temperament, rather than the exciting cause of the disease, determines the form which the madness takes. An exact differential pathology would involve the vastly difficult knowledge of what constitutes individual temperament.

Other poisons besides alcohol, such as opium, belladonna, Indian hemp, stimulate and ultimately derange the function of the supreme cerebral centres. It is interesting to notice that the different nervous centres of the body evince elective affinities for particular poisons: while the spinal motor centres have a special affinity for strychnine, the cerebral centres seem to be untouched by it; belladonna, on the other hand, rather depresses spinal activity, but acts powerfully upon the centres of consciousness, giving rise, at an early period of its action, to delirium characterized by hallucinations and illusions; and Indian hemp seems to act mainly on the sensory centres, exciting remarkable hallucinations. That medicinal substances do display these elective affinities is a proof, at any rate, that there are important intimate differences in the constitution or composition of the different nervous centres, notwithstanding that we are unable to detect the nature of them; and it may be we have in these different effects of poisons on the nervous

system the promise of a useful means of investigation into the constitution of the latter. Albeit the rapid recovery which takes place from the effects of these poisons proves that the combinations which they form with nerve element are temporary, it must be borne in mind with regard to them, as with regard to alcohol, that the nervous system, when repeatedly exposed to their poisonous influence, acquires a disposition to irregular or morbid function, even when they are not present; so that more or less marked mental disorder ensues sometimes from their continued abuse: they are efficient to initiate a degeneracy which then goes on of itself. The paralysis produced by lead and mercury in workmen who have been long exposed to their poisonous effects, and the utter mental prostration and fatuity that are witnessed in the worst cases, are further proofs of the injurious action upon nerve-centres of poisons that may be detected in, and extracted from, the tissues.

But the condition of the blood may be vitiated by reason of something bred in it, or by reason of the retention in it of some substance which should rightly be excreted from it. Without any change whatsoever having taken place in his external relations, the presence of bile in his blood shall drive a person to regard his surroundings and his future in the gloomiest light imaginable; he may know that a few hours ago things looked quite otherwise, and may believe that in a few hours more they will again have a different aspect, yet for the time being he is a victim of a humour which he cannot withstand. Philosophy is of little avail to him; for philosophy cannot rid him of that condition of nervous element which the impure blood has engendered, and which is the occasion of his gloomy feelings and painful conceptions. Carry this morbid state of nervous element to a further stage of depression and make it last, there ensues the genuine melancholia of insanity. In like manner the presence of some product of incomplete nutrition in the blood of a gouty patient gives rise to an irritability of temper which no strain of mental control can remove, though it may succeed sometimes in suppressing its manifestations. The mental tone being, as already set forth, the expression of a physical condition of nervous element, is sometimes beyond conscious management,

just as the delirium and convulsions of the patient dying from uræmic poisoning are beyond control. All writers on gout are agreed that a suppressed gout will produce severe mental disorder, and that the sudden disappearance of a gouty swelling is sometimes followed by such an outbreak. After the cessation of the inflammation of the joints gouty mania sometimes occurs, characterized by acutely maniacal symptoms, with heat of head and fever; ending favourably in the slighter cases, but in severer cases passing into inflammation of the membranes, serous effusion, and coma. Lord Chatham, who was so great a martyr to the disease, had an attack of distressing melancholy lasting for nearly two years, from which he only recovered after an attack of the usual gouty paroxysm, which had not occurred once during the season of his mental disorder. Most writers on insanity and on gout make mention of persons subject to frequent attacks of gout who had none while suffering from an attack of insanity.

It admits of no question that every degree of mental disorder, from the mildest feeling of melancholic depression to the extremest fury of delirium, may be due to the non-evacuation from the blood of the waste matters of the tissues; but as we know very little at present of the nature of those waste products of retrograde metamorphosis, and of the different transformations which they undergo in the body before they are eliminated by excretion, we must rest content with the general statement, and set ourselves in practice to prosecute rigorous inquiries into the particular instances. Irregularities of menstruation, which are so common in insanity, are of importance in regard to this question; the return of the function at its due season not unfrequently heralding recovery, and, on the other hand, severe exacerbations of epilepsy and insanity coinciding often with the menstrual period. Whether the case be one of mere retention in the blood of what should be excreted from it, or whether nervous sympathy plays the greater part in what takes place, I know not; but there can be no doubt of the fact that menstruation is oftentimes suppressed during an attack of mental derangement, and of the second fact that cases are on record, more or less like that well-known one related by Esquirol of an insane girl

whose menses had ceased for some time, and who recovered her senses directly they began to flow.

When we reflect that the blood is itself a living, developing fluid,—that, "burnished with a living splendour," it circulates through the body, supplying the material for the nutrition of the various tissues, receiving again their waste matter and carrying it to those parts where it may either be appropriated by nutrition or eliminated by secretion,—it is plain that multitudinous changes are continually taking place in its constitution and composition; that its existence is a continued metastasis. There is wide possibility, therefore, as there is partial evidence, of abnormal changes in some of the manifold processes of its complex life and function, such as may generate products hurtful or fatal to the nutrition of the different tissues. The blood itself may not reach its proper growth and development by reason of some defect in the function of the glands that minister to its formation, or, carrying the cause still further back, by reason of insufficient food and of wretched conditions of life; there is in consequence a defective nutrition generally, as in scrofulous persons, and the nervous system shares in the general delicacy of constitution; though quickly impressible and lively in reaction, it is irritable, feeble, and easily exhausted. Poverty of blood, without doubt, plays the same weighty part in the production of insanity as it does in the production of other nervous diseases, such as hysteria, chorea, neuralgia, and even epilepsy. In the condition known as anæmia, we have an observable defect in the blood and palpable nervous suffering in consequence; headaches, singing in the ears, sparks of light before the eyes, giddiness, low spirits, and susceptibility to emotional excitement reveal the morbid effects. The exhaustion produced by lactation in some constitutions is a recognized cause of mental derangement; and a great loss of blood during childbirth has sometimes occasioned a sudden outbreak. The delirium of starvation is probably an anæmic delirium; it is marked by mental prostration and imbecility in the beginning, and then by maniacal delirium, perhaps with visual hallucinations, which is followed by coma and death, with or without convulsions.

While we can detect an evil so obvious as a great loss of blood or a deficiency of iron in the blood, there are good reasons to think that other graver defects in its constitution or development, of which we can give no account at present, do exist and give rise to secondary nervous degeneration. It is in this way probably that ill conditions of existence,—as overcrowding, bad air, insufficient food and light, intemperance, and the like,—lead to defects of nervous development, or to actual arrest thereof, and thus produce mental as well as physical deterioration of the race. *Leucocythæmia*, *oxaluria*, and *phosphuria* are states of defective nutrition owing to imperfect digestion and assimilation, in which symptoms of mental discomfort or distress are common and notable. Persons who suffer from oxaluria are usually much depressed, anxious or apprehensive about themselves, hypochondriacal, nervous and susceptible; in phosphuria there is commonly also great nervous irritability; and the late Dr. Skae thought that there was a form of insanity of a melancholic type associated with or directly dependent upon each of these conditions. I know not under what more fitting heading than deterioration of blood to place the mental derangement which occurs in *pellagra*, and is called *pellagrous;* for, being caused by the use of diseased Indian corn as an article of food, it is a condition of great bodily and mental debility. The symptoms are usually those of melancholy and fatuity with propensity to suicide; sometimes they are maniacal; and some cases are said to evince a singular dislike to the sight or touch of water because of the vertigo which it instantly produces.

There is no want of evidence that organic morbid poisons, bred in the organism or introduced into it from without, will act in the most baneful manner upon the supreme nervous centres. With what quick destructive force certain morbid materials bred in the blood, or passing into it, may act, is shown in certain cases of so-called putrid infection in which the patient dies after an injury or a surgical operation before there has been time to feel the after-consequences, or in some cases of malignant typhus where the virus is directly fatal to nerve element before the fever has had time to develop itself. It is probable enough that a virus which, when concentrated,

produces fatal results, will, when acting with less intensity, give rise to nervous derangement which stops short of death. That organic poisons do act in a definite manner on the organic elements, and give rise to definite morbid actions, is proved by the constant symptoms of such diseases as syphilis and small-pox. Now the general laws observable in the actions of morbid poisons appear for the most part to be like those which govern the action of medicinal substances; and as the Woorara poison completely paralyzes the ends of the motor nerves and does not affect the muscles or the sensory nerves, or as strychnia poisons the spinal centres, and leaves the cerebral centres unaffected, so it is conceivable that a particular organic virus may have a predominant affinity for a particular nervous centre and work its mischievous work there. Whether that be so or not, what we do notice is that in some conditions, natural or acquired, of the nervous system a morbid poison does act with particular intensity upon it or show a particular affinity for it. The syphilitic virus usually affects the nervous system more or less severely at one period or other of its action; but in some instances it appears to attack the nervous system specially, or to concentrate its action upon it, giving rise to an acute mania at an early stage of its course. Commonly, however, it is at a much later stage that the brain suffers, when syphilitic products, so-called *gummata*, are formed on its surface, or within its substance, and dementia gradually ensues in consequence.

There are cases on record, again, in which mental derangement has appeared as the intermittent symptoms of ague; 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 the treatment for intermittent fever.[1] Sydenham observed and

[1] A young man in an agueish district suffered from five brief attacks of mental derangement, one occurring every other day. The attacks began with an indescribable feeling of pain in the region of the heart, and with strong pulsations of the heart. This was the starting-point of the delirium, from which the patient recovered after a deep sleep. He was cured by quinine.—A strong peasant, aged thirty, who had never had ague though he lived in an agueish district, was suddenly attacked with insanity. He believed himself to be Jesus Christ, and those near him to be witches, and acted with violence towards them. His head was hot; his eyes were red and wild; his pulse was quick and his tongue white. After cupping

described a species of mania supervening on an epidemic of intermittent fever; contrary to all other kinds of madness, he says, it would not yield to plentiful venesection and purging; slight evacuations producing the relapse of a convalescent, and violent ones inevitably rendering the patients idiotic and incurable.

Griesinger and others direct special attention to cases in which mental disorder has occurred in the course of acute rheumatism, the swelling of the joints meanwhile subsiding. The patient ceases to complain of pain in the joints and becomes delirous; the excitement which he shows is of an intense kind, too raging to leave him sensible to impressions; he evinces acute fear, and would jump out of the window or do some other act of unreasoning violence to himself. After the excitement is over there is much mental torpor and confusion, or there is depression with taciturnity and moody suspicions. Choreic movements of all the voluntary muscles, sometimes of a violent character, may accompany the mental symptoms, and are in a few cases followed by temporary paralysis. It is by no means certain, however, that a delirium of this sort is due to the action of a morbid or other poison; it may be due to an actual transference or so-called metastasis of the disease, or to other causes; for we know by other experience that morbid action in one part may overpower and suspend morbid action in another part of the body, as when an attack of insanity suspends the progress of phthisis or the paroxysms of asthma, while it lasts, or as when a violent mania occasions the suppression of an accustomed discharge.

The viruses of acute fevers, as typhus and typhoid, scarlatina and smallpox, may notably act in the most positive manner on the supreme nervous cells, giving rise to mental torpor and stupidity, or to an active delirium; and, where they do not act directly at the height of the fever to produce delirium, they still predispose sometimes to an outbreak of insanity during the decline of the acute disease—a post-febrile insanity. Not only may

and the application of ice to the head, he recovered, and for two days remained quite sound in mind. On the fourth day, however, exactly at the same time, he had a similar attack, and again a third, after three days more. He was cured by quinine.—*Die Pathologie und Therapie der psychischen Krankheiten.* Von Dr. W. Griesinger.

a morbid poison thus attack the nervous system, or a part of it but it should be borne in mind that a particular virus will most likely have its special effect, not otherwise than as tea and coffee produce wakefulness, while opium produces sleep.

The first and mildest mental effect of a perverted state of blood is not positive delusion or incoherence of thought, but a derangement of the mental *tone*. Feelings of singular discomfort or depression, of irritability or uneasiness, testify to some modification of the statical condition of nervous element; and a great disposition to uneasy emotion is the subjective side of this state—the psychosis which is the expression of the disturbed neurosis. It may exist in different degrees of intensity, from the slight irritability or gloom which goes along with a sluggish liver, or the greater irritability which the urea in the blood of the gouty subject produces, to that profound depression which we describe as melancholia, or that active degeneration of function which we designate mania. Though there may be no positive delusion, the emotional perversion existing by itself, the ideas which arise under such circumstances do not fail to show the influence of the morbid feeling with which they are strongly tinctured; they are obscure, or painful, or, at any rate, not clear and faithfully representative of external circumstances. The morbid character of the depression lies, not in the depression itself, which would be natural or normal so long as there was an adequate external cause of it, but in its existence without any external cause—in the discord between the individual and his circumstances. But as it is an irresistible disposition of the mind to represent its feelings as qualities of the external object; as in all our mental life we continually make this projection outwards of our subjective states—it commonly happens after a while that the victim of an internally caused emotional perversion seeks for an objective cause of it, and, thinking to find one, gets a delusion: being in discord with the external, he establishes an equilibrium between himself and it by creation of ideal surroundings in harmony with his inner life. The form which the delusion takes may be a natural crystallization or condensation, so to speak, of the particular morbid emotion which prevails, in which case the most trivial event

may be overcharged with disproportionate emotion, and magnified into a mighty trouble; or it may be suggested, as it often is, by some prominent external event. What we have to bear in mind with regard to the organic nature of the delusion is, that certain ideational tracks have now entered upon the habit of a definite morbid action; that the general commotion of nerve element, which the emotional disturbance implied, has now brought itself to a head in a particular *form* of diseased action; not otherwise than as general inflammatory disturbance of some part of the organism issues in a definite morbid growth there. For although a temporary emotional disturbance produced by bad blood may completely pass away with the purification of the blood, yet the prolonged continuance or frequent recurrence of such morbid influence will inevitably end in the ideational centres, as elsewhere, in chronic morbid action, which, once established, is not easily got rid of.

We may compare the growth of a delusion with the mode of production of a general idea. As the general idea is formed by assimilation of the like and by rejection of the unlike in impressions—by respondence, that is, to similar and indifference to dissimilar vibrations; so in the growth of a delusion in the mind there is a respondence to, and therefore an affinity for or natural selection of, impressions that harmonize with it, while those that are not in harmony with it are ignored. It is useless to argue against an insane delusion; it has taken a predominant possession of consciousness, and there is a discontinuity of function between its tract and surrounding parts; reasoning can gain no hold of it any more than surrounding healthy nutrition can gain hold of a tumour or other morbid growth to check it. But the gradual influence of favourable surroundings —to wit, a suitable moral atmosphere, distracting occupations, diverting amusements, a steady reasonableness of life—will exert an unconscious beneficial influence upon the uninfected mental organization, until the large part of it which lies outside the morbid area gains strength enough to have a controlling hold of the morbid action and to bring it by degrees into subordination to the laws of healthy function. Then the quasi-cataleptic bondage of consciousness is loosened, and discontinuity of

function is at an end; the individual first suspects, then doubts, finally disbelieves his delusion.

It appears from what I have said that the first effect of the chronic action of impure blood is to produce a general disturbance of the psychical tone, or indefinite morbid emotion; and that the further effect of its continued action is to engender a chronic delusion of some kind—a systematization of the morbid action. But a third effect of its more acute action, as witnessed in the effects of acute fevers and of certain poisons, is to produce more or less active delirium and general incoherence of thought: the poison is distributed generally through the supreme centres by the circulation, and, acting directly upon them, excites ideas rapidly and without order or coherence: the delirium is not systematic, and there is good hope of its passing away. The approaches of this sort of delirium in fever illustrate many of the phenomena of insanity. First, there are wandering thoughts and visions, known to be unreal, which are described by the patient, who recognizes their character, as *nonsense;* then there follow vague rambling talk, from which he may be aroused by talking to him, though he falls back into it as soon as he has answered, and visions, about the reality of which he is uncertain and confused, assenting, perhaps, when assured that they are unreal, but relapsing instantly afterwards into belief in them; afterwards, as the disorder gets deeper hold, a state of complete delirium ensues, when he cannot distinguish between the real and the unreal, and the mind is entirely possessed by unreal images and false thoughts uncontrolled by impressions from without. It is a singular fact that notwithstanding this febrile delirium resembles mania in many respects, when its phenomena are analyzed, and notwithstanding that its seat in the brain must be the same as that of mania, it never does run on without intermission into that post-febrile mania which sometimes occurs during convalescence. The febrile delirium is clearly an incident or attribute, so to speak, of the morbid process of the fever, coming and going therefore with it; the post-febrile mania is essentially a derangement of mind, to which the fever has been a powerful predisposing cause, as any other severe bodily illness might have been. It is to be

noted, however, that a fixed idea has continued sometimes for a considerable time after the general delirium of fever: take, for example, the case of the physician who, after an attack of typhus fever, believed for six months that he possessed a country house and a white horse, neither of which had any existence except in his imagination.

It is necessary to apprehend clearly, and to keep steadily in mind, that the relation between the supreme nervous centres and the blood is fundamentally of the same kind as that between other parts of the body and their blood-supply; and that the disordered mental phenomena are the functional exponents of morbid organic action. Firmly grasping this just conception, as we may do by calling to mind the mode of nutritive action in other parts of the body, we get rid of the notion of a delusion as some abstract, ideal, and incomprehensible entity which comes, we know not how, and recognize it as the mental expression of a definite morbid action in one or other of the supreme centres; neither more nor less wonderful, therefore, than the persistence of a definite morbid action in any other organ. If at a time when there is defective or disordered nutrition of the brain some striking event or some powerful shock produces an extraordinary impression on the mind, constraining it into a particular form of activity—in other words, engrossing its whole energy in a particular gloomy reflection; or if the individual's natural habit of thought be of a suspicious, of a vainly conceited, or of a despairing character; what more in accordance with analogy than that the predominant activity, temporary or habitual, should take on a chronic morbid action, and issue in the production of a delusion? Any great passion in the sound mind notably calls up kindred ideas, which thereupon tend to keep it up; the evil eye of envy, the green eye of jealousy sees only what feeds the passion; and it is plain that the morbid exaggeration of this natural process must lead in a weakened brain to the production of insane delusion.

3. *Sympathy or Reflex Irritation.*—Like every other nervous centre, or like any other part of the organism, the ideational centres may be deranged by a morbid irritation in a distant part of the body. Why such morbid effects should be produced

at one time and not at another, or in one person and not in another, when the cause of irritation appears to be of the same strength and character in each, it is impossible to say, just as it is impossible to explain how it is that a wound in the hand or elsewhere gives rise to tetanus at one time and at another time to no such desperate consequence, or why epilepsy should be caused by an eccentric irritation in one case and not in another. "A fever, delirium, and violent convulsions," says Dr. Whytt, "have been produced by a pin sticking in the coats of the stomach; and worms affecting either this part or the intestines occasion a surprising variety of symptoms."[1]

Hippocrates ascribed to *sympathy* the occurrence of certain disorders which seemed to have no other cause than disease elsewhere in the body, and both Aretæus and Galen were aware that the mind might be deranged by disease in other parts of the body than the brain. On the whole, perhaps *sympathy* was as good a seeming explanation of these effects as the modern doctrine of *reflex action;* for the doctrine of a pathological sympathy certainly brought into proper light the momentous truth that the living organism is not mere mechanism, but a physiological unity having an intimate and entire consent of function. When we speak of reflex action, what is usually meant is the transference of excitement from a sensory to a motor nerve; but the reflexion may be in the opposite direction —from the motor to the sensory nerve, as, for example, when severe pain along the spine follows violent coughing, or a tickling of the throat is felt after long speaking, or facial neuralgia is increased by muscular exertion.[2] Moreover, the reflexion may be from sensory nerve to sensory nerve: witness the pain in the knee which betrays disease in the hip-joint, the facial neuralgia which is excited by a toothache, and the pain of a toothache that is felt in a neighbouring or in an opposite tooth. So many and various are these pathological and physiological reflex actions that we shall perhaps for the present do best to embrace them under the wide term—sympathy.

[1] *Observations on the Nature, Causes, and Cure of Nervous, Hypochondriacal, or Hysteric Disorders.* By Robert Whytt, M.D. 1765.

[2] Henle, *Handbuch der Rationellen Pathologie.* 1846.

Amongst many other instances which might be quoted to illustrate this manner of pathological action is a striking case recorded by Baron Larrey. A soldier, who had been shot in the abdomen, had a fistulous opening on the right side, which passed inwards and towards the left. When a sound was introduced into this opening and made to touch the deeper parts, immediately singular attacks supervened: first there was a feeling of coldness and oppressive pain, then a convulsive contraction of the abdomen and spasm of the limbs took place; after which the man fell into a sort of somnambulism, and talked incoherently, this stage ending after about thirty minutes in a melancholy depression which from the time of the wound had been habitual. Larrey attributed the hypochondria and other nervous symptoms to the injury which the cæliac axis had suffered from the ball. The direct effect of the sympathetic system upon the brain, of which this case yields a striking illustration, Schroeder van der Kolk once verified painfully in his own experience.[1] After great mental exertion and an unaccustomed constipation of a few days, he was attacked with a fever, for which his physician, deeming it nervous, would not sanction any purging. When the fever had lasted for two days, hallucinations of vision occurred; he saw distinctly a multitude of people around him, although he was quite conscious that they were only phantasms. The hallucinations continued for three days and increased, until he got a thorough evacuation of a quantity of hardened fæces from his bowels, when they vanished instantly. A man who came under my observation, having suffered for more than a year from profound melancholia, and who had become greatly emaciated, passing at intervals pieces of tape-worm, recovered almost immediately after the expulsion of the whole of the worm by means of a dose of the oil of male-fern.[2] Many like

[1] *Die Pathologie und Therapie der Geisteskrankheiten auf Anatomisch-Physiologischer Grundlage.* Von J. L. C. Schroeder van der Kolk. 1863.

[2] Griesinger has seen deep melancholia occur in a hysterical woman after accidental wound of the eye by a splinter. Herzog relates an instance of insanity after the operation for strabismus. Jördens tells of a boy who was attacked with furious insanity in consequence of a splinter of glass in the sole of his foot, which disappeared directly it was removed.—*Op. cit.*, p. 183. See also a case related in *Physiology of Mind*, p. 253.

"In two instances," says Dr. Burrows, in his *Commentaries on Insanity*,

cases are on record in medical books; but it is not necessary to multiply instances in order to prove that a morbid irritation in some distant part or organ of the body may be the cause of secondary functional and organic disorder of the supreme nervous centres.

Affections of the uterus and its appendages afford notable examples of a powerful sympathetic action upon the brain, and not unfrequently play an important part in the production of insanity, especially of melancholia. Perhaps the best opportunity of studying the early stages of the genesis of melancholia is afforded by the mental depression accompanying certain uterine diseases. M. Azam investigated the histories of seven cases of lypemania with suicidal tendencies, of one case of simple lypemania with dangerous tendencies, and of one case of hysteromania. He professed to have found granulations of the neck of the uterus in five cases; anteversion of the uterus, with congestion of its neck and ulceration of the inferior lip, in one case; in three cases fungous and fibrous growths of the uterus; and in one case painful engorgement of it with leucorrhœa. Schroeder van der Kolk relates the case of a profoundly melancholic woman, who suffered at the same time from prolapsus uteri, and in whom the melancholia used to disappear directly the uterus was restored to its proper place; Flemming mentions two similar cases in which the melancholia was cured by the use of a pessary, in one of them returning regularly whenever the pessary was removed; and in one instance I saw severe melancholia of two years' duration disappear after the cure of a prolapsus uteri. Instances are on record in which a woman has regularly become insane during each pregnancy; and, on

"I have known sudden mania originate from the irritation of cutting the *dentes sapientiæ*." . . . "Violent nausea also from sea-sickness, continued for a few hours, has produced mania in three instances within my knowledge."

M. Laurent (*Annales Medico-Psychologique*, 1867) relates a case of acute delirium with refusal of food ending in death, which he ascribed to an *ascaris lumbricoides* that was found, after death, in the woman's œsophagus. A sister had died insane. On making literary researches he found cases recorded by Esquirol and other authors in which the presence of the worm in the stomach or œsophagus had concurred with violent delirious excitement. The worm in such place seems to be a most powerful reflex irritant.

the other hand, Guislain and Griesinger mention a case respectively in which insanity disappeared during pregnancy, the patient at that time only being rational. I have met with a similar case in which a melancholic and rather weak-minded woman was never sane except when she was pregnant; and another instance of a young married woman who, much tormented by homicidal feelings, was free from them during pregnancy. The late Dr. Skae included among his varieties of mental disorder one which he called the insanity of pregnancy; the chief special characteristic of which seems to have been that it occurred during pregnancy, and might sometimes be looked upon as a morbid exaggeration of the peculiar mental moods exhibited by some women when in that state.[1]

It is uncertain whether the puerperal state acts as the occasional cause of a maniacal outbreak by a kind of sympathetic action, or whether it acts in some other way; but there can be no doubt of the fact that a woman is sometimes attacked with mental alienation during or immediately after delivery, and that her child may fall a victim to her frenzy. This form of puerperal insanity is different from the insanity of pregnancy; different again from that which occurs at a later period after delivery, and which is then probably due either to some sort of blood-poisoning, or to a moral or physical shock undergone when the nervous system is in a very susceptible state; and different again from that mental disorder occurring some weeks or months after, and due seemingly to the exhaustion produced by lactation, together with depressing moral influences. Under the name of Puerperal Insanity have been generally confounded three morbid states—namely, the Insanity of Pregnancy, Puerperal Insanity, and Insanity of Lactation. Of 155 cases of so-called Puerperal Insanity admitted into the Edinburgh Asylum, 28 or 18·06 per cent. were cases of the Insanity of Pregnancy; 73 or 47·09 per

[1] Shenck relates the history of a pregnant female, in whom the sight of the bare arm of a baker excited so great a desire to bite and devour it, that she compelled her husband to offer money to the baker to allow her only a bite or two from his arm. He mentions another pregnant female, who had such an urgent desire to eat the flesh of her husband, that she killed him and pickled the flesh, that it might serve for several banquets. (Prochaska on the *Nervous System*, Syd. Soc. translation.)

cent. were cases of Puerperal Insanity proper; 54 or 34·8 per cent. were cases of Insanity of Lactation. Now these varieties, differently caused, often present some differences of features.[1]

However it be that disorders of menstruation act, certain it is that they exercise great influence on the causation and on the course of insanity. Most women are susceptible, irritable, and capricious at those periods, any cause of vexation then affecting them much more seriously than usual; some exhibit a disturbance of character which mounts almost to disease; and, in the insane, exacerbations of the disease frequently occur then. In a few cases, a sudden suppression of the menses has been followed by an outbreak of acute madness; but more often the suppression has occurred some time before the insanity, and acted as one link in the chain of causes. It should not be forgotten, however, that the suppression is not seldom an effect of the mental derangement—whether as the result of a strong sympathy with the mental trouble, or whether it be an instance of the same sort as the suppression of a profuse bronchitic discharge and of other morbid fluxes by an outbreak of mania; for there is no small truth in the remark of Heberden that madness, like gout, absorbs other distempers and turns them to its own nature. When menstruation ceases entirely at the change of life, a revolution takes place in the system, which favours the production of insanity in those predisposed to it, and is sometimes enough to produce it. There is a variety of melancholic derangement occurring at this period which has been described as *climacteric* insanity. Most women suffer some change of moral character in consequence of the revolution which the whole economy of the constitution undergoes at the change of life. The age of pleasing is past, but not always the desire; morbid jealousy, exaggerated religious sentiments, wearisome hypochondriacal sufferings, a propensity to stimulants are apt to show themselves: the main gratification of life having been to attract attentions and to enjoy admiration, new sources of indulgence and excitement must now be sought.

[1] See a very careful paper in the *Edinburgh Medical Journal*, 1865, on the Insanity of Pregnancy, Puerperal Insanity, and Insanity of Lactation, by Dr. J. B. Tuke.

The earliest effect of sympathetic morbid action will be, as with vitiated blood, a modification of the *tone* of nerve element, which is manifest functionally in disordered emotion. But the continued operation of the morbid cause will lead to a systematized disorder in the supreme cerebral centres: in other words, to the production of a delusion or of a definite derangement of thought, which then perhaps betrays a distinct relation to the primary morbid cause. When, for example, a woman with morbid irritation of the sexual organs has salacious delusions, believing herself to be violated night after night, or with uterine or ovarian disease believes herself with child by the Holy Ghost or other supernatural means, the secondary derangement of the cerebral centres testifies to the special effect of the particular diseased organ, as well in the ideational as in the affective derangement; the delusive interpretation of the disordered action, when it forces itself into consciousness, witnesses to the nature of the primary morbid cause. Dr. Wright[1] has published the particulars of a case of cancer of the ovaries, uterus, and omentum in which the afflicted woman had horrible delusions that spirits, who gained entrance into her body, were tearing her entrails, and that unknown persons violated her person during the night; and Dr. Skae mentions another case of a woman who complained piteously for many months that she was repeatedly violated every night through the rectum, and in whose body, after death, extensive cancer of the rectum was found. He proposed to make a special group of the cases of insanity associated with *ovarian* and *uterine* disease; one of the most common symptoms presented by them being *sexual hallucination.*

There is the most perfect harmony, the most intimate connection or sympathy, between the different organs of the body as the expression of its organic life, a unity of the organism beneath consciousness; it is a connection which, as Hunter said, might be called a species of intelligence, and the brain is quite aware that the body has a liver or a stomach, and feels the effects of disorder in any one of the organs, without declaring in consciousness the cause of what it feels. This unconscious but important cerebral activity, which is the

[1] *Edinburgh Medical Journal*, 1871.

expression of the organic sympathies of the brain, cannot fail, when rightly apprehended, to teach the lesson, that every organic motion, visible or invisible, sensible or insensible, ministrant to the noblest or to the humblest uses, does not pass away issueless, but has its due effect upon the whole, and thrills throughout the most complex recesses of the mental life.[1]

It often happens that no information is given by this species of organic intelligence until the primary and secondary mischief is far advanced, and it is then only given indirectly in language which must be interpreted by the light of pathological knowledge; for while there is entire unconsciousness of the primary disease in the distant organ, and an entire unconsciousness of the secondary morbid action in the brain, the effect may nevertheless be positively attested by melancholia, delusion, or some other form of mental disorder. Esquirol graphically tells the story of a woman who thought she had in her belly the whole tribe of apostles, prophets, and martyrs, and who, when her pains were more than usual, railed at them for their greater activity. After death her intestines were found glued together by a chronic peritonitis. I have seen a patient suffering from chronic insanity who fancied that he had got a man in his inside, and who, when his bowels got much constipated, as they were apt to do, made the most desperate attempts, by vomiting and otherwise, to get rid of him. After a purgative, however, he was quite comfortable for a time, and his delusion subsided into the background.[2] In the insanity which occurs in connec-

1 "Man is all symmetrie,
Full of proportion one limb to another,
And all to all the world besides,
Each part calls the further brother.
For head with foot hath private amity,
And both with moon and tides."—GEORGE HERBERT.

2 In the Leicester asylum was a male patient who had been there for many years, and who had been in the habit of stating that there was a hundredweight of iron in his abdomen; he would occasionally put his hands to his abdomen, as if to support the weight of metal which he believed to be there; it was impossible in any way to shake his rooted delusion. He suffered from melancholia, was often very reticent, and never communicative. Some time before his death he was observed not to take his food so well as usual: he more frequently pressed his hands against his abdomen; and when standing he leaned slightly forward; but

tion with phthisis, appearing about the same time and going along with it, there are often delusions of suspicion which appear to have their foundation in the anomalous feelings incident to the advance of the tubercle: one such patient under my care fancied that he was maliciously played upon by secret fire, misinterpreting in this way the actual increase of bodily temperature or the perversion of sensibility which he felt; he also imagined that a filthy disease had been produced in his mouth, the delusion probably having its origin in the perversion of smell or of taste resulting from the disease. Not only is the remote pathological effect of a diseased organ thus revealed mentally by the development of some form of insanity, but, as already pointed out, a *special* effect of the *particular* morbid organ is sometimes manifest in the character of the delusion which is formed. It is by virtue of this kind of sympathetic action that a person has dreamed sometimes that he had a particular internal disease, and the dream has turned out to be prophetic. The recurrence of a certain mood of mind, or of exactly the same train of thought and feeling, or of the same hallucination, before an outbreak of recurrent insanity or of epileptic fits, such as has uniformly gone before former attacks, and the revival of particular morbid ideas, feelings, and desires during the insane paroxysm, may be, and probably often are, owing to a periodical revival of the morbid irritation in the distant organ. In those women whose mental dispositions are much affected sympathetically at the menstrual periods, the same sort of feelings, susceptibilities, caprices, and fancies notably recur. There is indeed good reason to believe that the

he never even once complained of pain or other uneasiness. He was persuaded to go to bed. Afterwards the symptoms increased in severity: the abdomen became very tender on pressure, the appetite failed, the pulse became weak and thready. During the whole of his illness he was very silent and uncommunicative, so that no information could be obtained by asking him questions. He died a few days after taking to bed, and a post-mortem examination revealed a perforation of the intestine, near the junction of the ascending and transverse colon, sufficiently large to admit the tip of the little finger. Through this opening some of the liquid fæces had passed into the peritoneal cavity. There were signs of inflammatory action in the neighbourhood of, and for some distance around, the aperture, but not to the extent which might have been expected. The gradually perforating ulcer was probably the occasion of his delusion.

brain retains something of the impressions received from the organic life, even when they are morbid; and though it may forget them in its normal state they will be revived when the morbid state of the organ recurs, just as the experience of a dream which has been forgotten in the waking state may be remembered in a subsequent dream.

The disorder of an internal organ of the body notably produces in all persons some affection of the mood of mind—in some more, in some less; but when it goes beyond affective disturbance to produce actual derangement of intellect, we are constrained to assume an individual predisposition to such derangement, inasmuch as it has not such effect in all cases; and this we commonly find when we make proper inquiries. But what I would have particularly noticed here is that when persons have what is called a sensitive or susceptible nervous temperament, it is not merely that they are more powerfully affected in mind and body by external impressions, but that the physiological sympathy of their bodily organs is more acute and direct, whereby these answer more easily and more actively to one another's sufferings. The *idiosyncrasy* of a person means not his nervous constitution only as a separate thing, but the whole temperament of his body, in which every part is knit together in the closest unison, the least element being felt in the whole and the whole in each element. He may have no special predisposition to insanity or to any other nervous disorder, and yet, by virtue of the intensity of his intrinsic organic sympathies, declaring themselves in the functions of his nervous system as the great co-ordinating mechanism of the body and in the mental organization as the crown thereof, he may be prone to suffer seriously in mind from disorders of internal organs which another person would feel to be hardly more than inconveniences. For the same reason, when actual derangement of mind exists the disorder of the internal organ will colour the symptoms more strongly in one person than in another. The philosophy which enables one to bear an abdominal trouble patiently may not suffice to do the same service for another, although he exercises as much of it, because of his more acute organic sympathies. Too close and direct a relation of dependence between

the parts and the supreme authority is probably an ill thing in the bodily, as in the political, organism.

Between the organic feelings just considered—the *vital* senses, as they are sometimes called—and the lower *special* senses, the closest relations exist; in truth, they run insensibly into one another, as the skin covering the outside and the mucous membrane lining the inside of the body do. Thus the digestive organs have the closest sympathy with the senses of taste and smell, as we observe in the bad taste accompanying indigestion, and especially perhaps in the avoidance of poisonous matters by animals; the respiratory organs and the sense of smell are in like manner intimately associated; and the sense of touch has close relations with the cœnæsthesis. In insanity these physiological sympathies become the occasions or the food of delusions: derangement of the digestive organs, perverting the taste, gives rise to the delusion that the food is poisoned; disease in the respiratory organs is sometimes the cause of disagreeable subjective smells, which are thereupon attributed to an objective cause, such as the presence of offensive emanations or of a dead body in the room; and more or less loss or perversion of sensibility in the skin, which is not uncommon amongst the insane, is the frequent occasion of extravagant delusions. A woman whose case Esquirol relates, had complete anæsthesia of the surface of the skin: she believed that the devil had carried off her body. A soldier who was severely wounded at the battle of Austerlitz considered himself dead from that time: if he were asked how he was, he invariably replied, that "Lambert no longer lives; a cannon-ball carried him away at Austerlitz. What you see here is not Lambert, but a badly imitated machine," —which he failed not to speak of as *it*. The sensibility of his skin was lost.

In the same way motor hallucinations occur. A striking instance of delusion in connection with defective sensibility and loss of motor power occurred in an amiable and genial patient who was once under my care, suffering from general paralysis. As the disease approached its end, the end of life, he had severe epileptiform convulsions, which latterly affected the left side only, and were followed by paralysis of that

side. But although the power of movement and feeling were entirely gone, there were frequent spasmodic twitchings of the muscles, and sometimes convulsive contractions so strong as to raise the arm and leg of the paralyzed side from the bed. The poor man had the most singular delusions respecting these movements: he thought that another patient, who was perfectly demented and harmless, had got hold of him and was tormenting him, and accordingly, without real anger, but with an energy of language that was habitual to him, he thus soliloquized aloud:—"What a power that damned fellow has over me!" Then after a convulsive paroxysm,—"He has got me round the neck, and you dare not touch him, not one of you. Oh! but it is a burning shame to let a poor fellow be murdered in this way in a public institution. It's that boy does this to me." Told that he was mistaken, he replied,—"You may as well call me a liar at once: he has got me round the neck and he has me tight. Oh! it is a damned shame to treat me in this way—the quietest man in the house." Then after a while,—"It's a strange power these lunatics have over one. That boy is playing the devil with me: he stinks worse than a polecat: he'll take my life, sure enough." And so on continually, until the stupor of death overpowered him.

Laudably anxious to give due weight to the perversions of sensibility which are met with in insanity, Griesinger made five groups of mental disorder connected with different anomalies of sensibility, and more frequently than not, he thought, actually dependent upon them. The first of these is the *præcordial form*, where there are morbid sensations, sense of pressure, or of constriction, or of coldness, or of fluttering, or of actual pain about the epigastrium, upon which follow fear and mental anguish, with corresponding ideas and habits of thought; it is a disorder of sensibility which is common enough in some forms of apprehensive and hypochondriacal melancholia, and is often accompanied by an extraordinary alarm and helplessness. The second is the *vertiginous form*, in which some anomaly of muscular sensibility exists. In the third, which he calls the *parasthetical form*, there are anomalous sensations in different parts of the body, attributed by the

patients commonly to external machinations. The fourth is the *anæsthetic form*, in which absence of sensibility is often the cause of self-mutilation. Lastly, there is the *hallucinatory form*, which obviously needs no further explanation here. It is undoubtedly of great importance to bestow scrupulous attention upon all the disorders of sensibility, as well as upon those of nutrition and movement, which occur in the different sorts of insanity; to do so is an essential part of the physician's duty in studying the entire natural history of the disease; but it is not possible to make perversions of sensibility alone the basis of a system of classification. Such a classification could not fail to have an extremely artificial character and an entirely theoretical foundation.

The centre of morbid irritation which gives rise to secondary disorder by reflex or sympathetic action need not be in some distant organ; it may be in the brain itself. A tumour, an abscess, a clot of blood, a cysticercus, a local softening in the brain, will nowise interfere with the mental operations at one time, when it produces grave disorder of them at another time; and it is not uncommon in abscess of the brain for the symptoms of mental derangement, when there are any, to disappear entirely for a time, and then to return suddenly in all their gravity. When the motor, sensory, and ideational centres are not directly damaged by the disease, they can continue their functions in spite of it; accordingly they sometimes do so even when there is the most serious mischief going on in the brain; but they may at any moment be affected by a sympathetic or reflex action, and a secondary derangement or abolition of function may thus supervene without warning, the gravest symptoms perhaps coming and going in a surprising manner. Instances now and then occur in which a sudden loss of consciousness, or a sudden incoherence, or sudden mania, or even sudden death, takes place where no marked premonitory symptoms have indicated grave local disease of the brain.

Furthermore, a limited disorder of the ideational centres, such as is manifest functionally in the fixed delusions of the so-called monomaniac, is not usually without effect upon the other elements in the supreme centres. So delicately sympathetic

and sensitive as nerve-element is, it is not probable that a centre of morbid action will fail to affect, by direct or by reflex action, neighbouring parts that are not immediately involved in the disease. In matter of fact a greater or less disturbance of the *tone* of the whole mind does commonly accompany the limited delusions of a so-called partial insanity; the condition of things is something like that which has already been described as the first stage of the affection of mind by other causes of its derangement—namely, a modification of the mental *tone*. This baneful effect of a limited local disorder is not of course a case of *metastasis*, since the primary disease disappears not, but a case of so-called sympathy, where the primary disease continues in action; in other words, it is produced by direct or reflex irritation. Hereafter we shall have occasion to describe instances of the sudden and entire transference of active disorder of one nervous centre to another; for, as Dr. Darwin long ago observed, "in some convulsive diseases a delirium or insanity supervenes and the convulsions cease; and, conversely, the convulsions shall supervene and the delirium cease."

It is necessary here, as in the spinal, sensory, and motor centres, to distinguish between the degrees of secondary disorder to which a distant morbid cause may give rise. The sudden way in which extreme mental symptoms appear, and the equally sudden way in which they disappear sometimes, as in abscess of the brain, prove that extreme derangement may be what is called functional; for it is impossible to suppose that serious organic change has been and gone in such cases. Although, therefore, the functional disorder necessarily implies a molecular change of some kind in the nervous element, the change may be assumed to be one affecting the polar relations of the molecules, such as the experiments of Du Bois Reymond and others have proved may rapidly be induced and as rapidly disappear. Certainly the induction of recognizable temporary changes in the physical constitution and function by experiments, warrants the belief in similar modifications by causes which are not artificial, but which are just as abnormal as if they were. If the modification of nervous element be too great or too prolonged, it fails not to degenerate into actual nutritive change and structural

disease, just as an emotion which alters a secretion temporarily may, when long enduring, lead to actual nutritive change in the organ. The longer a functional derangement lasts, the more danger is there of structural disease; and when this serious change is once definitely established, the removal of the primary morbid cause will not get rid of an effect which has now become an independently acting cause.

4. *Excessive Functional Activity.*—As the display of function is the consumption of matter, it is obvious that, if the due intervals of periodical rest be not allowed for the restoration of the statical equilibrium of nerve-element, degeneration of it must take place as surely as if it were directly injured by a morbid poison, or by a mechanical or chemical irritant. It is sleep which thus knits up the ravelled structure of nerve-element; for during sleep organic assimilation restores, as statical or potential, the power which has been expended in functional energy. The brain, like any other organ of the body, is endowed with a limited power of work and endurance only, a limit which cannot be exceeded without danger; and its strength and weakness measure the strength and weakness of the mind. The strongest mind, if continually overstrained, will inevitably break down; one of the first symptoms that foreshadows the coming mischief being sleeplessness. That which should heal the breach is rendered impossible by the extent of the breach. Like Hamlet, according to Polonius's fruitful imagination, the individual falls into a sadness, thence into a watch, thence into a lightness, and, by this declension, into the madness wherein he finally raves. To provoke repose in him is the first condition of restoration; sound sleep closing the "eye of anguish," and curing the "great breach in the abused nature" of nervous element.

It is, however, when intellectual activity is accompanied with great emotional agitation that it is most enervating—when the mind is the theatre of contending passions that its energy is soonest exhausted. The instability of nerve-element which great emotional susceptibility means enables us to understand how this destructive effect is wrought. When an exceedingly painful event produces great sorrow, or a critical event great agitation, or an uncertain event great apprehension and anxiety,

the mind is undergoing a passion or suffering; there is not an equilibrium between the internal state and the external circumstances; and until the mind is able to react adequately, either in consequence of a fortunate lessening of the outward pressure, or by a recruiting of its own internal forces, the passion must continue—in other words, the wear and tear of nervous element must go on. Painful emotion is in truth *psychical pain;* and pain here, as elsewhere, is the outcry of suffering organic element—a prayer for deliverance and rest.

The same objects or events notably produce very different impressions upon the mind according to its condition at the time—according perhaps as something pleasant or something unpleasant has just happened. If there be a temporary depression of the psychical tone by reason of some recent misfortune, or because of some bodily derangement, then an event, which under better auspices would have been indifferent, will rouse painful emotion, and, calling up congenial ideas of a gloomy kind, perpetuate and add to the mental suffering; just as reflex action that is provoked or increased by a morbid cause sometimes aggravates in turn the original disorder. If there be a lasting depression of the psychical tone by reason of some continuing morbid cause, then every event is apt to aggravate the suffering, being seen through the distorting medium of the sad feeling; and a particularly unfavourable event, or a succession of painful events, may be enough to cause actual derangement of mind. After a piece of good news, or after a man has just drunk a glass of wine, or taken a dose of opium, the psychical tone is so much animated that there is a direct and adequate reaction to an unfavourable impression, and he will not suffer; wherefore comes the temptation to have recourse in time of trouble to stimulants like opium and alcohol. Herein the supreme centres of thought do not differ from the inferior nervous centres; when the spinal centres are exhausted, excitability is increased, a state of irritable weakness being produced, and an impression, which under better auspices would have had no bad effect, gives rise to the degenerate activity of spasmodic movements: an explosion not unlike that which in the higher centre is manifest as emotion, or as an ebullition of

passion, since emotional outbursts may justly be considered to be of the nature of molecular explosions or commotions. Excess is, however, a relative term; and a stress of function which would be no more than normal to a powerful and well-ordered mind, and conducive to its health, might be fatal to the stability of a feeble and ill-regulated mind in which feeling habitually overswayed reason, or even to that of a strong mind which was temporarily prostrate. Thus it is that in pursuing inquiries into the causation of insanity in any case it is not enough to examine only the concurrence and succession of influences to which the individual has been exposed, but it is necessary also to look to the capacity he had of bearing them at the time.

In weighing the operation of moral causes to produce insanity we find too their effect to be in proportion to the suddenness and intensity with which they strike as well as to their actual power; for a sudden shock, like a violently imposed burden, will break down the strength when a heavier burden would have been borne had it been adjusted gradually. The violence of the shock is determined by the suddenness and weight of the moral impression—by the momentum, in fact, with which it strikes the mind. In the same way, the lavish expenditure of a great deal of energy in a short time, such as takes place in a financial crisis, in a political revolution, in a religious revival, and on similar occasions of agitation of feeling and exaltation of energy, when the whole power of the mind is stimulated unduly and used unsparingly within a brief period, will be followed by a deep exhaustion that may end in disease; notwithstanding that the same amount of energy might have been used without grave danger if its expenditure had been prudently regulated. A person should deal with his vital force very much as he deals with his finances, and live on the interest of his capital; for should he make demands on the capital, whether in a large sum to meet an occasional emergency, or in accumulating dribblets to meet daily slight excesses of expenditure over income, he must be bankrupt in the end.

I take the actual mode of operation of a moral cause to be just as physical as the operation of a stroke of lightning, which, like it, may produce paralysis or sudden death, and perhaps in

the same way; and I look upon the derangement of mind which grief causes as just as much a physical result brought about by physical causes as is the delirium of starvation. When any great passion causes all the physical and moral troubles which it will cause, what I conceive to happen is that a physical impression made upon the sense of sight or of hearing is propagated along a physical path to the brain, and arouses a physical commotion in its molecules; that from this centre of commotion the liberated energy is propagated by physical paths to other parts of the brain; and that it is finally discharged outwardly through proper physical paths, either in movements or in modifications of secretion and nutrition. The passion that is felt is the subjective side of the cerebral commotion—its *motion* out from the physical basis, as it were (*e-motion*), into consciousness —and it is only felt as it is felt by virtue of the constitution of the cerebral centres, into which have been wrought the social sympathies of successive ages of men: inheriting the accumulated results of the experiences of countless generations, the centres manifest the kind of function which is embodied in their structure. The molecular commotion of the structure is the liberation of the function: if forefathers have habitually felt, and thought, and done unwisely, the structure will be unstable and its function irregular.

The foregoing reflections show that, from a pathological point of view, the so-called *moral* causes of insanity fall fitly under the head of excessive stimulation or excessive functional action: the mind is subject to a stress beyond that which it is able to bear, either because of the weight of the pressure from without or because of the weakness within. Of necessity the depressing passions are the most efficient causes of exhaustion and consequent disease: grief, religious anxiety, loss of fortune, disappointed affection or ambition, the wounds of an exaggerated self-love, and, above all perhaps, the painful feeling of being unequal to responsibilities, or other like conditions of mental agitation and suffering, are most apt to reach a violence of action which issues in the overthrow of the mental equilibrium. Great intellectual activity, when unaccompanied by emotion, does not often lead to insanity; it is when the feelings are anxiously

engaged that the mind is most moved and its stability most endangered: on the stage of mind as on the world's stage the great catastrophes are produced by passion. Moreover, when an individual has, by a long concentration of thought, interest, and desire upon a certain aim, grown into definite relations with regard to it, and made it, as it were, a part of the inner life, a sudden and entire change, shattering long-cherished hopes, is not unlikely to produce insanity; for nothing is more fraught with danger to the stability of the mind than a sudden great change in external circumstances, without the inner life having been gradually adapted thereto. Thence it comes that a great exaltation of fortune, as well as a great affliction, rarely fails to disturb for a time the strongest head, and sometimes quite overturns a weak one; the former succeeding after a time in establishing an equilibrium between itself and its new surroundings which the latter cannot do. When exhausting passion does not act directly as the cause of a sudden outbreak of insanity, it may still act banefully by its long-continued depressing influence on the organic life, and thus in the end lead to mental derangement.

Automatic function I have shown to mean stored-up power —abstract of former function—inherent as original faculty of the individual or acquired by his own cultivation and exercise. Whether then he shall be equal to the work and responsibilities of his position in life will depend, first and mainly, upon his native powers of mind, and, secondly, upon the special training which he has had to fit him for what he has to do: either will supplement in large measure the deficiencies of the other. Accustomed duties are discharged with ease, while new duties exact much expenditure of anxious energy, because the special automatic power has to be built up by laborious training in accordance with a law of *structuralization of function.* It is easy then to see why the assumption of important new functions for which the individual is not fitted by original power or by previous special training will be especially trying to his mental stability: there is not only a large call upon cerebral energy to make the adaptation, but there is the exhausting emotion produced by the nervous apprehension of unfitness.

Here is made manifest the wisdom of a sound general culture by which the mind is made a fitting instrument to adapt itself easily to any form of special activity; if a person make it his pains to have good habit of judgment, good habit of thought, good habit of feeling, good habit of doing, by continual practice of good judgment, good thought, good feeling and good doing, so that he needs not on each new occasion to consider minutely, to feel apprehensively, to do anxiously, but can judge, think, feel, and do quickly and, as it were, instinctively, he will have an excellent stability of nature to enable him to cope with the duties and trials of his life in whatsoever position he may be placed.

Another class of moral causes of insanity acts quite differently from the depressing causes which I have just considered: these are the elated passions. It is not often that men become insane, though they sometimes die, from the commotion which excess of joy occasions; and when one of the expansive passions, as ambition, religious exaltation, overweening vanity in any of its Protean forms, leads gradually to mental derangement, it does not, like a painful passion, act directly as the cause of an outbreak, nor indirectly by producing organic disorder and subsequent insanity; its morbid effects are the exaggerated development of a certain peculiarity or vice of character—the morbid hypertrophy, so to speak, of a bad quality of character. Each indulgence in passion, caprice, even oddity or perversity, notably makes easier the next step in the same direction: what a person sows hourly, good or ill, that shall he reap: the hypertrophy of passion and prejudice is the atrophy of principle and judgment. In the Edinburgh asylum was a blacksmith who imagined himself to be King of Scotland; his daughter, who was an inmate of the same asylum, believed herself to be a royal princess; not because she shared her father's delusion, for she perceived clearly enough that he, poor man, was only a blacksmith who had an insane delusion, as he also on his part recognized that his daughter was not a princess, but a lunatic. The daughter's delusion then was not a specific inheritance by her nor had she got it by logical inference; it was probably the morbid outgrowth of a fundamental quality of character common to her and to her

father. It is this development of insanity as the morbid growth of a disposition which often makes it hard to say where disease begins, and harder still to cure it. When a depressing passion due to external causes overthrows the mind, the derangement is, so to speak, accidental or extrinsic, and the delusion which is the outgrowth of it fades and finally vanishes as the emotional tone improves and mental power is restored; when an egoistic passion grows into a morbid delusion, the derangement is essential or intrinsic, and the delusion which is its essential outcome cannot be got rid of except by rooting out the disposition: it is not an instance of excessive functional activity, but an instance of morbid development.

A fatal drain upon the vitality of the higher nervous centres is in certain cases the consequence of the excessive exercise of a physical function—an excessive sexual indulgence, or a habit of self-abuse. Nothing is more plain than that either of these causes will produce an enervation of nerve element which, if the exhausting vice be continued, passes by a further declension into degeneration and actual destruction thereof. The flying pains and the startings of the limbs, which follow an occasional sexual excess, are signs of instability of nerve element in the spinal centres, which, if the cause is in frequent operation, may end in softening of the cord and consequent paralysis. Nor do the supreme centres always escape: the habit of self-abuse notably gives rise to a particular and disagreeable form of insanity, characterized by intense self-feeling and conceit, loss of mental energy, hypochondriacal brooding, pitiful vacillation, extreme perversion of feeling, and corresponding derangement of thought, in the earlier stages; and, later, by failure of intelligence, nocturnal hallucinations of a painful character, and suicidal or homicidal propensities. The mental symptoms of general paralysis—a disease often caused by sexual excess—betray a degenerate condition of nerve element in the higher centres, which is the counterpart of that which in the lower centres is the cause of the loss of co-ordination of movement and of more or less spasm or paralysis. The great emotional exaltation, the busy excitability with feebleness, of the general paralytic, no less than the extravagance of his ideas, mark a

degeneration of the ideational centres; there is accordingly an inability to co-ordinate and perform his ideas successfully even before there are actual delusions, just as there is an inability to perform movements successfully in the later stages of the disease, because the spinal centres are similarly affected. It is not usual, however, for sexual excesses to cause other sorts of insanity than general paralysis; their tendency is to produce epilepsy or some form of paralysis. Self-abuse is a cause of insanity which appears to be more frequent or more effective in men than in women, and in them to require usually the co-operation of a particular neurosis. Apart from all question whether the vice be so common among women, they bear its effects, as they do sexual excesses, better than men. On the other hand, privation of sexual function is more injurious to women than to men.

5. *Injuries and Diseases of the Brain and Nervous System not necessarily, but occasionally, producing Insanity.*—Injuries of the head, when not followed by immediate ill consequences, may nevertheless lead to mental derangement, through the degenerative changes which they ultimately set going in the cortical layers of the hemispheres.[1] The changes are often of a slow and insidious character, going on for years perhaps before they produce very marked mental effects. At first there is nothing more noticed than a change of temper and disposition in the person; he is prone to outbursts of anger on trivial occasions, or to excesses foreign to his former character; a moderate quantity

[1] Professor Schlager, of Vienna (*Zeitschrift der k. k. Gesellschaft der Aerzte zu Wien*, xiii. 1857), has made some valuable researches regarding mental disorder following injury of the brain. Out of 500 insane, he traced mental disorder to injury of the brain in 49 (42 men and 7 women). In 21 cases there had been complete unconsciousness after the accident; in 16, some insensibility and confusion of ideas; in 12, simple dull headache. In 19 cases the mental disorder came on in the course of a year after the injury, but not till much later in many others, and in 4 cases after more than ten years. In most of the cases the patients were disposed to congestion of the brain, excitement and great emotional disturbance, from the time of the injury, on taking a moderate quantity of spirituous liquor; frequently there was singing in the ears, or difficulty of hearing, or hallucination; and very commonly the disposition was changed, and the patient was prone to outbursts of anger or of excesses. The prognosis was very unfavourable; the issue in 7 cases was dementia with paralysis, while 10 went on to death from the progress of the brain disease.

of alcohol produces an extraordinary excitement, making him perhaps not drunk, but actually mad for the time being, so that he may get into trouble for assault or other breach of the law. Years sometimes pass before graver symptoms show themselves. Dr. Skae mentions the case of a woman who, having suffered a fracture of the skull, evinced a change in temper and disposition afterwards and some other symptoms which were referred to the accident, and who, after twenty years, became insane and violent.[1] An outbreak of acute mania, or an epileptic fit followed by mania, may be the climax of a long series of slow changes, and be followed by gloomy depression with suspicious delusions and impulsive violence, and by increasing dementia.

A most interesting case has been put on record by Dr. Holland Skae.[2] A collier was struck insensible by a mass of falling coal which fractured his skull about three inches above the outer angle of the left eyelid. After four days he regained consciousness, and in a few weeks was able to resume work in the pit. Soon after doing so a change was noticed in his character and behaviour: instead of being, as formerly, cheerful, sociable, good-natured, gentle to wife and children, he was moody, taciturn, and irritable, repelling the attentions of his wife's and the demonstrations of his children's affection. Gradually he got worse; he was often excited, used threatening language to his wife, children, and neighbours; finally he became maniacal and violent, attempted to take his own life and his wife's life, and had a succession of epileptic fits. He was sent to an asylum. After he had been there two months he was trephined, a depressed portion of bone at the place where he had been struck being removed. Soon after the operation he began to mend, returning gradually to his natural self; in the end he became a cheerful, active, and obliging person, with all his family affections restored. He was able to support his wife and family by his labour when he left the asylum, and four years after his discharge was still quite sane.

Insolation notably acts injuriously on the supreme cerebral centres, either by causing, as some imagine, acute hyperæmia and serous effusion, or, as is more probable, over-stimulation

[1] *Report of the Morningside Asylum*, 1867.
[2] *Journal of Mental Science*, vol. xix., p. 552.

and consequent exhaustion of nerve element. In most instances of the kind there is reason to think that an imprudent indulgence in alcoholic stimulants has co-operated.

Hysteria undoubtedly slides into insanity in some instances. There seem to be two varieties of mental derangement presenting hysterical characters, which may, however, pass into one another. An acute attack of maniacal excitement, with great restlessness; perverseness of conduct, which is pretty coherent and wilful; loud and rapid conversation, sometimes blasphemous or obscene; laughing, singing, or rhyming—may follow the ordinary hysterical convulsions, or may occur instead of them. Or the ordinary hysterical symptoms may pass by degrees into a chronic insanity: the patient loses more and more energy and self-control; becomes more fanciful about her morbid sensations, to which she gives exaggerated attentions; is extremely egotistic, wilful, and exacting; gets more and more impatient of all advice or interference, and indifferent to social obligations; and oftentimes shows a singular aptness for deceit. The body becomes anæmic and emaciated, and there are usually irregularities of menstruation. An erotic element is sometimes evinced in the manner and thoughts; and occasionally ecstatic or quasi-cataleptic states occur. The symptoms are often worse at the menstrual periods.

Under the head of nervous diseases which may become occasions of insanity must be placed chorea and epilepsy, although we know not yet what are their exact seats in the nervous system. Chorea in the adult is not unapt to terminate in mental disorder; but it is not at all apt to do so in the child, although some dulness and weakness of mind often accompany it. Different sorts of insanity are met with in connection with epilepsy. When the fits have recurred frequently, and the disease has continued for a long time, it undoubtedly produces loss of memory, failure of mental power, and ultimately complete dementia. That is one form. Secondly, a succession of severe fits may be followed by a condition of acute dementia which lasts for a short time, or by an acute, violent, and most dangerous mania, which usually passes away in a few days. Not only may acute mania thus follow epilepsy, but an attack

of acute transitory mania—a true *mania transitoria*—may take the place of the epileptic paroxysm, being truly a masked epilepsy. Some writers maintain, however, that in these cases a brief attack of epileptic vertigo or *petit mal* has passed unobserved. Lastly, in some cases a profound moral disturbance —an irritability, moroseness, and perversion of character, lasting for months, with periodical exacerbations in which vicious or criminal acts may be perpetrated—precedes the appearance of the regular epileptic fits, which then throw light upon the hitherto unaccountable moral perversion. It is another phase of a kind of abortive or undeveloped epilepsy.

Here I may fitly take occasion to adduce certain observations with regard to the striking manner in which diseased action of one nervous centre is sometimes transferred suddenly to another: a fact which, though it has lately attracted new attention, was long since noticed and commented on by Dr. Darwin:—"In some convulsive diseases," he writes, "a delirium or insanity supervenes, and the convulsions cease; and, conversely, the convulsions shall supervene, and the delirium cease. Of this I have been a witness many times a day in the paroxysms of violent epileptics; which evinces that one kind of delirium is a convulsion of the organs of sense, and that our ideas are the motions of these organs." Miss G., one of his patients, a fair young lady with light eyes and hair, was seized with most violent convulsions of her limbs, with outrageous hiccough, and most vehement efforts to vomit. After nearly an hour had elapsed this tragedy ceased, and a calm, talkative delirium supervened for about another hour, and these relieved each other at intervals during the greater part of three or four days. "After having carefully considered this disease," he says, "I thought the convulsions of her ideas less dangerous than those of her muscles;" and thereupon he adopted such treatment as resulted in the young lady's recovery. In another case which came under his observation, "these periods of convulsions, first of the muscles and then of the ideas, returned twice a day for several weeks." "Mrs. C.," again, "was seized every day, about the same hour, with violent pains 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 totally 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."[1]

Brodie relates the case of a lady who suffered for a year from persistent spasmodic contraction of the sterno-cleido-mastoid; suddenly it ceased, and she fell into a melancholy; this lasted a year; after which she recovered mentally, but the cramp of the muscle returned, and lasted for many years. In another case mentioned by him, a neuralgic condition of the vertebral column alternated with true insanity. Dr. Burrows met with similar cases: one "in a very eloquent divine, who was always maniacal when free from pains in the spine, and sane when the pains returned to that site."[2] A patient in St. Mary's Hospital, who was convalescent from typhoid fever, had hyperæsthesia of the legs, which ceased when maniacal delirium set in, but returned with great intensity when the delirium subsided.[3] Without doubt the delirium, which was the outcome of a disorder of the supreme centres, was the equivalent of the hyperæsthesia which was the outcome of disorder of the sensory centres. Whether there is an actual transference of the morbid action from one set of nerve-centres to another in these cases; or whether an independently lighted disorder in the latter overpowers and suspends the disorder of the former, as a greater pain inhibits a less pain, or as an attack of mania sometimes suspends an asthma or a chronic discharge, it is not easy to say. We must accept the fact, whatever may be its exact pathological explanation.

One of the most frequent observations which the clinical observer has to make in respect of tumours, abscess, cysticercus, and such gross products of cerebral disease, is the absence of symptoms of mental disturbance. The fact at first seems striking, because the presence of so much disease in its midst might be thought incompatible with the undisturbed function of the brain as the organ of mind. After giving a careful report

[1] *Zoonomia*, vol. i. pp. 25, 26. [2] *Commentaries on Insanity*.
[3] Dr Handfield Jones in *St. George's Hospital Report*, vol. ii. 1867.

of ten cases of tumour of the brain, Dr. Ogle calls attention to the fact that, "in no case was there during life anything of the nature of mental imbecility, or any symptom of the various phases or forms of insanity."[1] An examination of what was found after death in these cases furnishes a sufficient reason for the non-affection of the intelligence. In none of the ten was there any observed implication of the nervous centres of intelligence by the morbid action; the mischief was more or less central, and the hemispherical ganglia continued their functions, as they well might, in spite of it. If there is one thing which pathological observation plainly teaches, it is the slight irritability of the adult brain; the gradual growth of a tumour allows the brain to accommodate itself to the new conditions; and a closely adjacent nervous centre may be entirely undisturbed in function until the morbid action actually encroaches upon it. Not disease in the interior of the brain, but disease of the membranes covering it and containing the blood-vessels which go to the convolutions, is most likely to produce disorder of the intelligence; in the latter case it lies close to the delicate centres of intelligence, and seriously interferes with their supply of blood. Whatever be the explanation, there can be no doubt of the fact that a large tumour may exist in the brain, or that a considerable amount of the brain-substance may soften and undergo purulent degeneration—the pus even becoming incapsuled—without the presence of a single symptom to lead us to suspect disease in the brain.[2] It has even happened that a patient in hospital, who has complained only of langour, general debility, and inability to exert himself, has been suspected of feigning and accused of indolence because there were no marked symptoms of disease, when a sudden and quick death has proved at the same time the existence of an abscess of the brain and the injustice done to the sufferer.[3]

[1] *Journal of Mental Science*, July 1864: Cases of Primary Carcinoma of the Brain.

[2] For examples of extensive injury to the brain, without mental disturbance, see a paper by Dr. Ferriar in the first volume of the *Memoirs of the Literary and Philosophical Society of Manchester.*

[3] *Ueber Gehirnabscesse*, von Prof. Dr. Lebert, Virchow's *Archiv*, vol. x. 1856.

Certainly it sometimes happens that mental disturbance goes along with disease in the brain, even though the mischief is quite central; in that case we must think that the disease acts as a centre of irritation, and that the mind-centres are affected secondarily; the disturbing action being either directly upon the nerve elements, or indirectly upon them through direct vaso-motor commotions. Two things will often be observed then with regard to the mental symptoms:—(1) that they are intermittent, so that they may disappear altogether for a while; and (2) that they have the character either of an incoherent delirium, or of greater or less mental imbecility.

(1) The entire disappearance of all symptoms of mental disorder for a time is evidence that they are not due to organic structural change in the nervous centres which directly minister to mind; for, if such change existed, the recovery could not be so sudden and complete. But if the disturbance of the cortical cells is secondary, being a reflex effect of the primary morbid action that is going on in the neighbourhood, it is easy to conceive that it may come and go suddenly, just as epileptiform convulsions, similarly excited, notably do. This is perhaps a more probable explanation of the transitory disorder than the supposition of vascular disturbances which come and go, albeit these may be brought about by the morbid irritation, and no doubt play their part sometimes in producing the mental disorder. Why a reflex pathological effect is produced in one case and not in another, or why it is not permanent when once produced, we can no more say than we can say why an eccentric irritation should sometimes give rise to convulsions or paralysis, and sometimes not. "What reason," asks Dr. Whytt, "can be given why sometimes, after cutting off an arm or a leg, those muscles which raise the lower jaw should be affected with a spasm, rather than other muscles?"

(2) Not less consonant with the interpretation of the mental disorder as a reflex effect is the character of it; for it is manifest mainly and mostly either in (*a*) great mental torpor or imbecility, deepening into blank mindlessness in the worst cases; or (*b*) in delirium. That we do not usually meet with the recognized forms of insanity is a fact of some interest and importance;

indicating, as it does, the existence of different morbid conditions from those of true insanity. A systematized mania or melancholia represents a certain organized result of abnormal character, a definite morbid action—the organization, if you will, of disorder; the incoherent delirium, or the mental imbecility, with which we have now to do, indicates, on the other hand, a general disturbance of the supreme centres of intelligence, without any systematization of the morbid action. Hence, though the delirium may be active, it is commonly extremely incoherent, exhibiting an entire absence of co-ordination: it suggests an agitation of the ganglionic centres of the hemispheres in consequence of an irritation from without. So also with regard to the imbecility when the mental disturbance has that form: it is a general weakness without any definite character, wanting the wrecks of systematic delusions which are usually met with in the dementia following mania or melancholia. I much doubt, however, whether it is possible ever to diagnose the disease satisfactorily by its mental symptoms only: we must look rather to such symptoms as intense paroxysmal headaches, giddiness, affections of one or other of the special senses, loss of power in the muscles of the eye or of speech, optic neuritis, and finally epileptiform or apoplectiform attacks, and coma.

When the local disease directly implicates the supreme centres of intelligence, there may be extreme mental disorder, or there may not. When there is mental disorder it is not a little remarkable how capriciously intermittent the symptoms sometimes are; in fact, so strangely may they come and go, that one runs no little risk of suspecting a patient of feigning them. At one time he will assert that he is blind, or that he is deaf, or that he cannot walk, when it is plain at another time that he sees, or hears, or walks well. The following case illustrates well the intermittence and the seemingly hysterical character of the symptoms. A young lady aged sixteen, whom I saw two or three times, complained of blindness, imperfect hearing, and loss of power in the legs. Her father, a clever man of business, was very excitable, and had had more than one attack of mania. An aunt was peculiar, and her sisters were nervous and hysterical. She had been an unusually sharp, cunning, and precocious

child, always very naughty, destructive, and pleased to play mischievous and malicious tricks. She menstruated at the age of eleven, and had exhibited erotic tendencies and ideas, not behaving with modesty in the company of her young brother, and showing a knowledge of sexual matters which was surprizing. She was expelled from school. At another school to which she was sent her general conduct was bad; she was extremely cunning and wilful, and at various times had hysterical fits of laughing and crying. One day, after being corrected for bad conduct, she declared that she was blind, but the schoolmistress and a medical man who saw her thought she was malingering. In a few days she recovered her sight. After a time she declared again that she was blind and deaf also, remaining so for some weeks, when her hearing, but not her sight, returned. All the medical men who saw her thought she was badly hysterical. Later on the deafness returned, and she said she could not walk, her limbs being so weak. It was plain that sometimes she could both see and hear. Then attacks of excitement occurred from time to time in which she shouted, laughed, cried, threw herself about, struck her nurse; and at last total blindness, deafness, and paralysis of the limbs were indisputable. She complained of violent headache, became wildly delirious, and died. After death a tumour, supposed to be cancerous, about the size and shape of a hen's egg, was found in the right hemisphere.

Another example: a young man, æt. twenty-four, suffered from frequent and severe paroxysmal pains in the head, weakness of vision, anxiety, extreme feeling of debility and loss of power in the limbs; there was also confusion of thought. After a time he had a maniacal attack; saw balls of fire falling about him; thought himself pursued by monstrous forms; was very violent. The excitement lasted for three days and nights without sleep, when he fell into a deep sleep which lasted for twenty-four hours, awaking from it quite conscious, with no remembrance of his previous excitement. Again headache came on, with noise in the ears, and more or less paralysis of the voluntary muscles; the maniacal excitement recurred, becoming more continuous, and the paralysis

and mental stupor increased. One day he could neither stand nor move his arms; but after a tranquil night he could do both quite well, and could return intelligent answers to questions. In the evening he was again restless and excited; after which he became comatose and died. Numerous cysts of cysticercus cellulosus were found in the brain, five of them being fixed to the inner surface of the dura mater and the rest dispersed throughout the grey matter. By far the greater number were found in the grey layers of the hemispheres, being collected here and there into dense groups. In another case, in which twelve cysticerci were found after death in the brain, the symptoms were those of gradually increasing dementia with paralysis.

It is well known that a person may lose a part of his brain, and yet not exhibit any mental deficiency or disorder. Indeed cases have been recorded which go to show that one hemisphere may do the work of the whole brain; the only apparent consequence of the destruction of the other hemisphere being a quicker exhaustion by exercise and perhaps a greater irritability. This being so, it is easy to understand that a direct encroachment upon the grey layers of the convolutions by disease may take place without causing mental derangement.[1]

Much has been written lately concerning a so-called syphilitic insanity, but syphilitic products have no more special tendency

[1] The following case is reported by Dr. A. Schwarzenthal in the *Wiener Medizinische Presse* for August 20, 1871: A woman, æt. 30, a day-labourer, who had previously been under treatment for syphilis and leucorrhœa, was admitted to the hospital in Zolkiew, suffering with headache, which was at that time of several weeks' duration, with prostration and with diminution of appetite. Febrile exacerbations occurred sometimes in the morning and sometimes in the afternoon, and it was consequently thought that she had intermittent fever. In time her condition had so much improved that she was discharged. She returned to her occupation, doing as hard work as before her illness, and occasionally frequenting houses of ill repute, at one of which she died suddenly a month after her discharge from the hospital. The posterior half of the right hemisphere of the brain was found converted into a large abscess, while the left hemisphere was doughy to the feel, and the cerebellum was softened. From the history of the patient, Dr. S. thought that the abscess of the brain must have existed for three months, notwithstanding that during all that time there had been no loss of consciousness, and that during part of it she had been able to do hard work.

to produce insanity, than any other tumour or gross morbid product in the brain. Caries of the skull from syphilis may do mischief by extension of morbid action, just as caries from disease of the bones of the ear may do.

CONCLUDING REMARKS.

A pregnant but very difficult question, of which little or no thought has ever been taken by writers on insanity, is—What is the cause of the particular form which the disorder takes in a given case? Why does it assume one complexion rather than another? At the outset it is certain that what appears to be the same cause shall occasion different forms of insanity in different persons, and even in the same person at different periods of life, and that the same form of disorder shall be produced by different causes; this being so, it is plain that the special determining conditions lie hidden in that unknown region which we call by such names as *temperament* and *idiosyncrasy*. Unfortunately these big words are at present little better than cloaks of ignorance; they are symbols representing unknown quantities rather than words denoting definite conditions; and no more useful work could be undertaken in psychology than a patient and systematic study of individuals—the scientific and accurate dissection and classification of the minds and characters of *particular* men in correlation with their features and habits of body. How vast a service it would indeed be to have set forth in formal exposition the steps of the quick process by which the shrewd and experienced man of the world intuitively judges the characters of those whom he has to do with, and refers them in a moment instinctively to their proper classes in his mind! Our systems of psychology are too abstract and ideal to be serviceable; disdaining to concern themselves with the individual, or shirking the tedious work of observation for the easier work of speculation, they give no help whatever in the education of the sane or in the treatment of the insane mind.

Inasmuch as no two persons in the world are exactly alike in their mental character and development, no two cases of mental

derangement will be exactly alike; the varieties of their morbid features may well be as many as the varieties of individual character. The brain stands not on the same footing as other organs of the body in regard to its development as the special organ of mind; while their respective development and function are very much the same in all persons, requiring no training to do their work, and their diseases accordingly are closely alike, the real evolution of the brain as the organ of mental function takes place after birth in relation with an individual's circumstances, and so gives rise to some variety of function in each person with corresponding variety of structure in the delicate fabric of thought; wherefore it is that each of two cases of deranged mind which resemble one another in the general features of exaltation or of depression, and perhaps also in the character of the delusions, will still display its particular features. Notwithstanding these superficial varieties of details, however, there is great sameness in the leading types of insanity, which makes it in the end monotonous and oppressive; the patients fall into one or other of a few classes, and those who consort with them may justly complain of the lack of invention; the manifold differences are superficial and incidental, the sameness is fundamental and essential; and it is certain that he who has studied well the inmates of one large asylum will know the essential character and main features of the madness of all ages, of all countries, and of all classes of men. Productive, in the sense of creative, activity is the highest function of the best endowed and most soundly developed mind.

As a general thing it may be presumed that the melancholic temperament will predispose to a melancholy madness, the sanguine temperament to a more expansive variety of derangement, the suspicious temperament to a derangement in which delusions of persecutions prevail. But this is not always so: a melancholic person may rage, and a sanguine person may mope in madness. The seat of the primary disease sometimes affects the result; injury to the head and gross disease of the brain tend to cause intellectual rather than emotional disorder, while abdominal disease favours the occurrence of emotional depression; the organic conditions of the intellect being, as Müller

remarked, mainly in the brain itself, and "the elements which maintain the emotions or strivings of self, in all parts of the organism." However, this is true only of disease of brain which has made some progress, since the derangement caused by injury and gross disease is often mainly emotional in its early stages; the probable reason being that at this stage the initial disturbance in the nerve-centres is very much the same as that which is caused by irritation from a distant organ or by vitiated blood. It has not, at any rate, gone beyond the stage of functional derangement, which has emotional expression, into the farther stage of disorganisation of structure which implies intellectual derangement. When disease of the heart goes along with mental disorder, not seemingly as an accident, but in an essential connection with it, as it sometimes does, the latter usually takes the melancholic form with extreme apprehensions and fears—a sort of *panphobia;* it yields indeed a striking contrast to the more or less active mania which goes along with tubercular disease of the lungs in some instances. Notable in this relation is the extremely sanguine disposition of the phthisical patient who, not being in the least insane in mind, is buoyant with unfailing hope in spite of fast-failing strength, and perhaps projects on the very edge of his grave what he will do many years after he shall have been laid in it.

The bodily changes that accompany the changes of age have something to do with the form which the disease takes. No one feels and thinks concerning the things of this world at fifty years of age as he did at thirty; what wonder then that the character of the mental derangement befalling at these ages should differ? Breaking out in youth and active manhood, when the circulation of the blood is vigorous and the energies of the body are at their full height, mania will be more common than melancholia, unless the health has been brought low by long suffering of body or mind previous to the outbreak; in old age, when the circulation is languid and the vessels are undergoing degeneration, and when bodily energy is waning, some variety of melancholia or some degree of decay of mind is more often met with. Sex again will obviously impress its mark upon the mental disorder in some instances, although it does not make so

much difference in the main types thereof as one not considering the uniformity of passion in the sexes might expect. It is clear as day that temporary bodily conditions, however they may have been brought about, will play their part; and it may well be that future researches will discover the causes of the characteristic features of some varieties of mental derangement in the diathetic states and the actual bodily disorders which are associated with them. Should this come to pass, we may hope to be put in possession of more exact and complete medical histories than we have now, upon which may be raised in due time a natural classification of insanity that shall furnish definite information concerning the cause, course, probable termination and most suitable treatment of a particular case which belongs to one of its classes.

The degree of development which the mind has reached cannot fail to imprint some marks upon the phenomena of its derangement; these will be more various and complex in proportion as it is more cultivated. A child soon after its birth could not manifest true ideational disorder; it must acquire ideas before it can have them deranged. For the same reason the madness of an Australian savage will be a simpler matter than that of a normal European, which may be expected to exhibit evidence of the wreck of culture and perhaps of its degree also. The belief in witchcraft is common among savages, and it is not surprising therefore that a melancholic savage oftentimes has the delusion that he is bewitched. Had an insane person in this country that delusion, we might feel sure that he was not very enlightened; if he had more knowledge he would probably ascribe his sufferings to persecution by magnetism or by some mysterious chemical agency. The delusions of the insane present broken reflections of the principal beliefs of the age, and of the social and political events of the time; so much so that Esquirol affirmed he could trace the history of the French Revolution from the taking of the Bastile down to the last appearance of Buonaparte in the character of the insanity which occurred during its successive phases. Any striking incident, or any great personage who is much before the public gaze, is apt to be laid hold of by the insane mind and to be made the occasion of

a delusion. It is of little moment then in most cases what the particular delusion is; the important thing is the affective mood in which it is rooted, and from which it draws its life. The vain and ambitious person may claim to be an inspired prophet or even Jesus Christ, if his thoughts have been much given to religious matters; to be a king or a prime minister, if he is a politician; to have solved the problem of perpetual motion, if he has a smattering of physics: it matters not what he thinks himself; no cure will be found for his delusion of greatness so long as he is swollen with the conceit of which the delusion is the morbid outcome.

Whosoever surveys madness as a whole, considering within himself that there must be at bottom something which all cases have in common, and asks what is the quality of nature which shows most in those who become its victims, shall have occasion for some instructive reflections. One thing fails not to be brought forcibly home to those who live among the insane—namely, how completely they are wrapped up in self, and what little hold the cares and calamities of those who have been living intimately with them ever take of them. It would be no exaggeration to say that a person might live for years with a company of insane people who were far from being demented, and, appearing no more among them because of sickness or of death, hardly be asked for more than once out of a transitory curiosity. Living together for years they, as a rule, show no interest in, and no sympathy with, one another. It is not a conscious selfishness on their part; their own morbid feelings and morbid thoughts engross their attention so entirely that nothing that affects others touches them deeply. Another observation which those who have to do with insane persons have frequent occasion to make is, that when they are recovered they seldom evince any gratitude for what has been done for them, however much attention and anxiety their sufferings may have claimed and received; with some rare exceptions they are quick to forget services and hasten to ignore any sense of obligation. No doubt this is owing partly to the social prejudice against insanity; it is natural that they should shun all

reference to a calamity which their relatives, who perhaps share their peculiarity of temperament, are nervous unwilling they should refer to, and which the world looks upon as something like disgrace. But this is not the whole, nor always the main reason: some of them cannot sincerely recognise that they have been as ill as people have thought them, perhaps in their hearts ascribe their insane doings to the treatment which they underwent, and while remembering acutely every particular of what they suffered, forget entirely what they made others undergo. Nor can we wonder at it when we reflect how strong is the tendency of any sane person whose passions are stirred or whose interests are deeply engaged to see things from his own point of view exclusively, and to transform his own perturbed feelings into qualities of the object, and how complete his incapacity is to take an opponent's standpoint and to enter into his feelings. It has been said that anger is a short madness; it would be no less true to say that madness is sometimes a long passion.

Having noted this extreme development of what may be called selfhood or self-feeling among the insane—for it is not that conscious self-love which is properly selfishness—one may fitly inquire whether it is not oftentimes the morbid development of a natural disposition. It will be found, I think, that a great many persons who have gone insane have had intense self-feeling without a counterbalancing intellectual grasp. The friends of such a one will say of him perhaps that he was of a very sensitive nature, that he could not bear criticism or opposition, that they found it necessary often to keep disagreeable things from him, and the like; and this they will say sometimes not by way of apology for an infirmity, but as if it were a virtue of a finer nature than common, and as if it were not every person's business in the world to have and to bear all sorts of impressions. There is a class of persons who are unable to bring themselves into sober and healthy relations of sincerity with the circumstances of life; who let feeling loose and give rein to imagination on all occasions; who are wanting in quiet reasonableness, and cannot apprehend the notion, much less do the practice, of the subordination of self as an element in a complex whole; some of them turn all impressions to suspicion,

take offence easily, brood over slights, magnify trifles, feel acutely that opposition hurts their self-love, and, identifying their selfhood with truth and right, persuade themselves that they are suffering great wrong. They are sometimes very insincere, though not always consciously so; assenting eagerly, effusively, and for the time being sincerely, to some proposal or advice, immediately afterwards the habitual distrust of their self-regarding tendency invites its sympathetic ideas, and they begin to discover hidden motives of self-interest in the adviser's counsel, and repent of their assent. Acute in their suspicions, they invariably overreach themselves and fall into the hands of plausible charlatans who play upon their weaknesses. That is one reason why ignorant but audacious impostors have a success in lunacy practice which they could not have if real medical knowledge and skill were required of them.

Others who are not entirely wrapped up in themselves are almost wholly wrapped up in their families; it is a sort of vicarious gratification of self. One hears it said of some woman who has fallen melancholic, and who thereupon displays all the self-indulgent habits so common in such cases, that she was a most amiable person, singularly devoted to her husband and children, not in the least regardful of self, and that she is now as unlike her true self as can possibly be imagined. But husband and children do not really constitute the world, and an excessive devotion to them might in such case be the most thorough gratification of self, and too exclusively absorbing to mark a wholesome reasonableness of life. So again a person who is generous in giving away money may have been extremely self-regarding, self-fostering, perhaps little scrupulous in the getting of it; and if he becomes a moaning hypochondriac or melancholic who can do nothing but think and talk of himself and his sufferings, it is not perhaps quite true to say that his present self is not in the least like his former self.

It is a common but by no means indisputable opinion that the philanthropist is the least selfish of men; it would be more true to say that he is commonly a person of extraordinary self-feeling who finds gratification thereof in his philanthropic labours. Touched acutely in his feelings by the spectacle of

suffering and of wrong, he reacts with an intensity of immediate energy in the endeavour to make things better, and he obtains a relief of his lacerated feelings as well in proclaiming to the world how much he is afflicted and in depicting vividly the wrongs which afflict him, as in active works of benevolence. All the while he may be minutely and habitually exacting and self-indulgent in his family relations. The philanthropy which embraces mankind is indeed too apt to overlook the family; and there are not wanting examples to prove that the martyrs in the cause of mankind can make martyrs of those who are in daily intimate relations with them. The humble and irksome duties and abnegations of daily life exact quiet and steady self-discipline, yield no striking occasions for the ease of outraged sentiment, claim not public attention and sympathy, necessitate an unostentatious subordination of self and its affections. They do not suit well, therefore, with the sentiment-nursing character of the philanthropist and with the vanity which the public pursuit of his ends is apt to foster. The world does well, no doubt, to applaud the philanthropist for the work which he does, in order to the encouragement of men to set before themselves high aims of human welfare, but on the whole it is well for the world that it is not composed entirely of philanthropists.

The religious ascetic of former times, who fled from the society of men to some hole in the rocks or to some desolate place of the desert, and there inflicted upon himself all the sufferings which his invention could devise, mortifying his body with long fastings and many stripes, was persuaded that he did a very holy thing, and was applauded by the world as a great saint. The truth was that he had nursed an exaggerated selfhood into something like madness. So far from having the merits which he imagined himself to have, he would have found it a much harder penance for him, as well as a more wholesome discipline, to have done his modest work, like other people, as a humble member of society. As it was, by bringing his body into a state of emaciation, and by engaging his thereby enfeebled mind in continual meditations on what Satan would do specially to tempt and to torment him, or God would do miraculously to comfort and to sustain him, he bred hallucinations which he believed to be actual

apparitions to him of the Holy or of the Evil One. If he did not truly see visions of that sort, he had brought himself to so unstable and spasmodic a state of mind as to declare he did without being sincerely conscious of his insincerity; not otherwise than as hysterical women, morbidly eager to gain sympathy and notoriety, will counterfeit all sorts of diseases, or, if their minds have dwelt much on sexual matters, will accuse innocent persons of criminal assaults upon them, without being themselves sincerely conscious of their duplicity and fraud. Were we to believe the accounts which some of these saints gave of their encounters with the devil, we should be driven to conclude that he had put aside all other business in order to use his utmost and undivided energies to shake their steadfast righteousness. Their fanatical follies were really the outcomes of insane selfhood which had identified itself with religion, just as the sanctimonious and self-righteous Pharisee identifies his pride with religion, and thanks God that he is not as other men are. But as an ape seems more deformed from its resemblance to man, so the aping of humility by religious pride makes it more odious.

We perceive then that a character which persons who become insane often have in common is an exaggerated and ill-tempered self-feeling, by reason of which they are unable to see things in their true relations and proportions to themselves and to one another. Great self-feeling with little self-knowledge and little self-control is the soil most propitious to the growth of egoistic passion: either to such passion as marks the striving of the individual for increased gratification of self, as, for example, ambition, avarice, love; or to such passion as marks the reaction of self against that which opposes its gratification, as, for example envy, jealousy, wounded self-love, despondency. And the natural outcome of such a passion grown to excess is delusion. But there is countervailing advantage in great self-feeling—that it imparts great earnestness and intensity to character: what is an evil sometimes in supplying strength to narrow convictions and fire to intemperate zeal is a benefit to the individual in enabling him to make a stand undaunted against opposition, though he stand alone. The good side of this we see exemplified in the reformer; the bad side of it in the lunatic. A conviction gains

infinitely in strength, as Novalis remarked, when another person believes it, as another person will not fail to do if it be based upon sound experience and be a true evolution of thought. But the lunatic's conviction needs not in the least the increase of strength which sympathy of thought gives; assent adds nothing to its force, nor does dissent take anything from it; he would not believe more firmly in it if all the world believed with him, and he holds fast to it notwithstanding that all the world scorns it. One might say then of great self-feeling that it confers the power of becoming a reformer or the liability of becoming a lunatic according as the circumstances of life are propitious or not, and according to the greater or less capacity of intellectual insight and of self-control by which it is accompanied.

It was Aristotle who took notice that great men are inclined to be melancholy and hypochondriac. In them the self-feeling is great; they do not easily subordinate themselves to things as they are, but would have them as they should be; accordingly, when their energies are directed outwards to the accomplishment of some aim under the guidance of their superior insight, the earnestness of great feeling inspires their convictions and is infused into their actions; such happy use of their energies freeing them from their melancholy. When they are not actively employed, having no more great things to do, they are prone to fall back into melancholy, although they have commonly, by virtue of their great intellectual power, sufficient self-control to prevent it from passing into actual insanity.

Weighing well the manner of its causation, as set forth in the foregoing pages, it is obvious that mental derangement must needs be a matter of degree. There may be every variety (*a*) of deficient original capacity, that is of deficient development of the substratum of the mental organisation, whereby the individual is born incapable of successful adjustment to his environment, ancestral antecedents being to blame; (*b*) of deficient development of the mental organisation after birth, the cause thereof lying in some injury or disease, or in faulty education—that is, in unfavourable conditions of the environment; and (*c*)

of degree of degeneration, attesting the divers results of deranged interaction between the individual and his environment. Between the lowest depths of idiocy and madness and the highest reach of mental soundness there are numerous varieties shading so insensibly into one another that observation may pass along the whole series by a gentle gradient, and it will be impossible for any one to draw a definite line to mark where sanity ends and insanity begins. It is no wonder then that the question of civil and criminal responsibility in these cases should be a most difficult one to answer: on the one hand, there are insane persons who are responsible for what they do, inasmuch as they are plainly determinable by considerations of self-interest, and are capable of much self-control and of keen foresight when they have strong enough motives to exercise them; on the other hand, some sane persons are plainly not responsible for what they do in certain circumstances, since no motive can take hold of them at the time to move them to do otherwise than as they do.

There are two views of insanity prevalent which, in order to clearness of thought, ought to be distinguished—namely, the medical view of it as a disease requiring treatment, and the legal view of it as an affliction incapacitating an individual from knowing his obligations and from performing his functions as a citizen. From a medical point of view a person may be so insane as to justify his being put under care and treatment in order to be cured—particularly as experience has proved beyond all question that the sooner suitable treatment is used the better is the chance of recovery, and the longer it is put off the less likely is recovery ever to take place—who, at the same time, may not be so dangerous to himself or to others as to render him unfit to be at large and to have the care of his own property. The law admits the medical view of the necessity of treatment by sanctioning the placing of a person of unsound mind under restraint as "a proper person to be placed under care and treatment"; but it goes beyond this special view of his welfare to a wider consideration of his responsibilities as a member of society: it does not accept unsoundness of mind by itself as a discharge from responsibility for criminal acts or as sufficient evidence of incapacity to do civil acts, but exacts proof of such a degree or

kind of insanity in a particular case as it holds to be sufficient to abrogate responsibility. In the eye of the law then a man may be mad, and yet not mad enough to be irresponsible as a citizen—medically, not legally mad; he may be a proper subject for medical treatment because of derangement of mind, and at the same time a fit subject for judicial condemnation if he breaks the law. So far the legal doctrine is theoretically just, although its practical application is beset with difficulties.

But the English law is not satisfied to rest there; it goes on to set up authoritatively an artificial criterion of responsibility in criminal cases, and insists on trying every case by it, notwithstanding that the test it sets up is unphilosophical in theory, and discredited on all hands by practical experience of insanity; in fact, contrary to all true legal principles, it goes out of its way gratuitously to lay down as sound law an exploded psychological dogma, which is not law at all, but false doctrine—to wit, that the insane person is responsible for his criminal act if at the time of doing it he knew he was doing wrong, or knew that the act was contrary to law. We may bring home to our minds in the clearest way the meaning and the working of this test, when strictly applied, by considering what would be the probable working of an enactment that every person suffering from convulsions of any sort, whose consciousness was not entirely suspended while they lasted, should be held strictly responsible for not stopping them. As no one who knows anything of mental philosophy believes impulses to action to come from the intellect, and to be always under its sway, and as no one who has had much to do practically with insanity has the least doubt that a person labouring under it is constrained sometimes by his disease to do what he knows to be wrong, having perhaps gone through unspeakable agony in his efforts to withstand the morbid impulse before he yielded to it at the last, all suitable occasions should be taken, in order that right and justice may in the end prevail, to declare how unjust is the legal maxim, and to protest against its application.

Another but less serious fault in the law concerning lunacy is the want of proper provision for the discriminative treatment of those who have been pronounced by it to be persons of unsound

mind; for the judgment is made in all cases to carry with it the conclusion, not always well founded, that they are both incapable of taking care of themselves and of managing their affairs. Nevertheless, an insane person is sometimes competent to manage his affairs who is not fit to be entirely at large; and, on the other hand, there are some who, not being competent to manage their affairs, might very well be permitted to be at large after fitting legal provision had been made for the proper management of their property. We are getting too much into the habit of looking upon insanity as a special and definite thing, which either is or is not, and which, if it is, puts the sufferer at once out of the category of ordinary men; unmindful that we are dealing not with a constant entity, but with a multitude of insane *individuals* who manifest all degrees and varieties of unsoundness. A consequence of this habit is an undue readiness to pronounce insane, and to confine in asylums, persons who exhibit deviations from the usual tracks of thought and conduct, which in former times would have been considered harmless, or in some instances actually received as inspirations. Thus the world is now robbed of the good which it might get from eccentric ideas and novel impulses; for assuredly in the past it has been greatly indebted to those who have broken away from the automatic grooves of thought and conduct, even when their originality has perhaps been only the beginning of insanity.

With these observations I conclude what I have to say concerning the causation of insanity. They will have shown perhaps the necessity of taking wider views of the origin and nature of the disease than has been done hitherto. They may admonish us too not to let these abortive minds pass without taking to heart the lessons which they are fitted to teach. Examples of failure of adaptation to the conditions of life, they trace in suffering the downward path of degeneracy, and indicate at the same time the opposite path of evolution; thus they teach that, not wasting strength in vain regrets over calamities that are past remedy, men should apply themselves diligently to get understanding of the laws of nature, and to bring their lives into faithful harmony with them.

APPENDIX.

In order to illustrate more fully this chapter on the causation of insanity, I appended in former editions the short notes of fifty cases, all of which were under my care at one time, and in which I laboured to satisfy myself of the conspiring causes of the mental disease. I might adduce a great many more cases, but do not, as those which follow cover pretty well the field of causation, and, being quoted without any selection, are sufficient for purposes of illustration.

1. A captain in the army, and the only surviving son of his mother, who was a widow. She suffered very much from scrofulous disease, and he was wasting away with suspected phthisis. Mental state, that of demented melancholia, with manifold delusions of suspicion as to pernicious vapours and other injurious agencies that were employed against him. He was the last of his family, two brothers having died very much as he seemed likely to die. His grandfather began life as a common porter, ultimately became partner in a great manufacturing business, and, having amassed enormous wealth, made a great display in London on the strength of it. His high hopes of founding a family on the wealth which it was the sole aim of his life to acquire thus issued.

2. There was direct hereditary predisposition, and the temperament was notably excitable through life. There was no evidence of excesses of any kind, but there had been great business anxieties. The mental disease was general paralysis.

3. An amiable gentleman, on the death of his wife, formed an immoral connexion with a woman of loose character. Continual sexual excesses, with free indulgence in wine and other stimulants, ended in general paralysis.

4. A conceited Cockney, the son of a successful London tailor and money-lender, mean in look as in mind, strongly imbued with the tradesman's spirit, and with offensive Dissenting zeal. Hopelessly addicted to self-abuse, and suffering from the disagreeable form of mental derangement which follows that vice sometimes.

5. Two ladies of middle age, unmarried, and cousins. They both suffered from extreme moral insanity, both revealing in their conduct the tyranny of a bad organisation. There was much insanity

in the family, in one case the father being actually insane; and in both cases the parents being whimsical, capricious, and very injudicious as parents. A bad organisation made worse by bad training.

6. An unmarried lady, aged 40, addicted to the wildest and coarsest excesses, though of good social position and of independent means; justifying in every respect her conduct, though it more than once brought her to gaol. Family history not known, but insane predisposition suspected strongly, as there was plainly not the least moral element in her mental organisation. No aim nor occupation in life, but extreme egoistic development in all regards.

7. A publican, æt. 31, had done little for some time but stupefy himself with brandy in his own bar-parlour. The consequence was furious mania and extreme incoherence: acute mania from continued intoxication, not *delirium tremens*.—Recovery.

8. A woman, æt. 47, of dark complexion, sallow skin, and bilious temperament, who was said to have suffered much from her husband's unkindness and domestic anxieties, underwent "the change of life," and became extremely melancholic. Nothing more was known about her.—Recovery.

9. Hereditary predisposition marked. First attack, æt. 38, when unmarried. Second attack, æt. 58, she having a few years before married an old gentleman in need of a nurse. She was given to taking stimulants, fancied herself ill, and was always having the doctor to talk over her ailments and to recommend her some stimulant; in fact, hypochondriacal melancholia grew gradually by indulgence into positive insanity.—Recovery.

10. A married lady, æt. 31, without children, and having great self-feeling. She went on one occasion to a Methodist meeting, where she was much excited by a violent sermon; immediately afterwards went mad, fancying her soul to be lost, and making attempts at suicide.—Recovery.

11. A young lady, æt. 25, who had undergone some anxieties at home, suffered a disappointment of her affections. Blank depression and vacuity, having all the look of acute dementia.—Recovery.

12. A married woman, æt. 44, of dark and bilious temperament, had never had any children. At the "change of life" profound melancholia came on.

13. A gentleman, aged 60, of fine sensitive temperament, whose mother was said to have been very flighty and peculiar, had himself

been noted for peculiarities through life. He became profoundly melancholic, thinking himself ruined, and was intensely suicidal. Refusal of food. Everything taken, however, was vomited, and diagnosis of organic abdominal disease, probably malignant, was made.—Death from exhaustion.

14. A bookseller, æt. 41, temperate, of considerable intellectual capacity, but of inordinate conceit; advocated a general division of property and other extreme theories. Ultimately he got the notion that there was a conspiracy against him on the part of the Government, and tried to strangle his wife as a party to it. After an illness of two years he died of phthisis, with many of the symptoms of general paralysis The bodily disease seemed to have conspired with a great natural egoism, and thus to have made the mental derangement one of its earliest symptoms.

15. A married man, æt. 50, of anxious temperament. Profound melancholia; refusal of food. Second attack. Apart from the predisposition established by a former attack, the cause seemed to be great self-feeling, assuming a religious garb, or at any rate getting its discharge in religious emotion. Very fervent always in devotion, but intense egoistic feeling; entire reference of everything to self, and natural incapacity to take an objective view.—Recovery.

16. A single lady, æt. 38, fancied herself under mesmeric influence, in a state of clairvoyance, and had a variety of anomalous sensations about her body. Rubbed her skin till it was sore in places, bit her nails to the quick, scratched her face, &c. Quasi-hysterical maniacal exacerbations, in which she could not contain herself, but tossed on a couch or even rolled on the floor in violent unrest. Irregularity of menstruation, and suspected self-abuse.—Recovery.

17. A lady, æt. 45, but looking very much older, having had an anxious life. Hereditary predisposition; change of life; melancholic depression, passing into destructive dementia. Convulsions, paralysis, death. Here softening of the brain was preceded for some weeks by mental symptoms.

18. Hereditary predisposition. Great excesses. General paralysis.

19. Habitual alcoholic excesses; pecuniary difficulties; mania. After some years hemiplegia of right side, muscular power being partially regained after a time. The patient lived for years thus. Paralysis of long duration was the usual family disease and cause of death.

20. Suicidal insanity in a married lady. Strong hereditary predisposition to insanity. Exhaustion produced by lactation, and mental depression occasioned by the long absences of her husband from home.—Recovery.

21. Third or fourth attack of acute moaning melancholia in a woman, aged 40. Intense self-conceit and selfishness natural to her. Gastric derangement, and obstinately constipated bowels. Whenever bodily derangement reaches a certain pitch, or adversity occurs, it seems to upset the equilibrium of an ill-balanced mind, predisposed to disorder by an exaggerated egoism and by former attacks.—Recovery.

22. Gambling, betting, drinking, and sexual excess. General paralysis.

23. A bad organisation plainly—not due to actual insanity in family, but to the absence of moral element. A life of great excitement, and of much speculation in Australia. Alcoholic and sexual excesses (?). General paralysis.

24. A widow, æt. 58, the daugher of one who had begun life as a labourer at a coal-wharf, but who had risen to be an employer, and had made a great deal of money. He was without education, so that his daughter, brought up as a rich person, but without cultivation of body or mind, did not get opportunely married: "She was too high for the stirrup, and not high enough for the saddle." When 50 years old, she married an old gentleman, whose former manner of life had made a nurse needful to him. He died, and left her the income of a large property for her life. She now got suspicious of his relatives, to whom the property was to revert on her death; was harassed with her money, which she did not know what to do with, but fancied others had designs on; and finally went from bad to worse until, believing all the world was conspiring against her, she got a revolver, and threatened to shoot her fancied enemies.

25. The daughter of a common labourer, who had become very rich in the colliery business, æt. 32, single. At her father's death she inherited wealth; was without any real education, very vulgar, and spent the greater part of her time in drinking gin and reading sensational novels. Great hereditary predisposition, not to insanity only, but to suicidal insanity. Suicidal melancholia, with an incoherence approaching dementia.

26. A gentleman, æt. 34. Steady, quiet drinking, on all possible

occasions. The "ne'er-do-weel" of the family, having tumbled about the world in Mexican wars and South American mines, and in other places, as such persons do. General feebleness of mind and specially marked loss of memory. An uncle had been very much the same sort of person, and had died in an asylum. In speaking of himself—if describing what he had been doing, for example—always spoke of himself as "you," as though he were addressing himself as some one else.

27. A married woman, aged 49, gaunt, and seemingly of bilious temperament. After a fever of five weeks' duration, called "gastric," probably typhoid, acute maniacal excitement, violence, incoherence, &c.—Recovery within a fortnight.

28. Dementia after epilepsy, the fits occurring at the catamenial period. Brother maniacal, and sister without the moral element in her disposition.

29. The young lady before mentioned as No. 11 was removed by a penurious father from medical care before recovery was thoroughly established, and in opposition to advice. The return to home anxieties brought on an attack of acute mania, with endless gabbling of incoherent rhymes.—Permanent recovery this time.

30. A warehouseman, aged 35, a Primitive Methodist, much addicted to preaching. He had accomplished some self-education, but had a boundless conceit, and infinite self-feeling. Indigestion, pyrosis, frequent vomiting after meals. Melancholia, with delusion that he had committed the unpardonable sin and endless moaning. Very remarkable was the evidence of self-feeling in his case—self-renunciation not being a word that entered into his vocabulary. This man, for example, though well aware that vomiting followed eating, and sufficiently afflicted thereby, could not be induced to regulate his diet voluntarily, but ate gluttonously unless prevented.

31. A married woman, æt. 32, of stout habit of body, and with habitually locked secretions. The sudden death of a son brought on severe moaning melancholia.

32. A single lady, aged 57, who had been insane for thirty years. There was the strongest hereditary taint.

33. A young man, extremely delicate, aged 22, had acute dementia, following acute rheumatism. There was valvular disease of the heart, with loud mitral regurgitant murmur.—Issue of the case unknown.

34. A tradesman's daughter, æt. 24, brought up in idleness,

and in habits unsuited to her station. Slight hereditary predisposition, much aggravated by her injudicious education. Domestic troubles and anxieties after marriage, she being unequal to the management of a household. Mania.—Recovery.

35. A woman, æt. 30, Wesleyan, single. Suicidal melancholia with the delusion that her soul is lost. Menstrual irregularity. Extreme devotional excitement, with evidently active sexual feelings. —Recovery.

36. A young woman, æt. 25, single, Wesleyan. Mania. Cause, same probably as in the last case.—Recovery.

37. A respectable, temperate, and industrious tradesman, æt. 40, Wesleyan, a teetotaller, and much superior to a vulgar wife. Second attack. His father committed suicide; his brother was very flighty. General paralysis.

38. A sober, hardworking, respectable bookseller, not given to excesses of any kind, so far as was ascertained. But here, as in many other cases, one lacked knowledge with respect to possible marital excesses. Slight hereditary predisposition. General paralysis.

In both these last cases there was general paralysis in men who had not been intemperate. In both, however, there were large families of children, and the struggle of life had plainly been very anxious and severe.

39. A woman, æt. 32. Acute mania came on two months after childbirth.

40. A lady, æt. 34, single, without other occupation or interest than religious exercises Suicidal melancholia, with the delusion that she had sold herself to the devil. Amenorrhœa.—Recovery.

41. A married woman, æt. 40. Sudden outbreak of mania, after going to a revival meeting. Amenorrhœa —Recovery.

42. A married man with a family, æt. 52, a Dissenter, holding an office of authority in his church, and most exact in his religious duties. Secretly, he had of late kept a mistress, however, and lived a rather dissipated life. Outbreak of acute mania, with a threatening of general paralysis.—Recovery; for a time at any rate.

43. Acute mental annihilation in a young man about a year and a half after marriage. One or two intervals of a few hours of mental restoration.—Death in epileptiform convulsions. Softening of the brain in extreme degree, but limited in extent. Excessive sexual indulgence.

44. A married woman, æt. 44, who has had several children, and who has become insane after each confinement. Extreme maniacal incoherence and excitement, with unconsciousness that she has had a child.—Recovery.

45. Hereditary predisposition. A Dissenter of extreme views, narrow-minded and bigoted. He was married when thirty-six years old, and became melancholic a short time after the birth of his first child.—Recovery.

46. Complete loss of memory and of all energy of character, and failure of intelligence, in a man, æt. 36, single, from continual intemperance in drinking and smoking. Has previously had two attacks of *delirium tremens*.

47. An extremely good-looking young widow, who had been a singer at some public singing-rooms and the mistress of the proprietor of them. Sexual excesses. General paralysis.

48. Attack of acute violent mania in a young surgeon, æt. 27. Afterwards three days of heavy stertorous sleep; then seeming recovery for twenty-four hours; but on the next day recurrence of mania, followed soon by severe epileptic fits.—Recovery.

49. Extreme moral perversion, with the most extravagant conceit of self and unruly conduct in a young man, a clerk. Alternations of deep depression and suicidal tendency. Cause, self-abuse.

50. A single lady, aged 41, who, on her return from school when fifteen years old, was queer, listless, and from that time had been rather peculiar. Hereditary predisposition. Acute melancholia, with the delusion that she is lost because she has refused an offer of marriage from a clergyman, such offer never having been thought of by him.

CHAPTER VI.

THE INSANITY OF EARLY LIFE.

How unnatural! is an exclamation of pained surprise which some of the more striking instances of insanity in young children are apt to provoke. However, to call a thing unnatural is not to take it out of the domain of natural law, notwithstanding that when it has been so designated it is sometimes thought that no more need be said. Anomalies, when rightly studied, yield rare instruction; they witness and attract attention to the operation of hidden laws or of known laws under new and unknown conditions; and so set the inquirer on new and fruitful paths of research. For this reason it will not be amiss to occupy a separate chapter with a consideration of the abnormal phenomena of mental derangement in children.

The first movements of the child are reflex; but sensorial perceptions with motor reactions thereto follow these early movements so soon that we can make only an ideal boundary between reflex and sensori-motor acts. The aimless thrusting out of a limb brings it in contact with some external object, whereupon it is probable that a sensation is excited. The particular muscular exertion must also be the condition of a muscular feeling of the act; so that the muscular sense of the movement and the sensation of the external object are associated, and for the future unavoidably suggest one another: a motor intuition of external nature is thus organised, and one of the first steps in the process of mental formation accomplished. The same educational process goes on in the exercise of the movements of

the lips and tongue, which are the parts first exercised by a child, and in the motion of its hand, which it puts to its mouth in order to suck it. Afterwards, whatever is grasped in the hand is similarly carried to the mouth. Thus the sensibility and motion of the lips are the first inlets of knowledge; the child having got thereby some perception of an external object as the occasion or accompaniment of a certain association of sensations and movements, immediately brings any object which it grasps with its fingers into relation with these means of instruction. In this way the hand is used to exercise the sensibility and motions of the lips, and the knowledge previously gained through them is applied to instruct the hand, which at a later period, when it has been taught by its own experience, is applied to other parts of the body, in order to help to interpret and localise their sensations. But it is long before the infant can localise a sensation in another part of its body than its lips and hand; when a pin in its dress is pricking it, for example, it can only cry out helplessly; it cannot make a definite effort with the hand to remove it, as it will do later on, when it has learnt to know the geography of its own body. If we call to mind how, when discussing actuation, it was shown, in the case of the eye, that a sensation was the direct cause of a certain accommodating movement, and that the definite movement thereupon imparted the intuition of distance, we shall perceive how the organic association of a sensation from without with an associated muscular act builds up by degrees definite intuitions of external objects in the young mind.

Suppose now that an infant becomes insane soon after birth, what sort of insanity must it exhibit? The range and variety of mental disorder possible are clearly limited by the extent of existence of mental faculty; which is almost nothing. In this regard the observed facts agree with theory; for when a child is, by reason of a bad descent or of baneful influences during uterine life, born with such an extreme degree of instability of nerve element that, on the first play of external circumstances its nervous centres react in convulsive fashion, it mostly dies in convulsions. The disordered action proceeds from the nervous centres of reflex action—those which alone at this time

have power of function; the convulsions are the equivalent in them of the delirium which is the exponent of derangement of the ideational centres,—might be said to represent their insanity, as insanity, on the other hand, represents, so to speak, convulsive action of the higher nervous centres.

In consequence of the close connection of sensorial action with reflex action in the infant—the actual continuity of development which exists—there is commonly evidence of some sensori-motor disturbance in the earliest nerve-troubles. An impression on the sense of sight, for example, is not quietly assimilated so as to persist as an organised residuum in the proper nervous centre, but immediately stimulates the unstable cells of the associate motor centres to irregular and violent actions, which may be of a more or less purposive character; and the consequence is that the phenomena of a true sensorial insanity are intermixed with the morbid manifestations of the lower nervous centres. Instances of such morbid action so soon after birth are certainly rare; nevertheless they are met with now and then, and have been recorded. Crichton quotes from Greding a well-known case of a child which, as he says, was raving mad as soon as it was born. "A woman, about forty years old, of a full and plethoric habit of body, who constantly laughed and did the strangest things, but who, independently of these circumstances, enjoyed the very best health, was, on the 20th January, 1763, brought to bed, without any assistance, of a male child who was raving mad. When he was brought to our workhouse, which was on the 24th, he possessed so much strength in his legs and arms that four women could at times with difficulty restrain him. These paroxysms either ended in an uncontrollable fit of laughter, for which no evident reason could be observed, or else he tore in anger everything near him,—clothes, linen, bed-furniture, and even thread, when he could get hold of it. We durst not allow him to be alone, otherwise he would get on the benches and tables, and even attempt to climb up the walls. Afterwards, however, when he began to have teeth, he died."

If there be not exaggeration in this description it must be allowed to be very surprising that a child so young should have-

been able to do so much; and those who advocate innate mental faculties might well ask how it is possible on any other supposition to account for so extraordinary an exhibition of more or less co-ordinate power by so young a creature. Two considerations may be suggested by way of lessening the extraordinary character of the phenomena: first, that the mother of the child was herself peculiar, so that her infant inherited an unstable nervous organisation, and consequently a disposition to irregular and premature reaction on the occasion of an external stimulus; and secondly, that there are innate in the constitution of the human nervous system the aptitudes to certain co-ordinate automatic acts, such as correspond in man to the instinctive acts of animals. Many young animals are born with the power of using their muscles together in complex ways for definite ends directly they are exposed to suitable stimuli, and the human infant is not destitute of the germ of a like power over voluntary muscles, while it has the complete power of certain co-ordinate automatic acts; one can conceive, therefore, that, without will, and even without consciousness, it may display, when insane, in answer to sensations, actions which have more or less semblance of design in them[1]—in other words, convulsions that are more or less co-ordinate. If people would keep open minds and not begin to observe with a pre-existent idea that the function of the highest nerve-centres means something essentially different from the functions of lower nerve-centres, they would not have the difficulty they have in recognising co-ordinate convulsion. We have in fact convulsive display of innate co-ordinate faculty in irregular, violent, and destructive movements, and in precocious acts which would be natural in a more restrained form at a later stage of normal development, such, for example, as "uncontrollable fits of laughter without any evident reason."[2] Without

[1] "That they do this by instinct, something implanted in the frame, the mechanism of the body, before any marks of wit or reason, are to be seen in them, I am fully persuaded; as I am likewise that nature teaches them the manner of fighting peculiar to their species; and children strike with their arms as naturally as horses kick, dogs bite, and bulls push with their horns."—MANDEVILLE'S *Fable of the Bees*, vol. ii. p 352.

[2] "The youngest person whom I have seen labouring under mania," says Sir A. Morison, "was a little girl of six years old, under my care in Bethlehem Hospital. I have, however, frequently met with violent and

doubt the paroxysms of violent laughter were provoked by the morbid condition of the motor centres, not by any mental conceit of the infant.

As the earliest stages of the infant's mental development correspond in a general way with the permanent condition of mind of those animals whose actions are reflex and sensori-motor, it is no wonder that their morbid phenomena are comparable. Being in both cases mainly referable to disorder of the sensorial and associate motor nervous centres, the insanity might not unfitly be described as *sensorial*. The impressions made upon animals, and the sensations or at most the few simple and imperfect ideas that follow them, are transformed immediately into movements, as they are also in children; nothing like true reflection is possible, except it be in a few of the higher animals; consequently when the impressions are morbid they are answered instantly by morbid movements. The elephant, usually a gentle enough creature, is subject at certain seasons to attacks of furious madness, in which it rushes about in the most dangerous way, roaring loudly and destroying everything within its reach; and other animals are now and then affected with similar paroxysms of what might be compared with an epileptic fury. There is far more power in the insane elephant than in the insane infant, and it is able to do a great deal more mischief, but there is no difference in the fundamental nature of the madness; the furious acts are the reactions of morbid

unmanageable idiots of a very tender age." Dr. Joseph Frank records having seen, on a visit to St. Luke's Hospital, in 1802, a case of mania occurring at the age of two years.—*Lectures on Insanity*, by Sir A. Morison, M.D. In the Appendix to one of the Reports of the Scotch Lunacy Commissioners, mention is made of a girl aged six years, who was said to be afflicted with congenital mania. She was illegitimate, and her mother was a prostitute. She could not walk, paraplegia having come on when she was a year old; she was incoherent, and subject to paroxysms of violent passion; at all times very intractable; slept little and ate largely. All such cases may be viewed as partial idiots from birth. The cerebral organisation at so early an age is so delicate that it does not bear severe morbid affections without losing its fitness for mental development and endangering life. Indeed it might fairly be said of the cases of insanity in very young children, that some are examples of intellectual deficiency, the rest examples of moral perversion or deficiency, with or without excitement. Epilepsy goes along with the mania sometimes, and the tendency is to burn, tear, injure, destroy, &c.

motor centres to impressions made on morbid sensory centres; and the whole mind, whether of the infant or of the animal, is engulfed in the convulsive reaction. Dogs being as a rule very intelligent animals, because of their intimate association with men through countless ages, exhibit something more than sensorial disorder when they go mad, although a great part of the phenomena are sensorial. Their disposition and habits notably suffer a great change; they become sullen, dull, irritable, solitary in their habits; afterwards hallucinations evidently occur, and they bite alike friends who are kind to them and strangers who take no notice of them or who threaten them. M. Magnan has produced experimentally very vivid hallucinations in dogs by injecting alcohol into their veins: the animal starts up, stares wildly at the bare wall, barks furiously, and seems to rush into a combat with an imaginary dog; after a while it ceases to fight, retires, growling once or twice in the direction of its discomfited adversary, and settles down quietly.

So soon as we have recognised the existence of insanity which is mainly sensorial, we become sensible of the value of the distinction. Not only does it furnish an adequate interpretation of the violent phenomena of the insanity of the animal and of the infant, but it alone suffices to explain that desperate fury which sometimes follows a succession of epileptic attacks in the human subject. When the furious epileptic maniac strikes and injures whatsoever and whomsoever he meets, and, like some destructive tempest, storms through a ward with convulsed energy, he has no notion, no consciousness, of what he is doing; to all intents and purposes he is an organic machine set in the most destructive motion; all his energy is absorbed in the convulsive explosion. And yet he does not rage quite aimlessly, but makes more or less determinate attacks upon persons and things: he sees what is before him and destroys it; there is that method in his madness; his convulsive fury is more or less co-ordinate. His desperate deeds are respondent to morbid sensations in which his consciousness is entirely engulfed; often there exist terrible hallucinations, such as blood-red flames before the eyes, loud roaring noises or imperative voices in the ears, sulphurous smells in the nostrils; any real object which does present itself before

the eyes is seen with the strangest and most unreal characters; lifeless objects seem to threaten his life, and the pitying face of a friend becomes the menacing face of a devil. His frantic deeds therefore do not answer to the realities around him, but to the unreal surroundings which his sensorial anarchy has created:[1] they are the motor exponents of his fearful hallucinations. For the time being there is a true sensorial insanity, the functions of higher nervous centres being in abeyance; and after the frantic paroxysm is over there is complete forgetfulness of what has happened during it, as there is forgetfulness of sensori-motor action in health. Differences between this epileptic fury and infantile insanity arise out of the residua, sensory and motor, which, wanting in the child, have been acquired and organised through experience in the nerve centres of the adult: the sensory residua render possible in the adult special hallucinations which the infant cannot have; while the residua in the motor centres which are the basis of the secondary automatic faculties render possible, in like manner, a degree and variety of violence which the infant, possessing only such germs of co-ordinate function as are original, must needs fall short of.

The transformation of disordered sensation into disordered movement is not so quick and violent in all cases. As the child adds day by day to the number of its definite perceptions, and accumulates the materials of reflection, the distracting and inhibitory operations of which come into play, there is a less strong tendency to instant motor expression of sensory states. Hallucinations may therefore come and go, or persist for a time, without provoking any violent movements. I might indeed justly distinguish two classes of cases: one class in which a violent and convulsive reaction, the result of the instant transformation of impressions into movement, masks all other features of the disease, and gives it an *epileptiform* character; another class in which the active sensory residua persist in

[1] An epileptic, under my care, usually a mild and gentle being, used to become a most violent and dangerous maniac after a series of fits, and to commit terrible destruction. He thought at these times that he was fighting for his life against a lion, and his desperate actions were the exponents of his mental chaos.

consciousness as hallucinations, giving rise, if they give rise to answering movements, to such as are more *choreic* in character.

A variety of insanity in children, then, which we may next consider, is that form of sensorial insanity in which hallucinations occur, and in which the motor reactions are not convulsive and epileptiform, but spasmodic rather and choreic. There is reason to think that temporary or fugitive hallucinations are not uncommon in infancy, and that the child when stretching out its hand and appearing to grasp at an imaginary object is deceived sometimes by a subjective sensation which has been excited by an internal bodily state, just as a smile or a frown on its face is excited oftentimes by a purely bodily state. Experimental proof of this manner of origin is not wanting: Dr. Thore mentions the case of an infant, aged fourteen months and a half, which had accidentally been poisoned by the seeds of the *Datura stramonium*, a drug which, like belladonna, is well known to disorder the sensory centres; hallucinations of sight occurred, as shown by the motions of the child, which seemed to be constantly seeking for some imaginary objects in front of it, stretching out its hands and clinging to the sides of the cradle in order to reach them better.[1] The most remarkable example of such condition of hallucination is afforded, however, by that form of nightmare which some children suffer so much from: possessed with a vivid hallucination, they begin to shriek out in the greatest terror without being awake, though their eyes are wide open; they tremble or are almost convulsed with fright, and do not recognise their parents or others who attempt to calm them; and it is some time before the paroxysm subsides and they can be pacified. In the morning they know nothing of the fright which they had, but have forgotten it, as the somnambulist forgets his midnight walk, or as sensation is commonly forgotten. Strictly speaking, however, it is not right to say that they forget the experience, because the activity was all the while sensorial; and as there was no conscious perception, as the child did not perceive that it perceived, there could be no conscious memory. The undoubted and not uncommon occurrence of these vivid hallucinations in children, when the matter

[1] *Annales Médico-Psychologique*, 1849.

has certainly passed beyond ordinary dreaming, will serve to show how probable it is that they have sometimes, when awake, positive hallucinations. And if a very young child is affected with hallucinations, it cannot help believing in them any more than the dreamer can; it cannot correct sense by reflection, since the higher nervous centres of thought have not yet entered upon their function. They may therefore exist temporarily in children without indicating any serious disturbance of the health; the organic residua of a sensation being stimulated to activity by some trifling and transient bodily derangement.

It is in conformity, then, with pathological observation as well as with physiological principles, to affirm the existence in children of a variety of sensorial insanity which is characterised by hallucinations, most frequently of vision, and sometimes by answering irregular movements. Fits of involuntary laughter are often witnessed in such cases: the laugh, or rather smile, of the infant is an involuntary sensori-motor movement, before it has any notion of the meaning of the smile or any consciousness that it is smiling; consequently we meet with an irregular and convulsive manifestation of this function as the motor expression of a morbid state of things. Dr. Whytt relates the instance of a boy, aged 10, who, in consequence of a fall, had violent paroxysmal headaches for many days. After a time there occurred "fits of involuntary laughter, between which he complained of a strange smell and of pins pricking his nose; he talked incoherently, stared in an odd manner," and immediately afterwards fell into convulsions. He recovered on this occasion, but two years afterwards was similarly attacked: he had severe headache, saw objects double, and suffered from a severe pain in the left side of his belly, confined to a spot not larger than a shilling; "sometimes it shifted, and then he was seized with fatiguing fits of involuntary laughter." Ultimately he recovered partially, but never completely.[1] One ought to take particular pains in all cases of hallucination in children to make a close examination of the state of the general sensibility of the body; for perversions or defects of it will frequently be found both where there are corresponding perversions of movements and

[1] *Op. cit.* p. 144.

where there are not. Because, however, this form of sensorial insanity is often associated with movements of a more or less choreic character, and because, as compared with the previously illustrated epileptiform variety, it has relations not unlike those which chorea has to epilepsy, I have described it as the *choreic* variety of *sensorial insanity*.

With each succeeding presentation of an object to a child the impressions made on the different senses by it are more exactly felt and more perfectly combined, so that an adequate *idea* of the object is at last organised in the higher ideational centres; there is a consilience of the sensory impressions into the idea, which thenceforth makes it possible for the child to think of the object when it is not present to the senses, or to have a definite and adequate perception of it when it is. As development proceeds, one idea after another is thus added to the mind until many simple ideas have been organised in it; for a long time, however, these ideas remain more or less isolated and imperfectly developed; there are not definite and complete associations between them expressing their relations, and the child's discourse is consequently incoherent; there is not moreover a complete organisation of residua at first, and its memory is consequently fallacious. Children, like brutes, live in the present, their happiness or misery being dependent upon impressions made upon the senses: the idea or emotion excited does not remain in consciousness and call up other ideas and emotions, so modifying the sense of present pleasure or pain by memories of what has been felt before, which may tend to inhibit action, but it is directly uttered in outward action. Such a condition of development, which is natural to the child before the fabric of its mental organisation has been built up, and to the animal, in which the constitution of the nervous system renders a higher mental development impossible, would, were it met with in an European adult, represent idiocy, or an arrest of mental development from morbid causes.

So soon as definite ideas have been organised in the child's mind *delusions* are possible. But as ideas are at first comparatively few in number, and as their organic associations are very imperfect, a derangement of the function of their centres must

needs be characterised by very incoherent delirium. Divers morbid ideas will spring up without coherence; and the morbid phenomena, wanting system, will correspond, not so much with those which in the adult we describe as mania, where there is a more or less systematized derangement, some method in the madness, as with those which are known as delirium, when ideas spontaneously arise in consciousness in the most incoherent way. Let me proceed then to test these principles by an examination of such facts as are available.

As a morbid idea in the child's mind has, by the nature of the case, but a small range of action upon other ideas, it tends to utter itself by its other paths of expression; namely, by a downward action upon the sensory ganglia or upon the movements. When it acts downwards upon the sensory ganglia it gives rise to a hallucination; and in such cases, as may easily be imagined, it will not always be possible to determine whether the hallucination is really secondary or primary—whether, that is to say, it is engendered indirectly by the action of the morbid idea upon the sensory ganglion, or directly by the excitation of the sensory residua by some organic irritation. If a child which is only a few years old sees strange figures of some sort on the wall, which have no real existence, but disappear with apparently as little reason as they came there, the hallucinations are most likely owing to some organic cause of disturbance which affects directly the sensory ganglia. But if a child of eight or nine years old, whose head has been filled with foolish and dangerous notions concerning the devil, or who has, when naughty, been threatened by its nurse with the terrors of a black man who will come and carry it off, suddenly sees a devil or a black man appear and shrieks in terrified agony, then the hallucination is secondary to the recklessly implanted delusion. Doubtless this sort of idea-produced hallucination occurs frequently enough in those nightmares of children which have been already mentioned.

The secondary generation of hallucinations again is strikingly illustrated by the occurrence of phantasms before the eyes of certain precocious children of nervous temperament who create for themselves scenes and dramas which appear to be visible

representations of the thoughts that are passing through their minds: what they think, that they actually see, just as the dreamer does. Accordingly a sort of drama is represented before their eyes in which they take their part, and they live for the time in a scene which is purely visionary as though it were quite real. "What nonsense you are talking, child!" the mother perhaps exclaims; and thereupon the pageant vanishes. Or they talk of imaginary scenes of the kind as if they had actually occurred, and are accused of, or even punished for, falsehood in consequence: not always wisely, seeing that on account of the vividness of the hallucinations and the absence of a store of registered ideas in their minds they are more apt to believe them real events, and less qualified to correct them, than older persons are. In delicate and highly nervous children, predisposed to or affected with meningeal tubercle, it sometimes happens that great anxiety is caused to the mother by the strange way in which, during the night, when outer objects are shut out by the darkness, they will talk as if they were surrounded by real events, or, as the mother perhaps puts it, as if they were light-headed. They are dreaming while they are awake; though the outer world is shut out, the morbid deposit within acts as an irritating stimulus to the ganglionic nervous centres, and thus gives rise to an automatic activity of them. In one case, which came under my notice, of a scrofulous child with large, irregularly formed head, terrific visions of the kind occurred in the night when it was wide awake. It would shriek out in fright, exclaiming that there was something in the bed. The moonlight was especially obnoxious to it, because, it said, "it makes so much noise." There was a well-marked frown on the forehead when it looked towards the window or the light—a less degree of the photophobia which occurs in tubercular meningitis. These children of a tubercular temperament are sometimes extremely precocious in mind; so much so that old women shake their heads gravely, and justly remark that they are too forward to live. They show excessive nervous apprehension in one way or another, and at the same time perhaps an extraordinary absence of natural fear in another relation: one delicate little creature used to shriek with fright

if another child or a dog came towards it in the street, and yet delighted in a stormy wind, no matter how high; and another child would go up instantly, without the least fear, to any strange dog that it met and seize hold of it, never coming to harm.

Hallucinations may undoubtedly be fugitive events in the history of any child endowed with a highly nervous temperament, as in William Blake, the engraver, and may not denote any positive disease; but if the habit grows upon the child by indulgence, and the phantasms are regularly marshalled into a definite drama,—as, for example, was the case with Hartley Coleridge,—then a condition of things is initiated which will in all likelihood issue ultimately in some form of mental disorder.[1] For it is not the natural course of mental development that ideas, so soon as they are fashioned in the mind, should operate directly downwards upon the sensory ganglia, and thus create a visionary world; on the contrary, it is necessary to the progress of mental development that ideas should be completely organised within the centres of consciousness, and act upon one another there; that thus, by the integration of the like in perceptions and the differentiation of the unlike, accurate conceptions of nature should be formed and duly associated in the mental fabric; and that the reaction upon external nature should be a definite, aim-working, volitional one. Men like Hartley Coleridge cannot have a will, because the energy of their supreme nervous centres is prematurely expended in the construction of toy-works of the fancy; the state of things corresponding in some sort with that which obtains in the spinal centres when, by reason of an instability of nerve element, direct reactions take place to impressions, so that definite assimilation and acquired co-ordination are rendered impossible. In both cases an arrest of right development, commonly the forerunner of more active disease, is indicated; in both cases there is the incapacity for a true education. The pre-

[1] "Blake's first vision was said to be when he was eight or ten years old; it was a vision of a tree filled with angels. Mrs. Blake, however, used to say—'You know, dear, the first time you saw God was when you were four years old, and He put His head to the window and set you screaming.'"—Gilchrist's *Life of Blake.*

cocious imagination, or rather fancy, of childhood should be checked as a danger rather than fostered as a wonderful evidence of talent; the child being solicited and trained to regular intercourse with the realities of nature, so that by continued internal adaptation to external impressions there may be laid up in the mind good stores of *material*, and that, by an orderly training, this may be moulded into true *forms*, according to which a rightly informed imagination may hereafter work in true and sober harmony with nature.

The difference between *fancy* and *imagination*, as Coleridge aptly remarked, corresponds with the difference between *delirium* and *mania*. The fancy brings together whimsically images which have no natural connection, but which it yokes together by means of some accidental coincidence, so making creations that are oftentimes *essentially* inconsistent or untrue; while the imagination combines images like or unlike, by their *essential* relations, and so gives unity to variety. Now the precocious imagination of a child, which is sometimes the delight of foolish parents, cannot possibly be anything more than lying fancy; and this for exactly the same reason that the insanity of children must be a delirium and cannot be a mania—the incomplete formation of adequate ideas and the absence of definitely organised associations between them. Those, therefore, who consider closely and without prepossession the fundamental meaning of the character which the delirium of children has, will not fail to perceive in it the strongest evidence of the gradual organisation of mind; the fancy of the sane and the delirium of the insane child both testifying to the same condition of things—that which the habitual incoherence of a child's discourse also evidences.

In order to set forth clearly the manner of action of morbid idea in children, and to educe therefrom a physiological lesson, its operation has been artificially separated from other morbid phenomena which usually accompany it. In young children it is practially rare to meet with disorder limited to the supreme nervous centres; the other centres are almost certain to be more or less affected. In chorea, for example, besides the disordered movements which are its common characteristic, there may be

hallucinations marking disorder of the sensorial centres, and motiveless weeping or laughing, or acts of mischief and violence, marking disorder of some of the higher motor centres; there are furthermore in some cases mental excitement and incoherence, which may pass into maniacal delirium and end fatally, or into chronic delirium and end in recovery. The different nerve centres sympathise with one another; and, according as they minister to ideation, sensation, or movement, express their disorder in delirium, hallucination, or spasmodic movements.

Having treated of the phenomena of mental derangement in young children generally from a pathological point of view, I now go on to arrange in suitable groups the different forms that are met with in practice.

Corresponding with the principal varieties of motor disorder that occur in children as in adults, three nearly allied groups of mental disorders might be described and called respectively *choreic insanity*, *cataleptoid insanity*, and *epileptic insanity*. They are not of course distinctly separate groups, since intermediate cases between one group and another prevent a plain line of division being made, but the greater number of cases in each group have common characters which render it convenient to bring them together.

Choreic Insanity.—There is a choreic mania sometimes met with in children which appears to be the exact counterpart of the choreic spasms that occur. What is sufficiently striking, even to an ordinary observer of this mania, is its marked incoherence and its manifestly automatic character. It seems as if the connections of the primary nerve centres had been dislocated, and as if each centre were acting on its own account, giving rise thereby to a sort of mechanically repeated and extremely incoherent delirium. A boy of about eleven years of age, who came under my care, was, after a slight and not distinctly described sickness, suddenly attacked with this form of delirium; he moved about restlessly, throwing his arms about and repeating over and over again such expressions as—"The good Lord Jesus," "They put Him on the cross," "They nailed His hands," &c. It was impossible to fix his attention for a moment; for he turned away when the attempt was made, wandered aimlessly

about, pointing to one hand and then to the other, and babbling his incoherent utterances. So far as could be made out, there was considerable insensibility of the skin over certain parts of the body, as there commonly is in this form of insanity. In two days, after appropriate treatment, the delirium passed off, and the boy was quite himself again. I once saw an interesting case of insanity in a girl, æt. fourteen, who was lively, pretty, and intelligent. From time to time she would suddenly jump up in the evening in a paroxysm of excitement, exclaiming, "Mother, I'm dying!" and begin praying frantically in a mechanical manner. The paroxysm lasted for three or four hours, and left her pale, cold, exhausted, and trembling like a leaf. A brother had died after being similarly afflicted. When I saw her she looked somewhat strange and was forgetful; she used to imagine sometimes too that she saw the bed on fire and dead bodies on the ground, knowing all the while that the visions were hallucinations. The mother suffered for months at one time from speechless melancholia, and nearly all her family had died from phthisis. She had had fourteen miscarriages, and three children who died at early ages, this girl being the only one left; when pregnant with her she had a terrible fright from seeing one child accidentally killed, and the girl was born affected with constant choreic movements, which continued until six months after birth. Before the paroxysms of mental excitement came on, she had been subject to periodical attacks of depression, in which she would cry for hours; and all her life she had suffered more or less from pain in the head, especially in the left temple, with paroxysmal exacerbations thereof.

A boy, aged twelve, was admitted into the Devon Asylum, who had been afflicted all his life to some extent with chorea. A few days before admission he had attempted to hang himself, and there was the mark made by the rope upon his neck. On admission he was acutely maniacal, attempted to dash his head against the walls, and, when put in the padded room, lay on the floor, crying—"Oh, do kill me! Dash my brains out! Oh, do let me die!" He kicked and bit the attendants, and tried in every way to kill himself: his head was hot, his pulse quick,

he refused food, and did not sleep. He completely recovered under proper treatment after a few days.[1]

The most striking example of mental derangement in a child which Morel ever saw was in a little girl, æt. eleven, who, after the sudden disappearance of a disease of the skin, suffered from choreic movements, and soon afterwards was attacked with a maniacal fury. She attempted to kill her mother, and nearly drowned one of her sisters by throwing her into a pond of water. In her paroxysms she displayed a strength almost incredible, and it is scarcely possible to communicate, says Morel, an adequate idea of the destructive tendencies of this little being. She recovered after a fever when all medical treatment had failed.

These cases will suffice as illustrations of choreic insanity. It is only necessary to bear in mind that, as with choreic movements every degree of convulsive violence is met with in different cases, so with choreic mania every degree of excitement and incoherence is met with. Hallucinations of the special senses and perversions of general sensibility frequently accompany the delirium.

Cataleptoid Insanity.—Another form which insanity takes sometimes in childhood is that of a more or less complete ecstasy; and this may be fitly described as the cataleptoid variety. It generally occurs in young children. The little patient lies perhaps for hours or days seemingly in a sort of mystical abstraction, with limbs more or less rigid, or fixed in strange postures; sometimes there is insensibility to impressions, while in other instances vague answers are given, or there is utterly incoherent raving, with sudden outbursts of wild shrieks from time to time. These attacks are of variable duration, and are repeated at varying intervals. They would seem to represent a sort of spasm of certain nervous centres engrossing the whole nervous energy, so that for the time being the body becomes an automatic instrument of their exclusive activity, all voluntary power being in abeyance. While, on the one hand, there are intermediate conditions between this form of disease and chorea, its attacks, on the other hand, sometimes alternate with true

[1] *Manual of Psychological Medicine*, by Drs. Hack Tuke and Bucknill

epileptic seizures, and at other times pass gradually into them: it represents a class of hybrid seizures that stand midway between chorea and epilepsy. In a girl who came under Dr. West's treatment at the age of ten years and ten months, there had been first an attack of general convulsions without any obvious cause, when she was eight years old. Afterwards she was subject to occasional attacks of great excitement of behaviour, and for six months there was a sort of cataleptic state in which she stood immovable for one or two minutes, staring wildly or fixedly, and murmuring unconnected words that had reference to any object which she might happen to see. About eleven months from the commencement of these attacks their character changed; they became truly epileptic, the child's conduct in the intervals between the seizures, though sometimes quite reasonable, having mostly something insane about it.[1] The example shows the close relations of disorders of the different nervous centres in children, their hybrid nature at times, and the artificial character of the divisions usually made between them.

Epileptic Insanity.—Not only are the different forms of epilepsy met with in children, but also the different forms of insanity that occur in connection with epilepsy. The *petit mal* sometimes lasts for many months in children, and then passes into regular attacks of convulsive epilepsy; its usual effect being to produce loss of memory and more or less imbecility of mind. But whether epilepsy in children has the less patent form of vertigo or the declared form of regular convulsions, there is always great danger that it will occasion an arrest of that cerebral development which is the basis of a good mental organisation. In the case of a young girl, aged eight years, of good physical conformation, who came under my care, epilepsy seemed to have produced an arrest of mental development at the sensorial stage: she was a most mischievous little machine, never quiet, running about aimlessly and seizing, or attempting to seize, whatever she saw; nowise content with

[1] "Ueber Epilepsie Blödsinn und Irrsein der Kinder," von Charles West, M.D.—*Journal für Kinderkrankheiten*, vol. xxiii. 1854. See also a paper by M. Delasiauve in *Annales Médico-Psychologique*, vol. vii. 1855.

what she caught hold of, but throwing it down directly she had got it, and struggling for something else which drew her notice; not in the least amenable to correction or instruction, and demanding the whole energies of one person to look after her. She was an automatic machine incited by sensory impressions to mischievous and destructive acts.

As in adults, so in children, an attack of violent mania, a *furor transitorius*, may precede, or take the place of, or follow an attack of epilepsy, being in reality a sort of mental epilepsy. When the mania takes the place of the epileptic attack, occurring in its stead, it is described sometimes as a masked epilepsy—*epilepsie larvée*. Children of three or four years old are sometimes seized with sudden attacks of violent shrieking, desperate stubbornness, or furious rage, when they bite, tear, and destroy whatever they can; these seizures come on periodically, and may either pass in the course of a few months into regular epilepsy, or may be found to alternate with epileptic attacks. They are a sort of vicarious epilepsy. Morel has met with two cases in which children fell into convulsions and lost the use of speech in consequence of a great fear; afterwards a maniacal fury, with tearing, destroying, and continual turbulence, occurred: in one case, the child being ten years and a half old, epilepsy followed; in the other child, aged five years, it did not.[1] One of the boys in a school was attacked in the night, without evident cause, with a sudden *furor transitorius:* he rushed wildly up and down the dormitory, speaking loudly but inarticulately, so that another of the pupils got up to quiet him; but he seized the latter with great violence, and, but for the interference of others, would have strangled him. With some difficulty he was got to bed; a true epileptic attack followed; and in the morning he knew nothing whatever of what had happened, but felt weary and exhausted.[2] Dr. Ludwig Meyer, who relates this case, relates another case of a boy, æt. 13, who was subject to periodical attacks of fury, followed by

[1] *Traité des Maladies Mentales*, 1860, p. 102. He relates also the before-mentioned case of the girl, æt. 11, who had furious maniacal attacks, during which she attempted to kill her mother and injure her sisters.

[2] "Ueber Mania Transitoria," von Dr. Ludwig Meyer. Virchow's *Archiv*, vol. viii. art. ix.

epileptic convulsions, and who often had the furious maniacal excitement without the convulsions, illustrating the transition of *mania transitoria* into epilepsy.

Some writers hold that when the mania seems to occur in the stead of epilepsy the truth is that it has been preceded by an unobserved attack of epileptic vertigo. No doubt such an attack oftentimes passes without being noticed, but it is only a surmise that it is so in all cases; and as the maniacal outbreak which frequently precedes a fit may undoubtedly occur sometimes without a following fit, why must it be supposed never to occur without a preceding fit?

Again, in children, as in adults, regular attacks of maniacal excitement may follow epilepsy. Many such instances are on record; but I shall content myself here with a singular example of insanity, more cataleptoid perhaps than epileptic, following convulsions, which is quoted by Griesinger from Kerner:—Margaret B., æt. 11, of a passionate disposition, but a pious Christian child, was, without any previous illness, seized on January 19th with convulsive attacks, which continued, with few and short interruptions, for two days. So long as the convulsions lasted the child was unconscious, twisted her eyes, made grimaces and strange movements with her arms: from the 21st January a deep bass voice proceeding from her kept repeating the words, "They are praying for thee." When the girl came to herself, she was wearied and exhausted, but knew nothing of what had happened, only said that she had dreamed. On the evening of the 22nd January another voice, quite different from the bass one, spoke incessantly while the crisis lasted—for half an hour, an hour, or several hours; and was only now and then interrupted by the former bass voice regularly repeating the recitative. The second voice manifestly represented a different personality from that of the girl, distinguishing itself in the most exact manner, and speaking of her in the third person. In its utterances there was not the slightest confusion nor incoherence observable, but all questions were answered by it coherently. What, however, gave a distinctive character to its expressions was the moral or rather immoral tone of them—the pride, arrogance, scorn, and hatred

of truth, God, Christ, that were avowed. "I am the Son of God, the Saviour of the world: me ye shall worship," the former voice frequently repeated. Scorn of all that is sacred, blasphemy against God and Christ, violent dislike of everything good, and extreme rage at the sight of any one praying, or even of hands folded as in prayer, expressed by the second voice—all these, says the reporter, might well betray the work of a strange spirit possessing her, even if the pious voice had not declared it to be the voice of a devil. So soon as this demon spoke, the fashion of her countenance changed in the most striking manner, and assumed a truly demoniacal look. She ultimately quite recovered, a voice crying out—"Get thee out of this girl, thou unclean spirit." The case shows how naturally would arise the once general but now abandoned notion that mania was due to possession by an evil spirit or devil.

Although the delirium of childhood is commonly connected with some form of convulsive disease, yet it sometimes occurs without convulsion, from other recognised causes of mania; in children these usually are blows on the head, intestinal worms, and self-abuse. Worms in the intestines, like other eccentric irritations, certainly act sometimes upon the supreme centres to derange them, just as they act upon the motor centres to excite convulsions. Children of a certain nervous temperament, who have plainly inherited a tainted neurosis, now and then evince a singularly active and precociously vicious sexual tendency at very early ages, which is usually followed by or associated with great moral perversity and passionate outbreaks of temper that are almost maniacal in some instances. Whatever their nature, they are of bad omen for the child's future. Under the name of *Monopathie furieuse* Guislain describes maniacal attacks in a young girl æt. 7, which were due to caries of the nose following a blow. Other like cases are recorded by Haslam, Spurzheim, Frank, Burrows, Perfect, and Friedreich.[1] Certain acute diseases, as for example typhus, may give rise to delirium in the child just as in the adult during their course, and to

[1] See also a paper "On the Psychical Diseases of Early Life," in the *Journal of Mental Science*, 1859, by Dr. Crichton Browne.

disorder of mind during convalescence. In all these cases of mania in children, however caused, we shall not fail to notice a mixture of imbecility, due to their state of imperfect mental development, and of great moral perversion. And we may take note, if we will, that an outbreak of passion in some imbeciles is, in its mental aspect, almost a temporary mania, and, in its physical aspect, a convulsive paroxysm.

Affective Derangement.—Thus far I have given illustrations of conditions of mental excitement with incoherence of ideas; I now go on to notice conditions of mental depression in children, with or without corresponding morbid impulses and delusions —cases in which the *affective* derangement is the predominant symptom. The affective tone is fundamental, due to the sympathetic system of the organic life, and is the medium which gives colour to the ideas; and while the more lately acquired words are the language of ideas, its more primitive language is cries, exclamations, modifications of the tones of the voice and of the bodily features. It is by these that feeling expresses itself directly before the child has acquired ideas; and when the child has acquired ideas and is able to utter them in words, it still expresses itself in the primitive way, but also indirectly through ideas and their words. Without doubt children differ naturally in liveliness of disposition; but it sometimes happens that depression reaches such a pass even in very young children as to constitute a genuine melancholia. In such case the child whines and wails on all occasions; whatever impression is made upon it seems to be followed by a painful feeling; the mother takes it for medical advice, for, as she complains, it thrives not, it rests not either by night or day, it is pining and crying continually, and nothing calms it; there is no living with it, and she is almost worn out with anxiety. Such symptoms mark a constitutional defect of nerve element, whereby an emotional or sensational reaction of a painful kind follows all impressions; the nervous or psychial *tone* is radically infected with some vice of constitution, so that every natural impression, instead of being pleasing, is painful. The cause of the defect in some instances is inherited syphilis; at any rate beneficial results follow the treatment for hereditary syphilis. No doubt, how-

ever, other causes besides syphilis may cause a like morbid condition of nerve element.

With the deep melancholic depression there may be, in older children, a distinct delusion of some kind. A boy who from his fifth year had been rather peculiar in his behaviour, standing still at times in the street without apparent reason and not moving again without considerable pressure, was, when twelve years of age, afflicted with positive melancholia and delusions of suspicion. He was extremely depressed, and his manner indicated the greatest fear: he was prone to weep constantly, and was in great dread of his fellow-scholars and of his teacher, all of whom, he thought, suspected him of anything wrong that happened to be done—if a theft were committed, he was sure that he was suspected to be the thief. He was restless at night, and often sighed and uttered unconnected words in his sleep. In five weeks he was said to have recovered, but there still remained eccentricities of conduct: if he kicked a stone, he must return to kick it twice more; if he spat once, he must spit twice more; if he had written a word incorrectly, he must repeat the correction. Of these peculiarities he was quite conscious, and struggled against them, but without avail; after great restlessness and mental disquietude he was ultimately obliged to give way to them.[1] In other like cases, morbid notions with regard to religion may be the exponents of the emotional disturbance of psychical tone.

There are boys who, being somewhat stupid and of a melancholy, moody, and perhaps morose disposition, habitually keep apart from their fellows, whom they join not in play. They are often hypochondriacal, complaining of strange morbid sensations in abdomen, generative organs, heart or head; and when these morbid feelings are very active they become paroxysmally excited so as to quite lose self-control, and perhaps imagine that the devil has got hold of them. Or some other foolish or insane idea or impulse springs up in the apt soil of their affective perversion and instigates them to foolish or insane conduct. When they reach puberty they show more insanity, and perhaps get into trouble; in a stupid way they attempt to kill them-

[1] *Irrsein bei Kinder*, von Dr. Beckham.

selves or some one else, or do some other act of criminal violence.

Perhaps the most striking form in which the melancholia of children manifests itself is by suicide. So strange and unnatural does it seem that a child of eight or nine years of age should, world-weary, put an end to its own life, that one is apt to declare the thing to be against nature and to consider it inexplicable. Such act of suicide is done sometimes under a sudden impulse from the dread of punishment or after the infliction of punishment, or it is perhaps deliberately resolved upon in a state of sadness and depression consequent upon continued ill treatment by a brutal schoolmaster or parent.[1] Falret mentions the case of a boy of eleven years of age, who was driven by the ill treatment of his teacher into such a state of melancholia that he determined to starve himself, and made repeated attempts at suicide by drowning. But it may be carried into effect out of a constitutional indifference or disgust of life, or from a momentary impulse of disappointment when there has been no real ill treatment, nothing more perhaps than a slight rebuke or censure: one boy, aged nine years, killed himself because he lost a bird which he was very fond of; another boy, aged twelve, hanged himself because he was no higher than twelfth in his class; and a boy, aged twelve, hanged himself because he was shut up in a room with a piece of dry bread, as a punishment for having accidentally broken his father's watch.[2] This premature disgust of life is most often the result of some ancestral taint, by reason of which the child's nervous constitution is inherently defective, unapt to accommodate itself to its surroundings, and disposed to perverted likings and dislikes and irregular reaction. The impulse which springs up out of the deranged feeling, and is fed by it, is sometimes homicidal: an instance occurs from time to time in which a child drowns, hangs, or otherwise kills another child, with an amazing coolness and insensibility, and from no other motive than a liking to do it; and there have been a few cases recorded in which more than one murder has been done in this way by

[1] "Étude sur le Suicide chez les Enfants," par Durand Fardel — *Annales Médico-Psychologique*, 1855.

[2] Durand Fardel, *op. cit.*

the same child. The question of hereditary taint is in reality the important question in those cases, as it is in all cases of insanity of early life.

In the majority of instances the affective insanity of early life might justly be described as hereditary; but there are some cases in which the morbid condition of nerve element which manifests itself in extreme moral perversion is not inherited, but acquired by reason of vicious habits of self-abuse. It is not correct, therefore, to describe all cases of so-called moral insanity in children as examples of hereditary insanity, although the precocious sexual feeling which leads to self-abuse is commonly the result of an inherited taint. I prefer using the word *affective* to the word *moral*, as being a more general term and expressing more truly the fundamental condition of nerve-element, which shows itself in affections of the mode of feeling generally, not of the special mode of moral feeling only; in other words, as pointing to that deepest affection of consciousness in its primordial elements which makes it true to say that his affective life betrays the real nature of the individual.

The examples of affective insanity in early life fall naturally into two divisions: (*a*) the first includes all those instances in which there is a strange perversion of some fundamental instinct, or a more strange appearance of some quite morbid impulse; (*b*) the second division comprises all those cases of complete moral perversion which often seem to the onlooker to be wilful wickedness. The former might be described as the instinctive or impulsive variety of affective insanity; the latter as moral insanity proper.

(*a*) *Instinctive Insanity.*—What are the inborn instincts of mankind? The instinct of self-conservation, which is truly the law of the existence of living matter as such, and the instinct of propagation, which provides for the continuous existence of life, and is, therefore, in some sort a secondary manifestation of the self-conservative instinct. The instinct to activity which the organs of relation, that is, the organs of the so-called animal life, evince, and to the particular sorts of activity which, being adapted thereto by their form and structure, they accomplish, may be looked upon as means which the two fundamental

instincts make use of in order to attain their ends. Now the instinct of self-conservation is displayed not only by the individual creature, whether of low or high degree, but is implicit in the life of every organic element of which it is built: it is, as already seen, at the root of the passions, which are fundamentally determined by impressions according as they are pleasing or painful to self. Children are of necessity extremely selfish; for it is the instinct of their being to appropriate from without, to the end that they may grow and develop: a baby is the only king, as has been said, because everybody must accommodate himself to it, while it accommodates itself to nobody. The necessary correlate of the instinct of appropriation whereby what is pleasing to self is assimilated, is a destructive or repulsive instinct or impulse whereby what is not grateful is rejected, got rid of, or destroyed. The infant rejects the mother's breast when from some cause, internal or external, the milk is distasteful to it; by crying and struggling it strives to get rid of a bodily impression which may happen to be paining it, as the Gregarina shoots away from a stimulus, as the snail retracts its protruded horns when they are suddenly touched, as a person of tender sensibility shrinks from a painful spectacle; and when it is a little older, it rejects, destroys, or attempts to destroy what is not pleasing to it.

To talk about the purity and innocence of a child's mind is a part of that poetical idealism and willing hypocrisy by which men ignore realities and delight to walk in vain shows; in so far as purity exists it testifies to the absence of mind; the impulses which actually move the child are the selfish impulses of passion. It were as warrantable to get enthusiastic about the purity and innocence of a dog's mind. "A boy," says Plato, "is the most vicious of all wild beasts"; or, as some one else has put it, "a boy is better unborn than untaught." By nature sinful and vicious, man acquires a knowledge of good through evil: not how evil entered into him first, but how good first came out of him, is the true scientific question: his passions are refined and developed in a thousand channels through wider considerations of interest and foresight; the history of mental development begins with the lowest passions, which flow as an under-current in every

life, and frequently come to the surface in a very turbulent way in many lives. Evil is good in the making as vice is virtue in the making.[1]

In the insanity of the young child we meet with passion in all its naked deformity and in all its exaggerated exhibition. The instincts, appetites, or passions, call them as we may, manifest themselves in unblushing, extreme, and perverted action; the veil of any control which discipline may have fashioned is rent; it is like the animal, and reveals its animal nature with as little shamefacedness as the monkey indulges its passions in the face of all the world. Inasmuch as there is present only the instinct to gratify itself, the concomitant of which is the effort to reject or destroy what is not agreeable, its disease, if it become insane, will be exhibited in a perverse and unceasing appropriation of whatever attracts its notice, and in destructive attacks upon whatever it can destroy. Refuse it what it grasps at, and it will scream, bite, and kick with a frantic energy: give it the object which it is striving for, and it will smash it if it can: it is a destructive little machine which, being out of order, lays hold of what is suitable and what is unsuitable, and subjects both alike to its desperate action. Haslam reports a case of this kind in a girl, aged three and a quarter years, who had become mad at two and a half years of age, after inoculation for small-pox. Her mother's brother was, however, an idiot, though her parents were sane and undiseased. This creature struggled to get hold of everything which she saw, and cried, bit, and kicked if she was disappointed. Her appetite was voracious, and she would devour any sort of food without discrimination; she would rake out the fire with her fingers, and seemed to forget that she had been

[1] "I cannot praise," continues Milton, after saying that we know good by evil, "a fugitive and cloistered virtue, unexercised and unbreathed, that never sallies out and sees her adversary, but slinks out of the race where that immortal garland is to be run for, not without dust or heat. Assuredly we bring not innocence into the world, we bring impurity much rather: that which purifies us is trial, and trial is by what is contrary. . . . That virtue therefore which is a youngling in the contemplation of evil, and knows not the utmost that Vice promises to her followers, and rejects it, is but a blank virtue, not a pure; her whiteness is but an excremental, adventitious whiteness."

burnt; she passed her evacuations anywhere. She could not be taught anything, and never improved.[1]

The most striking exhibition of the destructive impulse which sometimes reaches an extreme degree in the madness of childhood is afforded by a homicidal tendency. "A girl, aged five years, conceived a violent dislike to her stepmother, who had always treated her kindly, and to her little brother, both of whom she repeatedly attempted to kill."[2] Here was a sort of conscious design apparent in the act; but it is obvious that the further back in mental development we go, the less of conscious design will there be in the morbid impulse. Moreover, in the case of homicidal impulse in a young child, the consciousness of the end or aim of the act must at best be very vague and imperfect: it is driven by an impulse of which it can give no account to a destructive act, the real nature of which it does not appreciate; a natural instinct being exaggerated and perverted by disorder of the nerve-centre. It matters not much, so far as its nature is concerned, what is the particular form of the destructive impulse —whether it be homicidal or suicidal, or to set fire to the house, or to kill a cat or a canary, or to smash crockery or other perishable ware; the impulse which dominates it is as unreasoning and apparently uncontrollable as the convulsion of its limb is in chorea. Many cases are on record of older children who have displayed an incorrigible propensity to acts of pure cruelty and destruction, practised on such creatures as were not too powerful to be their victims.

Thus much concerning those phenomena of insanity in children which spring from the gross perversion of the self-conservative impulse. Let me now say a few words concerning the perversion of the instinct of propagation. It is necessary to guard against a possible objection that this instinct is not felt until puberty. There are certainly frequent manifestations of its existence throughout early life, both in animals and in children, before there is a consciousness of the aim or design of the blind impulse. Whosoever avers otherwise must have paid very little attention to the gambols of young animals, and must be strangely

[1] *Observations on Madness.*
[2] Esquirol, *Traité des Maladies Mentales.*

or hypocritically oblivious of the events of his own early life. At puberty the instinct makes its appearance in consciousness, and thereupon attains to knowledge of its aim and craves means of gratification; in like manner as, in the course of development through the ages, the blind procreative instinct which is immanent in animal nature undergoes a marvellous evolution within human consciousness, blossoming into all the glories of human love.

As there are exhibitions of this blind impulse in the healthy child, it is not surprising to meet with exaggerated and perverted manifestations of it in the insane child. The enthusiastic idealist, greatly shocked by disgusting exhibitions of unnatural precocity in children of three or four years of age, exclaims against them as if they were unaccountable and monstrous; but they are not without interest to the scientific observer, who sees in them valuable instances on which to base his generalisations concerning man, not as an ideal but as a real being, and concerning his origin, not as a special creation, but as the supreme product of natural evolution. In the *Philosophical Transactions* for 1745 is the account of a boy, aged only two years and eleven months, who displayed a remarkable sexual precocity. Esquirol quotes the case of a girl, aged three years, who was constantly putting herself into the most indecent attitudes, and used to practise the most lascivious movements against any convenient piece of furniture. At first the parents thought nothing particular of it, but finding the practice continued, and of unmistakable significance, they tried every means in their power to check it, but without avail. In church or anywhere, at the sight of an agreeable object, there was the same abandonment, ending in a general spasm. The child confessed to a positive pleasure from the acts, continued them as she grew up, and, though ultimately married, was a regular nymphomaniac. The greatest salacity was always manifested from the beginning to the end of spring.[1] Other similar examples of this sort of instinctive insanity might easily be adduced; for there are few physicians in practice who could not relate instances of young children of three or four years of age

[1] See also Morel's *Études Cliniques sur les Maladies Mentales*. 1852.

who have perplexed and distressed their parents by the precocious display of active sexual tendencies. The afflicted creature has no definite consciousness of the import of its precocious acts; certain attitudes and movements are the natural gesture-language of certain internal states—their motor exponents; and it is little more than an organic machine automatically impelled by disordered nerve-centres.

(*b*) *Moral Insanity.*—This variety of affective insanity might be illustrated by numerous examples of all degrees of severity, ranging from what might, not without reason, be described as simple viciousness to those extremer manifestations which pass far beyond the bounds of what any one would call vice. In the spring of 1827, Dr. Prichard was asked to see the daughter of a farmer, in some members of whose family insanity existed. She was a little girl, aged seven, and was described as having been quick at apprehension, lively, affectionate, and intelligent. A great change, however, took place in her conduct: she became rude, vulgar, abrupt, and perfectly unmanageable; doing no work, running about the fields, and, if rebuked, very abusive and extremely passionate. Her appetite was perverted so that she preferred raw vegetables to her proper food; and she would sleep on the cold and wet ground rather than upon her bed. Her parents had no control over her, and she was persistently cruel to her sisters, pinching them when she could do so without being observed. She had a complete knowledge of persons and things, and recollected all that she had learned. Her eyes glistened brilliantly; the conjunctiva was reddened; her head was hot, her extremities were cold, and her bowels disordered; there was a disagreeable odour of the body. Dr. Prichard saw her in the house of a medical man where she had been placed because she was getting worse at home. "At this time she had taken to eat her own fæces, and to drink her urine, and she would swear like a fishwoman and destroy everything within her reach; yet she was fully conscious of everything she did, and generally appeared to know well that she had done wrong." After doing something wrong she would exclaim, "Well, Mrs. H., I have done it. I know you will be angry; but I can't help it, and I could not let it alone until I had." Among her plea-

sures was that of dirtying herself as frequently as she had clean clothes put on; indeed, "she would rarely pass her excrements into the proper place, but reserved them for the carpet of the sitting-room, or for her own clean clothes." "At other times she was so far conscious of her situation as to cry bitterly, and express her fears that she would become like her aunt, who was a maniac. In addition to all these indications she had stolen everything which she thought would be cared for, and either hid or destroyed it; and swore in language which it is difficult to imagine that such a child could ever have heard." There was no fixed idea which influenced her conduct; she acted "from the impulse of her feelings, and these were unnatural, and perverted by disease." After two months she recovered.[1]

Haslam relates the following case of a young gentleman, aged ten, in whose ancestors no insanity was acknowledged. When only two years old, he was so mischievous and uncontrollable that he was sent from home; and until he was nine years old he continued "the creature of volition and the terror of the family," and was indulged in every way: he tore his clothes, broke whatever he could break, and often would not take his food. Severe discipline was tried, but in vain; and the boy was ultimately sent to a lunatic asylum. There was deficient sensibility of the skin. He had a very retentive memory with regard to matters which he had witnessed, but was attracted only by fits and starts, so that he would not learn methodically: he was "the hopeless pupil of many masters," breaking windows, crockery, and anything else which he could break. A cruel trick of his was, whenever the cat came near him, to seize it, pluck out its whiskers with wonderful skill and rapidity, saying, "I must have her beard off," and then commonly to throw it on to the fire or through the window. He was quite insensible to kindness, and never played with other boys. "Of his own disorder he was sometimes sensible: he would often express a wish to die, for he said very truly, 'God had not made him like other children;' and when provoked he would threaten to destroy himself." No improvement took place.

[1] *On the Different Forms of Insanity in relation to Jurisprudence.* By J. C. Pritchard, M.D., 1842.

A case in some respects similar is quoted by Moreau from Renaudin, under whose care it was:—A boy, whose intelligence and behaviour were usually of an ordinary character, was subject every now and then to a positive mania of acts, without any mental incoherence.[1] When these attacks came on him he was quite incorrigible, and he had been expelled from different schools in consequence of them. After several unsuccessful trials at discipline, he was at last sent to an asylum. There he answered quite intelligently, but wept and was silent when spoken to about his bad conduct: pressed upon this subject, he said that he could not help it. The interesting circumstance was that there was a complete insensibility of the skin at the time of the attacks of irresistible violence, and that in his docile and affectionate intervals the sensibility of the skin was natural. The acts of violence were of so extreme a character that, says the reporter, "we were able to satisfy ourselves that they might go as far as murder." [2]

The special defective sensibility of skin in these cases is full of instruction in relation to the profound and general defect or perversion of the sensibility or receptive capacity of the whole nervous system which is shown in their perverted likings and dislikes, in their inability to join with other children in play or work, and in the impossibility to modify their characters by discipline; they cannot feel impressions as they naturally should feel them, nor adjust themselves to their surroundings, with which they are in discord; and the motor outcomes of the perverted affections of self are accordingly of a meaningless and destructive character. The insensibility of skin is the outward and visible sign of a corresponding inward and invisible defect, as it notably is also in idiocy.

These examples may suffice to illustrate a form of derangement which undoubtedly occurs in early life, and which, indeed, is more readily acknowledged when it is met with in young children than when it is met with in the adult, in whom it is more apt to be thought vice. The extreme acts of precocious wickedness seem so inconsistent with the immaturity

[1] Moreau's *Psychologie Morbide*, p. 313.

[2] I have related a case of moral insanity in a young girl in my work *On Responsibility in Mental Disease*, p. 180, third edition.

of childhood that they are readily accounted unnatural, and ascribed to disease. However, to call them disease is not to explain them, nor to cancel the need of an explanation. Whosoever scrupulously traces the acts as the necessary consequences of certain coefficient causes implied in the vitiated constitution of the nerve element of the child, and thus banishes, as he must do, the notion of witting and wilful vice, will be brought to own in theory, as he will discover in practice, that like physical conditions in the adult may be the agents in producing like morbid effects.

There are children of a defective mental capacity, not reaching the degree of idiocy, or even of positive imbecility, whom it is very difficult to know what to do with sometimes. They are dull, heavy, stupid, appear indolent, indifferent, and as if they will not try to learn anything, and display low or vicious tastes; when sent to a respectable school, they are commonly after some time sent home again as impracticable. Their inability to learn looks very much like stupidity and obstinacy, when it is really the result of disease, and marks a certain measure of imbecility. Their nervous centres are ill fitted, by reason of some defect of constitution or of some gross morbid condition, to receive and to retain impressions; they lack, therefore, the disposition or desire and the aptitude which are natural in a sound bodily state to get into closer relations with the objects producing them; and the motor reactions are not purposely made to repeat and to vary the impressions until the objective causes of them are thoroughly apprehended. It is sometimes the misfortune of boys of this sort to be sent, after failing at the usual schools, to some one who advertises for unruly pupils, and who represents himself as possessed of some specific for managing and training them. Some years since a boy of this kind was said to have been flogged to death by his master, who was put upon his trial for manslaughter, found guilty, and received a severe sentence. Without doubt the poor boy was harshly and cruelly used, but there were some medical reasons for thinking that the case was not quite so bad as it was represented in the public papers at the time. In some of these cases of semi-imbecility or stupidity there is an abnormal quantity of serum in the ventricles of the

brain, and death may take place suddenly in consequence of the increase of the fluid beyond a certain amount. In the case referred to an unusual quantity of serum was found in the ventricles of the brain after death; and the medical man who was called for the prosecution gave it as his opinion that this was the result of the ill treatment to which the boy had been subjected, and the probable cause of death. In reality, the morbid condition of things may have been the cause of the youth's stupidity, and so his death have been occasioned by a punishment which would not have seriously injured a healthy child. When we reflect on the possible state of things in the brain, it will be obvious that no good, but much mischief, will be done by harsh measures: patience and gentleness, kindness and encouragement, good diet and regular habits, proper bodily exercise, and the regular control of some judicious person, will be the best means to employ. Above all things, it is well to forego attempts to make such defectively organised beings reach a degree of mental development which they are by nature incapable of; they should be put to some humble occupation for which they are fitted, and in which they may succeed fairly.

There is another class of boys who cause great trouble and anxiety to their parents and to all persons who have to do with them. Afflicted with a positive moral imbecility, they are inherently vicious; they are instinctive liars and thieves, stealing and deceiving with a cunning and a skill which could never be acquired; they have no trace of affection for their parents or of good feeling for others; the only care which they have is to contrive means to indulge their passions and vicious propensities, and this they will do with singular ingenuity and acuteness. Intellectually some of them are defective also, for they read no better when they are sixteen years old than a healthy child of six years of age would do; and yet these are very cunning in deception and in gratifying the desires of their vicious natures. Others show no evident defect of intelligence; their general education may be fairly good, and some of them shall display extraordinary cleverness of a particular kind; the surprising thing being that, having so acute an intelligence,

they should be so utterly incapable as they are of seeing how much their conduct is against their true interest. However, so it is: their self-feeling is so intense and engrossing, that they cannot look beyond the present gratification, and their intellect is enlisted entirely in its service. Oftentimes they are exceedingly plausible, having a good address, impose skilfully upon people whom they meet, and get out of scrapes in an extraordinarily clever way. When they are in trouble they express the most bitter regret, write the most penitent letters, make the most solemn promises of amendment, without the least sincerity, or at any rate without making the least effort to do right on the next occasion when temptation comes. In one case a boy, who was not fourteen years old when I saw him, had been a trouble to his parents for years: he was most cunning and ingenious in lying, showing a marvellous precocity therein, and a persistent passion for it; used to abandon himself to paroxysms of violent passion, and threaten or pretend to commit suicide; was acute enough as regarded his personal interests, but could not learn like other boys, nor did he associate with them; evinced no trace of moral element nor of social sympathy. He would stand for an hour at a time before a map of the world while other boys were at play, and could tell every place upon it where a ship must call; he could also tell every train in Bradshaw's Railway Guide on the Midland line. Another boy, who was the son of a gentleman of high social position, and had at command everything a boy could wish for, could not be prevented from stealing wherever he went.

After puberty matters usually get worse in these cases: they give themselves up to intemperance, licentiousness, self-abuse, or are guilty of stealing, of forgery, of unnatural offences, and of other vices or actual crimes. If they are females, they abandon themselves to sexual indulgence; or if they are prevented from that by the restraints of their position in life, they may make gross charges of immorality against innocent persons, perhaps writing the filthiest anonymous letters. In a perverse mood they may set fire to the house, or kill their employer's child, if they are in service, rather than have the trouble to look after it. They are truly bedevilled. When these degenerate beings belong to the

lower classes, they find their way to prison many times—indeed, they go to swell the criminal population of the country; when they belong to the better classes they are an infinite trouble, and in order to keep them out of prison there is nothing for it but to seek out some firm and judicious person who, for suitable remuneration, will take care of them, keep them out of mischief, and, while checking their vicious propensities, try to discover and foster any better tendencies which they may have in them.

In all cases of affective insanity, and especially of that variety which I have described as moral insanity, the question of questions is hereditary taint. As the nature of man has grown slowly to what it now is by a progressive fashioning through generations, so by a retrogressive degeneration it passes backwards to a lower stage; the stage to which it sinks being worse than a corresponding stage of deficient development, because while the latter marks an absence of, it is a corruption of, the higher. The progress of organic development through the ages is a progressive internal specialisation in relation to external nature; the human organism, as the highest organic development, has the most special and complex relations with the external; and the highest mental development, as the supreme development of the human organism, represents the completest expression of the most special and complex harmony between man and nature. Now this concord will plainly be destroyed, and a discord produced instead, by that inherent defect of nerve element which an hereditary taint implies; for it implies, as we have seen, a predisposition to discordant action. Accordingly, there is witnessed in the infant, long before any responsibility attaches to its acts, either a congenital inability to respond to external impressions, whereby idiocy of greater or less degree is the consequence, or a defective nervous constitution, whereby the natural assimilation of impressions and the fitting reaction to them are seriously interfered with. In the worst cases there would seem to be a positive defect in the composition or constitution of nervous element; its fundamental self-conservative impulse, as living matter of specific quality, to be abolished. The strange perversions of the child's appetites and instinctive strivings evince this; instead of displaying an aversion from

what is injurious and rejecting it, the young creature positively seizes with eager appetite what is most baneful.

In all degrees and kinds of healthy life we witness in operation the *attraction* of what is suitable to growth and development and *the repulsion* of what is unsuitable: in the lowest forms of life we describe them simply as attraction and repulsion, or assimilation and rejection; as we rise higher in the scale of life the attraction becomes *appetite* and the repulsion becomes *aversion;* higher still the attraction is *desire* or *love,* the repulsion is *dislike* or *hate,* although if there is any character of uncertainty about the event, *hope* and *fear* are used to express the opposite tendencies; and the last and highest development of them is *willingness* and *unwillingness.* But in the child which is born with so strong a predisposition to insanity that it cannot develop, there is an absence of this pre-established harmony between the individual constitution and external nature: the morbid creature devours with eager appetite the greatest trash, and rakes out the fire with its fingers; it desires passionately and struggles frantically for what is detrimental to it, and rejects or destroys what is suitable and should, were it rightly constituted, be agreeable; it loves nothing but destructive and vicious acts, which are the expressions of an advanced degradation, and hates that which would further its development and is necessary to its existence as a social being. As it grows older, perversities of social feeling and conduct mark its discordant bias. By reason of its physical constitution it is a fundamental discord in nature; and its perverse desires and doings are the outcome of a gradually proceeding course of deterioration whereby it ultimately goes to destruction. It cannot assimilate nature, and nature will therefore, sooner or later, assimilate it. Meanwhile, as a diseased element in the social organism, it must be isolated or removed for the good of the organism.

As the mad acts of the insane child mark a degenerate state of nerve element, so it represents a *degenerate variety* or *morbid kind* of human being. However low such a being may be brought he never reverts to the exact type of any animal; the fallen majesty of mankind appearing even in the worst wrecks. There is sometimes a general resemblance to one of the lower

animals, but the resemblance is no more than a general and superficial one; all the special differences of mental qualities are more or less manifest just as all the special differences of anatomical structure remain. The idiot, with hairy back, may go on his knees and "bah" like a sheep, as did one of which Pinel tells; but as he does not get the wool and conformation of the sheep, so he does not get its psychical characters: he is not adapted to the relations of the sheep, and if placed in them, would surely perish, and he does evince traces of adaptation to his relations as a human being which the best developed animal never would. So also with regard to man's next of kin, the monkeys: no possible arrest of development, no degradation of human nature through generations, will bring him to the special type of the monkey: a degenerate kind of human being is produced, but it is a *morbid* kind, wanting the instincts of the lower animals, and the unconscious upward aspirations of their nature, as well as the reason of man and his conscious aspirations. It is a very rare thing, for example, to meet among idiots with that instinctive discrimination of poisonous matters which some beasts have; on the other hand, it is very common to meet among them with a perverted craving for improper food or injurious substances, which is in reality the unconscious display of nature's effort to extinguish a morbid variety, and which, but for charitable interference and fostering care, would soon accomplish its aim.

Man exists in an intimate correlation with nature at its present stage of development—is, as it were, the outgrowth at this stage of its evolution, and therefore flourishes well under existing conditions: the monkey, on the other hand, is not in harmony with the complexity of surrounding nature, modified as this has been so mightily by man, and is rapidly becoming extinct, the stronger species surely superseding it. Were it desired to bring man to the monkey level, it would be necessary to undo the latest mighty changes in nature, and to restore the condition of things which prevailed ages before he appeared, and of which the monkey was the natural outgrowth. While, then, the monkey type, and every other pure animal type, represent stages in the upward development of nature, the *theroid* degenerations of mankind are pathological specimens, which, not being serviceable.

for development, are cast off by the stream of progress, and are on their way to destruction, for re-issue by nature under better form. By such examples of dehumanisation men are taught how best to promote the progress of humanisation through the ages.

The foregoing considerations help us to understand how it is that we sometimes witness such a precocity of seeming vice in the insane infant or child. Innate in its human constitution lurks the potentiality of a certain development, the latent power of an actual evolution which no monkey ever has; for in it is contained, as by involution, or implicitly comprehended, the influence of all mankind that has gone before. When such a being is insane, there is not an individual creature only, but there is human nature, in perverse action, in retrograde metamorphosis; we have actualised in morbid display certain potentialities of humanity; accordingly exhibitions of degenerate human action are presented, which so far as regards the individual infant seem to mark prematurity of vice. Humanity is contained in the individual; and in these strange morbid displays there is an example of humanity undergoing resolution. Whatever act of vice, of folly, of crime, of madness one man has perpetrated, there is in every man the potentiality of perpetrating; if it were not so, why repeat the decalogue? In the sense of anything in nature being self-determined and self-sufficing, there is no individuality: as in one word are summed up the foregoing ages of human cultivation, so in one mortal are summed up the foregoing ages of human existence. Both in his knowledge and in his nature each one is the inheritor of the acquisitions of the past—the heir of all the ages. Take the word which represents the subtile and, as it were, petrified thought of a high mental culture, and trace back with analytical industry its genesis,—resolve it into its elementary production,—what a long succession of human experiences is unfolded! What a gradual process of growth, rising in speciality and complexity up to that organic evolution which the word now marks, is displayed! Take, in like manner, the individual being, and trace back in imagination through the long records of ages the antecedent steps of his genesis, or observe intelligently the resolution of his essential human nature as it

is exhibited in the degenerate acts of the insane child—in this experiment thus obtruded on the attention by nature—and there will then be no cause for surprise at phenomena which the young creature could never have individually acquired, and which, so far as its conscious life is concerned, appear strangely precocious and inexplicable. There is the rapid undoing of what has been slowly done through the ages; the disruption and degenerate manifestation of faculties which have been tediously acquired; the resolution of what has been the gain of a long process of evolution; the formless ruin of carefully fashioned form. We are sad witnesses of the operation of a pathological *law of dehumanisation* in producing dehumanised varieties of the human kind.

CHAPTER VII.

THE SYMPTOMATOLOGY OF INSANITY.

MUCH discussion, into which I shall not enter here, has taken place at different times concerning the proper method of classifying the varieties of mental derangement, and as many as forty or fifty different systems of classification have been propounded: a sufficient proof that no one has yet been found to be satisfactory. Some writers desire to have an exact pathological basis for each of the varieties which they recognise, and throw scorn on anything short of that, before they have done more than cross the pathological threshold, and while they still know nothing of what is going on in the intimate and inaccessible workings of nerve element. Doubtless, their day will come a long time hence; in the meantime we may pass them by as persons whose eager aspirations have outrun practical needs, and whose enthusiasm oftentimes forestalls observation. The commonly received classification is the least ambitious, since it is founded upon the recognition of the obvious differences of the mental features—that is to say, is entirely symptomatological; it is simply a convenient scheme for grouping together into some sort of provisional order phenomena which resemble one another, without regard to their real nature, their origin, and their essential relations, concerning all which it gives no information. We group together under the name of *Melancholia* a number of cases in which the symptoms are those of great depression, and under the name of *Mania* other cases in which the symptoms are those of exaltation and excitement, notwithstanding that what seems to be the same cause may produce the depressed form in one person and the excited form

in another, and that the disease may go through both forms in the same person before it has run its natural course. Clearly such a classification of symptoms must be looked upon as provisional; but for the present it is convenient, and in truth necessary. Were there no methodical classification of symptoms, an author would be compelled on each occasion, when describing a variety of mental derangement, to set forth the symptoms in detail instead of denoting them by the general name of the class, and there would be no end of his labour. This necessity of calling up by a general term the conception of a certain coexistence and sequence of symptoms is a reason why the old classification holds its ground against classifications that are alleged to be more scientific: it is good so far as it goes, but it by no means goes to the root of the matter; whereas the classifications which pretend to go to the root of the matter go beyond what knowledge warrants, and are radically faulty.

Some persons exhibit eccentricities of thought, feeling, and conduct, which, not reaching the degree of positive insanity, nevertheless make them objects of remark in the world, and cause difficulty sometimes when the question of legal or moral responsibility is concerned. They are so unlike other people in their feelings and thoughts, and do such odd things, that they are thought to have a strain of madness in them; they have what may be called the insane temperament,—in other words, a defective or unstable condition of nerve element, which is characterised by the disposition to sudden, singular, and impulsive caprices of thought, feeling, and conduct. This condition, in the causation of which hereditary taint is commonly detectable, may be described as the *Neurosis spasmodica* or *Neurosis insana.*

The Insane Temperament or Neurosis insana.

It is characterised by singularities or eccentricities of thought, feeling, and action. It cannot truly be said of any one so constituted that he is mad, but he is certainly strange, or "queer," or, as it is said, "not quite right." What he does he must often do in a different way from all the rest of the world. If he thinks about anything, he is apt to think about it under strange and novel

relations, which would not have occurred to an ordinary person; his feeling of an event is unlike that which other people have of it; he has perhaps the strangest twists and cranks of thought, and is given to punning on words; and now and then he does whimsical and apparently quite purposeless acts. There is in the constitution an innate tendency to act independently as an element in the social system, and there is a personal gratification in the indulgence of such disposition, which to lookers-on seems to mark great self-feeling and vanity; he, however, is so exclusively engrossed in the affection of self that he gratifies his eccentric impulses without being conscious of the way in which his conduct affects other persons. Such an one, therefore, is looked upon by those who perform their duties in the social system with equable regularity, thinking and feeling always just as other people think and feel, as odd, queer, strange, crochety, not quite right.

This peculiarity of temperament, which is the sign and perhaps the sanitary outlet of a predisposition to insanity, borders very closely upon genius in some instances; it is the condition of the talent or wit which is allied to madness, being only divided from it by thin partitions. The novel mode of looking at things may be an actual advance upon the accepted system of thought, and occasion a flash of true insight; the individual may be in a minority of one, not because he sees less than, or not so well as, all the world, but because he happens to see deeper, and to have the intuition of some new truth. He may differ from all the world, not because he is wrong and all the world is right, but because he is right and all the world is wrong. Of necessity every new truth is at first in a minority of one; it is a deviation from or a rebellion against the existing system of belief; accordingly, the existing system, ever thinking itself a finality, strives with all the weight of its established organisation to crush it out. By the nature of things that must happen, whether the novelty be a truth or an error. It is only by the work of rebels in the social system that progress is achieved, and precisely because individuality is a reproach, and sneered at as an eccentricity, is it well for the world, as Mr. J. S. Mill pointed out, that individuality or eccentricity should

exist.[1] It will not be amiss to set this matter forth at greater length, to the end that we may, if possible, get a just conception of the real relation of certain sorts of talent to insanity.

The genius is in the van of his age: in that wherein he is ahead of it he necessarily differs from his age, and is oftentimes therefore pronounced mistaken, unpractical, mad; in that wherein he agrees with his age, he is necessarily not original; and so appears the truth of an observation of Goethe, that genius is in connection with its century only by its defects—that in which it is not genius. Certainly the originality of a man of true genius will grow out of the existing system, and may be traced as a genetic evolution of it; he is in radical connection with his century; but the more forward he has gone in his development, the more he will outshoot his age and differ from it. Accordingly, many a man of genius who has appeared before his time—in other words, before the social organism has reached that height of evolution which his thought marks—has made little impression upon the world, and perhaps been altogether overlooked or soon forgotten by it, having most likely been thought more or less mad in his lifetime; and the person who usually gets most reputation, and whose name is made to mark an epoch in development, is he who systematises and definitely sets forth—that is, brings into illuminated consciousness—the method which mankind has for some time been instinctively and unmethodically pursuing. A Bacon or a Comte, being not really much in advance of his time, but having eyes to discern the tendencies of development, and a capacity of co-ordinating knowledge, is he who gets the most honour. But even he is not honoured so much by his own age as by a posterity which has grown to his level. We never see how high the mountain is until we get some distance from it.

An inherent disposition of nature which renders a man dissatisfied with the existing state of things and urges him to novel strivings, is really an essential condition of originality: to suffer greatly, and to react with corresponding force, being a means of dragging the world forward at the cost of individual comfort. Consider, however, what an amount of innate power

[1] *Essay on Liberty.*

a man must have in order to do that, without himself sinking under the huge weight of opposition! Many eager and intense reformers, whose vital energies have been swallowed up in the passion and the promulgation of a truth, which was perhaps an important one, have notoriously broken down in face of the crushing force of the organised opposition. They have been so much engrossed in their idea, so carried away by it, so blind to the force of the circumstances with which they have had to contend, so abandoned to its propagation, so one-sided and fanatical, as to be almost as heedless of the manifold relations of their surroundings as actual madmen are; accordingly they have often been called, and sometimes perhaps were, mad. Certainly their failures prove that they had not sufficient insight, patience, and capacity for the task which they had undertaken: that they did not succeed is scientific proof that they did not deserve to succeed. Howbeit they had not immediate success, their work may not have been all in vain. The heroes that have fallen in the lost field of the fight for the cause that seemed to perish with them have oftentimes risen to memory after many years of oblivion during which no man spake of them; they had struck a rift in the false doctrine, and dropped a seedling of new truth into it, which, as it grew, opened gradually a wider and wider gap, and in full time shattered and silenced it.

It is undoubtedly true that where hereditary taint exists in a family one member sometimes exhibits considerable genius, when another is insane or epileptic. The fact proves no more than that in both there has been a great natural sensibility which, under different outward conditions of life, or different internal conditions of body, has issued differently in the two cases: the one has been better endowed by nature or more favoured by fortune than the other. We may properly look at the function of unstable nerve element from two aspects—first, as regards the reception of impressions; and, secondly, as regards the reaction to them. In the first case we may have one who is equal to the ordinary events of a calm life, but who, quick to feel and slow to govern quick feeling, possessing no reserve force of inherited or acquired endurance and energy,

incapable alike of a steady subordination of self to events, and of the power to subordinate events to self, is unequal to the strain, and breaks down under the stress of adversity. And yet his extreme nervous susceptibility may render him sensible of finer shades and more subtile delicacies of feeling and thought than a more vigorously constituted being of coarser sensibilities is. The defect, then, is in some respects an advantage, although a rather perilous one, since it may go near the edge of madness. Such men as Edgar Allan Poe and De Quincy illustrate this great subtility of sensibility amounting almost to disease, and so far give colour to the extravagant assertion of a French author (Moreau de Tours), that a morbid state of nerve element is the condition of genius. It must not be lost sight of, however, that a person so constituted is nowise an example of the highest genius; for he lacks, by reason of his great sensibility, the power of calm, steady, and comprehensive mental assimilation, and must fall short of the highest intellectual development. Feeling events with a too great acuteness, he is incapacitated from the calm discrimination of the unlike, and the steady assimilation of the like, in all sorts of them, grateful or ungrateful, by which the integration of the highest mental faculties is accomplished,—by which, in fact, the truly creative imagination of the greatest poet and the powerful and almost intuitive ratiocination of the greatest philosopher are fashioned. His insight may be marvellously subtile in certain cases, but he is not sound and comprehensive. Albeit it might be said by one not caring to be very exact that the genius of an acutely sensitive and subjective poet betokened a morbid condition of nerve element, yet no one, after a moment's sober reflection, would venture to speak of the genius of such men as Shakspeare and Goethe as arising out of a morbid condition.[1] The impulse

[1] "So far from the position holding true, that great wit (or genius, in our modern way of speaking) has a necessary alliance with insanity, the greatest wits, on the contrary, will ever be found to be the sanest writers. It is impossible for the mind to conceive of a mad Shakspeare. The greatness of wit, by which the poetic talent is here chiefly to be understood, manifests itself in the admirable balance of all the faculties. Madness is the disproportionate straining or excess of any one of them."—*Sanity of True Genius*, by Charles Lamb.

which urges these men to their high striving is not so much one of dissatisfaction as one of non-satisfaction—a craving, in fact, for appropriation; they want to feel and know ever more and more of nature in all her multitudinous moods and aspects, and to get into ever nearer and nearer relations of concord with her; their internal potentialities speak by a feeling of want, a craving, an unsatisfied instinct, not otherwise than as the lower organic elements manifest their sense of hunger, or as the sexual instinct reveals its want at puberty. The difference between the desires which are the motives to action of the highly-endowed, well-balanced nature of the genius, and the desires which inspire the eccentric and violent acts of the incipient madman, is indeed very much like the difference between the natural feeling of hunger in the healthy organism, and the vitiated appetite for garbage and dirt which the hysterical person displays occasionally. In the former case the aspiration is sound, and acts to perfect a harmony between the individual and nature; in the latter, it is unsound, and tends to the production of an irreconcilable discord. The good organisation hardly needs a long training; it will make the means of its own best training by the operation of its excellent affinities; and it will thus, directly or circuitously, attain to its best development. The bad organisation, on the other hand, can only be saved from degeneration by suitable training; if unguarded by watchful control its natural affinities will drag it downwards to destruction.

A no less important difference between the highly-endowed nervous constitution of the genius and the morbid nervous constitution of the hereditary madman will appear when we look to the reactive instead of the receptive side. The difference is not unlike that which there is between a quiet aim-working volitional act and a spasmodic movement. The acts of the genius may be novel, transcending the established routine of thought and conduct; but, however original and startling they appear to those who work on with automatic regularity in the social organisation, they contain, consciously or unconsciously, well-formed design: implicit in them are the intuitive recognition of and the intelligent respondence to outward relations; in other

words, they are aim-working for the satisfaction of an inherent impulse, which operates none the less wisely because there may not be a distinct consciousness of its nature and aim. *Inspiration* is the exact opposite in this regard of *habit* or *custom*—that "tyrant custom" which completely enslaves the whole manner of thought and action of the majority of men: in the inspiration of a great thought or deed there is the sudden starting forth into consciousness of a new combination of elements unconsciously present in the mind; these having been steadily fashioned and matured through previous experience. On the other hand, the acts of the person who has the evil heritage of an insane temperament are irregular, capricious, impulsive, and aim at the satisfaction of no beneficial desire; the outcome of a predisposition which is itself the materialisation of ancestral irregularities, they tend to increase that discord between himself and nature of which the aberrant acts are themselves evidence, and they must end at last in his destruction.

I have lingered thus upon the relations which a form of talent bears to insanity, in order to mark, if possible, the character of each—so like on the surface, at bottom so unlike—and its true position in the social organisation. A large genius is plainly not in the least akin to madness; but between these widely separated conditions a series of connections is made by persons who stand out from the throng of men by the possession of special talents in particular lines of development; and it is they who, displaying a mixture of madness and genius at the same time, have given rise to the opinion that great wit is allied to madness. They are said perhaps to have too much imagination; by which is meant not that they have a large, calm, well-stored, and truly informed imagination, but a narrow, intense, ill informed imagination that works wildly without due nourishment of facts and undisciplined by habitual obedience to law—in other words, a one-sided and defective imagination.[1] With

[1] There never was a truly great imagination without great understanding: and it is ridiculous to attempt to separate them. To say that women have more imagination than men, and that the savage has more imagination than the civilised man, is nonsense; for it is to call by the higher name what is a negation of the best imagination, and the product of intellectual barrenness and want of training in observation and reflection.

true genius there may be an uncommon deviation from the usual course of things; but there is the full recognition of the existing organisation as the basis of a higher development, a fusing of the past through a new mould into the future; in insanity there is a capricious rebellion, as the initiation of a hopeless discord. A man of deep insight and comprehensive view may penetrate beneath the masks of things, and see into the real nature of many of the illusions set up by common consent to be worshipped, but he still finds a real truth and meaning beneath the fleeting phenomena, and he accepts with equanimity the present, not as the end, but as means to an end, perceiving in it the prophecy of a completer future: he subordinates his self-hood to the system, works quietly and sincerely in his sphere, and is moved by no passion springing from offended self-love to set the world violently right. He can perceive the urgent need of reform, and long for its coming, without going mad with vexation and injured self-love because it plainly will not come to pass in his day and by his means. The man of great self-feeling, on the other hand, may penetrate the incompleteness, the inadequacy, the emptiness of many existing doctrines and practices, but he is too apt to find the whole ridiculous, not having calm enough apprehension to lay hold of the degree of truth which lies often at the bottom of seeming shams; he deems himself thoroughly emancipated when he is actually the unconscious slave of an extravagant self-feeling, by reason of which he is made angry with the comedy of life, is instant to do some great thing, passionately earnest to set the world right with a one-sided vehemence: there is the reaction of a great self-love which incapacitates its possessor, or rather its victim, from subordinating his self-hood to the laws of the existing organisation. Has not Goethe put this truth tersely and well in the words, "The man of understanding finds almost everything ridiculous; the man of reason hardly anything"?

When the heritage of an insane temperament exists, it will of course depend much on the internal bodily conditions and the external circumstances of life whether the mischief shall remain dormant or shall issue in positive insanity. In favourable circumstances it may manifest itself only in harmless eccentricities

and caprices; but if the person is placed under conditions of great excitement, or subjected to severe mental strain, the inherent propensity is apt to display itself in an impulsive act of violence, or in an outbreak of some form of mental derangement. One sees from time to time brothers who have presumably had the same neurotic inheritance go very different ways, and reach very different ends, in life, according to the different conditions on which each has chanced to light; the one perhaps gaining position and fortune, the other ending in suicide or in a lunatic asylum. The great internal disturbance produced in young girls at the time of puberty is well known to be an occasional cause of strange morbid feelings and extraordinary acts, particularly where the insane temperament exists: in such case irregularities of menstruation, always apt enough to disturb the mental equilibrium, may give rise to an outbreak of mania, or to extreme moral perversion more afflicting to the patient's friends than mania because seemingly wilful. The stress of a great disappointment, or any other of the recognised causes of mental disease, will meet with a powerful co-operating cause in the constitutional predisposition. On this matter, however, enough has already been said when treating of the causation of insanity.

A description of the peculiarities of mind and body which mark the varieties of the insane temperament would assuredly be both interesting and useful. But the study, which has yet to be made, will be difficult, and the description more difficult still, for it will mean the exact delineation of glances, gestures, attitudes, turns of thought, of feeling, and of expression, which, albeit they are distinctly recognised when they are seen, cannot well be set forth by a verbal description.

A quality of mind which is pretty well common to all the varieties of the temperament, but marks one variety of it in particular, is an intense self-feeling, which has various sorts of expression in character. One might name this the *egoistic* variety. Everything is looked at in the light in which it affects self; there is a singular and serenely unconscious incapacity to look at self or the incidents which affect it from any outside standpoint. What will be noted in some instances is that the

self-feeling widens to embrace the family without going a step farther in expansion. There is then an intense family feeling; the members constitute, as it were, one self, feel with one another in a close and narrow sympathy, measure all their doings and other persons' doings by the standard of family feeling, and are little or not at all affected by the opinions which outsiders may entertain or by the interests which they may have. Such persons think how things will affect their sensibilities and judge them accordingly, instead of ever thinking how they may be fitted to discipline and improve their sensibilities, and how well it might be that they were used for that end; exact with serene unconsciousness of selfishness the labour and sacrifices of others, as if it were in the natural order of events that they should use all men and be used of none, should be considered of all and should consider none; are so entirely engulfed in exaggerated family feeling that they do not perceive the family oddities and failings of character, but perhaps look upon and even foster them as something higher than the virtues of other families; are shut off by their narrow sympathies from anything like a large and healthy hold on the wide and manifold interests of human life, and from the beneficial discipline of thought and feeling which a wider experience would exert upon them. Withal they are capable sometimes of extraordinary self-sacrifice for one another.

The fact is that they are too much akin in character; they have been bred too much alike; the strain wants variety; and their best chance to go through life without breaking down into mental derangement themselves, or without breeding such derangement in the next generation, is to be separated widely from one another, and to be placed in different conditions of life, whereby more healthy differentiations of character may be produced. One notices perhaps in families of this kind that the member who has been abroad in the world, and has mixed among men in various parts, and participated in their interests and doings, is the only one who displays a fairly rational and healthy tone of mind; and for the same reason the men of these families, who, being obliged in their intercourse with the world to check the gross display, have so in

some measure checked the growth, of the habit of morbid suspicion and exacting selfishness, are better disciplined in mind than the women who stay at home and nurse their narrow sympathies in a narrow sphere. However, let the stress be great enough, the fundamental feeling will seldom fail to come out even in those who have undergone the most varied discipline.

A more marked variety of an insane temperament shows itself in an extremely suspicious and distrustful nature; it might be named the *suspicious* variety, for the suspicion is morbidly acute and intense. Persons of this disposition oftentimes show not less, if not more, distrust when they meet with fair and open dealing, which is antipathetic to their natures, than when they are in face of fraud and duplicity, with which their natures are sympathetic; not being able to divine the interested motive which they cannot help believing to instigate the most candid advice, they cannot digest it, and imagine it to be too deep and inscrutable for them, whilst fraud is a congenial flattery of their characters; so it comes to pass that they become the easy dupes of plausible impostors, who, pandering to their foibles, play upon their infirmities. Moreover, any strange doctrine which is based upon a distrust of what the majority of men believe, and is a rebellion against the accepted system of thought and practice, has a pathological attraction for their intensely distrustful natures; not because they have anything like an adequate knowledge of the errors of what they reject or of the merits of what they embrace, but simply because the latter is heterodox. With this suspicion of others goes insincerity in themselves; distrustful, they are untrustworthy. Having little or no sympathy with their own healthy kind, they sometimes display extraordinary affection for a cat or a dog, and arrogate to themselves a superior humanity because of their greater affection for animals than for men. I need not repeat what I said formerly of the secret ways, the suspicious imaginings, the exacting distrusts, the duplicity of those near relatives of insane persons who, having this unhappy temperament, ask advice, follow it not faithfully, and then blame the giver when the issue is not happy. With the morbid habit of mind goes sometimes a corresponding habit of bodily expression—a downcast,

furtive glance, an unsteady, vacillating eye which cannot look full and frankly into another person's eye; a stealthy, cat-like step and sneaking attitude; nothing like frank outlook, erect bearing, firm and manly gait. In some instances an effusive candour and an apologetic humility of manner beguile the unwary into a belief of their sincerity, which is after all perhaps genuine at the moment. Entirely possessed for the time by the feeling which the occasion kindles, they express it freely; their whole conscious state is, as it were, the vibration of the momentary emotion, an exclusive energy; but when its flame subsides, as it quickly does, and reflection begins, their normal suspicious functions regain their hold, and they act as if the previous demonstrative expression of feeling had been false and hypocritical. It was as much out of relation with their normal mental functions as a muscular spasm is out of relation with normal muscular action. Hypocritical without doubt it was so far as real sincerity of the whole nature was concerned, but not quite consciously so at the time.

It has been noticed in several instances that members of the same family who have become insane have laboured under the same form of disease or under similar actual delusions. In one family three brothers and a sister, who were all the members of it of their generation, went mad one after another, and they all had similar delusions of conspiracy and persecution. Their mother, who was not supposed to be insane, was the most suspicious and distrustful person whom I have ever met: on one occasion she declared to me, in an outburst of momentary sincerity, that she never trusted anybody, for she had been so often deceived. There was no reason to believe that she had fared worse in the world in that respect than other people, and naturally her words stirred the sad reflection how much better for her family it would have been had she trusted more and suspected less.[1] I call to mind another case in which three

[1] This lady was much hurt, and never forgave me for having been thoroughly candid with her. She had buoyed herself up with hopes, that had no real foundation, that a demented son would recover, and had gladly accepted the half promises of cure which different doctors whom she had consulted had given her, abusing them afterwards for deceiving her. When I told her that his case was truly hopeless, and that she should

sisters became insane, and all had similar delusions that they were poisoned by chemical fumes and tortured by magnetism: it was the more remarkable an instance because they had married and had been separated in their lives. Everybody must have noticed how exactly like one another in thoughts, feelings, and ways two or three maiden sisters who have always lived together become; so that when one of them falls insane it is a long time before the others perceive or acknowledge it, and not always easy for an observer to say offhand which is the patient.

A writer in a German medical journal gives an account of a whole family who became insane.[1] The family consisted of father, mother, and six grown-up children. From time to time they used to appear before the central authorities of the department to complain that they had been plundered of their property by the magistrates of their district. It was entirely a delusion. They had shut themselves up in their house, abandoning the cultivation of their land, and would listen to neither entreaties, arguments, nor remonstrances from their neighbours, who out of compassion had gathered in their crops for them. They lived in a miserable manner, used no fire, and washed their clothes without soap in a neighbouring brook; a deputation of them going from time to time to the authorities to complain of the injury that had been done to them. This went on for nine years. Eventually two of the younger members left home to take situations, and another died. At last, the father died in the winter of want and cold, and one winter's night the mother died on the road as she was returning from one of her fruitless expeditions to obtain redress. The three who were left, two sisters and a brother, were then sent to a lunatic asylum. One of the sisters, who was microcephalic and somewhat weak-minded, got rid of her delusions of persecution at the end of eight months and became a useful servant. The brother too left the asylum and obtained employment; but the eldest sister remained under the influence of her delusion, and was angry and

make her plans accordingly, she was indignant, exclaiming, "Why do you tell me that!" and no doubt had recourse to some one who was willing to deceive her again.

[1] *Zeitschrift f. Psychiatrie*, B. 29, H. 2.

abusive when contradicted. The conclusion of the physician who inquired carefully into the history of this family was that the mother and daughter had been genuinely insane, having the delusion that they were persecuted, and that they had succeeded in infecting with it the other members of a not strong-minded family, who would no doubt have escaped had the mother and daughter been removed to an asylum at the outset.

In the *Annales Médico-Psychologiques*, 1863, Dr. Bonnet gives a remarkable account of suicidal insanity in twin brothers, Martin and Francis. They were robbed of 300 francs. One morning afterwards the brothers, who lived several miles apart, had a similar dream at the same hour, three o'clock A.M., and awoke in great agitation, shouting, "I catch the thief; he is injuring my brother." Martin's agitation increased; he complained of violent pains in his head, declared he was lost, and, eluding observation, ran to the river and attempted to drown himself, but was rescued. In the evening he was removed to an asylum. Francis, who had become calm after his first excitement, shouted that his brother was lost, on seeing him taken away, that he was mistaken for the thief, that they were going to kill him; complained soon after of violent pains in his head, declared he was lost, and attempted to drown himself at the same spot where his brother had done. He was soon got out of the water, but could not be restored. Martin died three days after his admission into the asylum, having remained in a continuous state of excitement unto the end.[1]

The form of mental derangement which is most likely to be communicated in this way by a sort of infection or sympathy is that which is characterised by groundless apprehensions and

[1] In different numbers of the *Annales Médico-Psychologiques* are related several cases of this sort of communicated insanity. Among the rest the case of twin sisters, one of whom, afflicted with fears and delusions of persecution, infected the other, who soon recovered her senses when separated from her sister. In the *Annales Médico-Psychologiques* of July, 1875, is mentioned the case of a French soldier who imagined himself son of the Emperor of Austria, and that he would be crowned in Paris or in Rome: he travelled in Italy, Spain, and France to attain his end. His twin-brother, who accompanied him in his travels, believed in his delusions, and had exactly similar ones, imagining that he would be crowned at Rome when his brother was crowned at Paris.

delusions of persecution. No wonder, considering how easily suspicion is stirred up in some minds, and how quickly, once raised, it creates imaginary proofs of hostility, and feeds itself upon the delusive evidences thereof. How much more is this so in the suspicion of the insane temperament! The explanation of such infections is to be sought, as before indicated, partly in the essential likeness of nature in members of the same family, whereby they are disposed to feel and think alike, and to foster one another's habits of thought and feeling by sympathy; and partly in the absence of external differentiating influences, owing to the fact that they live in the same narrow conditions of life, have the same mean hopes and fears, and pursue the same petty ends by the same means. By a sort of pre-established harmony of nature their minds are attuned to chime together, and they naturally do so when they are struck by the same impressions. Habits of thought may thus grow side by side in two persons, and at the same rate, into a common delusion, or—what is more likely—the stronger character succeeds in impressing its delusion upon the weaker mind.

Another variety of the insane temperament is characterized by extreme irresolution and vacillation; it might be truly described as the *vacillating* or *self-tormenting* variety. Those who have this temperament are distressed beyond measure when they have to decide anything, however trivial, cannot come to a decision out of apprehension lest it should be wrong, and worry themselves and others with the many times reiterated arguments for and against. Although the decision is not of the least consequence, whichever way it goes, it causes them the utmost mental tribulation, and engages them hour after hour in over-anxious considerations of a really puerile character; and when the decision has been made there is an instant fear that it has been wrong, and an instant relapse into the self-torturing ingenuity of discovering objections to what has been decided and of conjuring up the best reasons in favour of what was not decided. Whatever they have done they persuade themselves they ought not to have done, and what they have left undone that they think they ought to have done. Thus they go on from day to day, from month to month, a plague to themselves

and to others with their brain-sick scruples and fears. If it were some great thing concerning which they dubitated and wavered, one would not think it anywise strange, for the habit of thinking, Hamlet-like, too precisely over the event, which sicklies o'er the native hue of resolution with the pale cast of thought, belongs to certain minds of great capacity in which the intellectual predominates over the affective element; but it is about the meanest and most insignificant affairs of daily life, as, for example, what dress shall be put on, which side of the street they shall take, whether they shall travel by one train or another, what order shall be given to the cook for dinner, and the like, that they are thus mightily concerned. I call to mind one lady, whose father had committed suicide, and who herself had been afflicted with a great weariness of life and with frequently upstarting ideas how well it would be if it were over, who positively dreaded to rise from her bed in the morning, because of the suffering which she knew she must undergo in settling what dress she would wear, and who declared that she went through agonies each morning before she could summon resolution to give orders for the day's dinner; and the case of a gentleman having both mother and brother hopelessly insane, who, although he had no profession, nor business, nor real work of any kind, was restlessly busy all day in deliberating upon the trifles of domestic concern which he did not find time enough to settle. For when the matter had been gone into fully, and all the reasons on one side and on the other set forth elaborately, and the course of action at last fixed upon, he would, notwithstanding that he was aware of his teasing infirmity, begin again at the beginning as if nothing had been said.

Nearly akin to this variety of unsound temperament is that in which an idea or impulse, oftentimes of a trivial or even ridiculous nature, springs up in the mind and takes such hold of it that it gives the person no rest until he has yielded to it; I may call it, for distinction's sake, the *impulsive* variety of self-torment. In one case a man's life was a series of successive struggles to resist ideas which were always annoying, oftentimes distressing, and sometimes ridiculously foolish; he must enter a house with a certain foot first, for if he succeeded by a strong

effort over himself to conquer the whim by putting the other foot first, it was a terrible wrench to him, and he had no rest of mind until he had gone out of the house and re-entered it with the proper foot first; he must take particular notice of a name or of a number over a shop-door, and if he resolutely turned his eyes away as he passed the door, he was obliged in the end to turn back in order to look at the name or number, having gone back more than a mile on one occasion to do so after he had made a supreme effort to be master of the absurd impulse; if it came into his mind that he must move a particular book or piece of paper on the table for no reason whatever—and whims of that kind were constantly coming into his mind—he had learned by long experience that he would have no peace of mind until he succumbed. He was not an idle man who had nothing to do but brood over these impulses and so magnify them, but gained his livelihood by manual labour; was moreover unusually intelligent, and quite as conscious of their morbid character, and of the propriety of withstanding them, as any one else could be, but he came of a family in which there was mental disease.

In another case a gentleman of good means and position, having an insane brother, was tormented with similar impulses of a ridiculous nature. In all outward seeming he was so sound that no one of his acquaintances except one or two friends to whom he had confided his troubles had the least notion how he was afflicted. Many were his battles against the tormenting impulses, but he was forced to succumb to them in the end, for after prolonged struggle he would become extremely agitated and distressed, break out into a violent perspiration, and tremble as much as if he had just had a terrible fright. Once when driving along the public road he chanced to notice two stones on the top of a high wall, whereupon it instantly came into his mind that he must have them down. The wall was too high for him to reach them, and the absurdity of taking a ladder there in the day-time in order to get at them helped him to resist the impulse, which he did during what he described as a most miserable fortnight; but at the end of that time he went secretly out of the town by night to the wall, taking with him a long whip, with the lash of

which he succeeded, after several attempts, in dragging the stones down. After that he had rest of mind until a new impulse took hold of him.

I shall mention only one instance more of this self-torturing habit of mind, which shows itself in all sorts of whims, of the absurdity of which the person is perfectly aware—for example, in thinking constantly of particular numbers or particular words and then noticing that they appear with mysterious frequency on all sorts of occasions; in asking himself the reason of some very common thing, and the reason again of that, and so going back in questioning without end; in groundless apprehensions of having said or done something which, although perfectly innocent of harm and not of the least consequence, may have injured some one; in fears lest he should be made to do unconsciously at some time a ridiculous or improper act, to which he feels an impulse that he is resisting successfully for the present. The loss of control over the ideas and feelings of which he has such painful experience brings home to him the alarming conviction that he is at the mercy of an accident and may be precipitated into doing some day what he apprehends with fear and trembling; and he will burst into tears and sob piteously as he tells the sad story of his fears and struggles.

The following story is in the words of a gentleman who consulted me, and who had written it out for me when he came:—

"I inherit from my father's family a troublesome liver; from my mother's a singularly nervous temperament, which has exhibited itself in several members of the family. One of my uncles was subject to strange hallucinations, which took what I believe is the not uncommon form of the fear of a design upon his life, even from his own family; he had also a belief that some hostile supernatural agency was at work to frustrate his designs.

As far back as I can remember, my life has been troubled by some form or other of nervous irritation.

As a very little child, I remember, I attached a peculiar importance to certain numbers; this or that trivial action must be accompanied by counting so many, or the action must be repeated so many times; later, certain of these numbers assumed a special importance;

three, or any multiple, must be avoided in ordinary actions as being in some sort sacred to the Holy Trinity. An imperative necessity seemed laid upon me to touch or move this or that object, though I might have no desire to do so; and, as I think is related of Dr. Johnson, I would submit to no little inconvenience to avoid treading upon the joins of the paving stones. Generally I may say that that which was least pleasant seemed most strongly obligatory; for example, if I chanced to be walking with any one, the impulse to pick up a chance straw in the path was greatly stronger than if I were alone, though (or perhaps, because) I was very sensitive to fear of my peculiarities being known; and, again, though I was fantastically particular as to cleanliness, I was especially impelled to touch some dirty or offensive object. I remember putting myself to considerable trouble to go out again after reaching home to move some trifling thing I had chanced to notice on the pavement. To resist these impulses was very painful, though to yield was of little advantage, as the one satisfied was quickly followed by another. I read, as I remember, one of those weird German tales, which made a strong impression upon my mind; it was the story of one of those compacts with the devil which form the subject of so many legends; the one, I think, on which *Der Freischütz* is founded. For a long time the formula which was to constitute the contract was constantly recurring to my thoughts, and a sort of necessity seemed imposed upon me to give it mental assent. As it was necessary that it should be *thought*, I was obliged, if I may so express myself, to think it negatively, and so to avoid, as it seemed to me, taking the terrible pledge. For a very long time after this particular fancy had lost its hold, the phrase thus reversed was continually recurring to my mind. In a similar way a prompting to say or to think some sentence of malediction against God had to be met by adding a negative and some expression of blessing or praise. Later, as a youth of eighteen or thereabouts, an imaginary obligation under fancied oaths of a terrible character to do any trifling thing was the source of no little trouble to me. I do not mean that I believed that I had at some former time taken such an oath, but that the mere occurrence of the thought of the oaths, though without the assent of my will, seemed, to my disordered sense of conscientiousness, to make it binding upon me; under the influence of this feeling, I would repeat some remark in conversation which I had already made, I would take a turning in the street, which was out of my way, or buy an

article I saw in a shop window for which I had no use. Trifling as such things may seem in the recital, the amount of inconvenience caused was often very considerable, and the terrible sense of one of these obligations unfulfilled would cause me often the most intense unhappiness.

"Though these things could scarcely help being noticed, yet I think not even those of my own family ever knew the extent to which I was troubled. I was living, as it were, a kind of double life, one part full of wretchedness, the other that of a reserved and studious boy; and in spite of lengthy absences from school from ill-health, which prevented anything like scholarship, I was commonly regarded as intelligent in ordinary affairs, both at school and at home. For some years after entering my profession, though never quite free from mental excitement, I was much less disturbed than in my boyhood, so much as to lead me to hope that I was growing into a normal state of mental health. For some time past, however, I have had a recurrence of the old affection in a new form. There is, except when the mind is fully occupied by any quite engrossing employment, a prompting which reaches almost to a physical necessity, to give utterance to some blasphemous or obscene speech. As I pass through the streets, or on any one entering the room in which I may be, some phrase of this character presents itself to my mind, and, as it were, insists upon being spoken; any conscious effort seems to increase the evil, and evidently, though I am compelled to keep a constant watch upon myself, that very fact tends to increase the nervous excitement. I am unconscious sometimes whether I have spoken or not, for, unnatural as it seems, the thought is so vividly present to my mind, or the uneasiness it produces so absorbs my whole attention, that I cannot trust either to my own ears or my lips. The only sort of assurance I can give myself is by literally holding my tongue, the tip firmly between the teeth, and so rendering it physically impossible to utter distinct speech."

The last case which I have to mention is that of an exceedingly intelligent and accomplished elderly gentleman who had served with distinction in the army; he had been an opium-eater in his younger days, and not temperate in other respects. He had now abandoned the taking of opium, and was most temperate in habits and careful in diet. He lived in two rooms, out of

which he could not bear to go, from fear of occasioning bodily suffering to himself by exposure to sun or wind or from some other cause; could not read himself, although a well-cultivated person, because he thought it injured him to do so, and accordingly engaged some one to read to him daily. His mind was extremely active, but he was tormented by what he called "fads;" something came into his mind to be said or done, generally of the most trifling nature, as, for example, to move a lamp on the table a few inches from where it stood, or to touch some object as he passed it, and he had thereupon an irresistible impulse to go on repeating the act over and over again; however long and resolutely he resisted, he was obliged to succumb, for he had no peace of mind until he did. He could relinquish a "fad" of this sort at last in an indirect way by writing it down in a book after he had repeated it so many times, and he had accordingly made long records of pacified "fads"; but the misfortune was that he had no sooner got rid of one in this way than another would take its place and similarly harass him. He was obliged thereupon to go through the same process of repetition with it until he could turn it, so to speak, and so get past it. He had consulted several physicians about his state, and had taken counsel with clergymen; the latter he had called to his aid because, being a religious person, he was unspeakably tormented by apprehensions that he had not used exactly the right word in his prayers, and by impulses to go on repeating words. Oftentimes when he touched something the idea occurred to him that his hands must be soiled, and he felt that he must then touch something else, and so was obliged to go on touching one thing after another until he was wearied. In consequence of this tendency his morning offices occupied him for a long time every day. No one could have had a more exact knowledge of his state than he had, or perceived more clearly the absurdity of his bondage, but he had not the least power to deliver himself from it.

Another mode of outcome of the insane temperament is an extreme miserliness. With a remarkable unconsciousness of any display of selfishness the individual tenaciously claims and takes and holds to all he can get in a way which would rouse some sense of shame in a person who had not the temperament;

he, however, engrossed in the narrow desires of an intense selfhood, without a touch of generosity, feels not the least sense of shame. He persistently accumulates and lays up money which he needs not, without designing to make any use of it either for his own benefit or for the benefit of others; acting in fact as if he were carefully laying by stores which he would take with him when he went down to the grave and have great use of on the other side thereof. He loses all sight of the end in the means, and meanly toils for the means as if they were the end. "Thou fool! this night thy soul shall be required of thee," would be too flattering a speech to one whose life is proof of the absence of a soul in the true sense of the word. He is not one with his kind; shut up in a narrow selfishness, he fulfills not the functions of a sound element in the social organisation; he is on the way to, if he does not actually reach, morbid degeneracy. So long as grapes do not grow on thorns nor figs on thistles, we cannot expect such a one to beget healthy children; if he has any, they will most likely run in either an insane or a criminal groove.

The last variety of the insane temperament which I shall mention is that which is characterised by a complete or almost complete absence of the moral sense. Of course the varieties which have gone before might in one sense be called instances of defective moral sense, but in them there has been an extravagant growth of some egoistic passion, the hypertrophy of which has entailed an atrophy of sound social feeling; not an original privation of moral sensibility, a moral imbecility, such as I am convinced is sometimes the consequence of a bad descent. I have already described instances of young children sprung from insane families who have presented a complete moral imbecility, or have precociously displayed very definite immoral tendencies, and I shall have occasion, later on, to describe a genuine moral insanity in adults, and to point out its hereditary antecedents. Short of actual derangement which calls for interference, we meet with all degrees of moral deficiency in individuals, and sometimes with an extraordinary deficiency going along with a superior intelligence. It is easy to understand that this should be when we call to mind what has been said in foregoing pages concerning the evolution of the moral

sense in mankind; concerning the fundamental meaning of insanity as an aberrant phenomenon; concerning the near relations which sometimes subsist between crime and insanity; and lastly concerning the fundamental characteristic of an insane temperament. This temperament really means nothing more of course than an unsound temperament; the unsoundness consists in some defect or exaggeration of qualities which unfits it to adapt itself thoroughly to its social surroundings, and so to take its proper part in the social organisation, predisposing it to go the downward way of neurotic degeneracy until an actual morbid variety is produced either in its generation or in the generation which follows it. It will be found as a matter of experience, however, that the person who has it does not usually go actually mad himself; he is proof of madness in his family and is not unlikely to beget madness, but he remains himself much the same peculiar being all his days—near the border of madness, but not over it—and combining even sometimes extraordinary talent with his peculiarities.

There is a peculiar infirmity which I have noticed once or twice in persons who have had a marked neurotic inheritance, namely, an inability to look over a large space such as a wide expanse of sea or plain without feeling very giddy and strangely apprensive. One gentleman who consulted me about the insanity of his brother could never bear to look from a height over a large plain of country because of the distressing vertigo which it occasioned him: it was not any fear of falling from a height but the spacious view which produced the effect, for he had the same feeling if he were on the sea-shore or on a mound only, from which there was no possibility of falling. I observe that Reichenbach had noticed something of the same kind in some of his so-called sensitives: one of them could not look at a large plain because it made her sick; another always avoided an open square, and preferred to go through the alleys rather than cross it; to another a waving field of corn was disagreeable, because she felt as though she were being rocked by it and would vomit if she did not turn away. Dr. Westphal has described as *agoraphobia* a species of insanity which is characterised by the inability to cross an

open square. The condition marks a natural instability of motor centres like that which is acquired by the drunken man who steadies himself to cross a street by fixing his eyes intently on some object on the opposite side. The vertiginous feeling is the subjective aspect of the instability of the motor centres.

With the mental peculiarities which mark an insane temperament usually go peculiarities of features, of manner, of gait, and of other bodily movements that are modes of mental expression. Were we only clever enough to read the language, past all doubt a man's mind might always be discovered in his features and his bodily attitudes. In the insane temperament these characters are oftentimes so peculiar as to attract instant notice. "This fatal heritage," says Esquirol, speaking of extreme cases, "is painted upon the physiognomy, on the external form, on the ideas, the passions, the habits, the inclinations of those who are victims of it." It is hard to describe special traits of address and expression, which are nevertheless easily perceived when they are met with. A so-called "nervous manner," which is a common enough expression, covers in reality a variety of peculiarities: one person's address is uncertain, abrupt, jerky, and when he offers his hand it is with the air of a person who presents a pistol at you; another's is shy, hesitating, awkward, and instead of looking towards the person whom he approaches as he enters a room, or whom he is addressing, he rolls his eyes away strangely to the right or left or directs his gaze aimlessly to the ceiling; in other cases the movements are constant, restless, purposeless, or sometimes grotesque and uncouth.

There is occasionally a fixed, full, unfathomable look or stare which I have noticed in the eyes of persons who have inherited a decided predisposition to insanity; I recognise it, but cannot describe it; it is as though they were preoccupied with some undercurrent of thought different from that which is concerned in the conversation which they are holding. One feels instinctively that what one says to them is not going sincerely to the bottom of their minds. I have noticed it particularly in cases of mental depression in which there has been a suicidal feeling, and eventually perhaps a suicidal deed.

In some instances a singular inconsistency or incoherence

of features may be noticed; one part of the face shall be wreathed in smiles while the rest of the features are not in harmony with it, but have perhaps a grave and sober expression; or, in spite of what is being talked about being of a serious nature, there may be a nervous laugh on the face which is quite out of harmony with the mood of mind. Again I have noticed sometimes that a smile or laugh over the face shall not pass away gradually and change into a sober expression, as it naturally should, but shall be arrested abruptly in the middle of it and changed suddenly into a blank, abstracted, and rather vacant look of seriousness, without any corresponding abrupt change in the mental mood, so far as can be judged. This abrupt supervention of a vacant and abstracted look in the midst of ordinary conversation, without anything having been said to provoke it, may justly excite suspicion of a person's heritage. Lastly, one may remark in other cases an extraordinary mobility of features, which fall into as many and meaningless grimaces as those of an excited monkey, and especially of the eyes, which roll about or oscillate aimlessly as if they had broken loose from the bonds of ordinary expression and were making revolutions on their own account. With such grimacing features goes a grimacing mind—a twisted-mindedness, if I may so speak. When one eye rolls about out of accord with the other, as it does in some persons, I am not aware that it is the mark of an insane temperament, but is it not associated frequently with a duplicity of character? The peculiarities of physiognomy which I have indicated seem to fall mainly under two heads—first, an incoherence between moods of mind and their natural facial expressions, and, secondly, an incoherence of the special features which constitute the natural expression of a mood—a sort of dislocation or discontinuity of muscular function. The mind's expressions, like its functions, evince a tendency to incoherence.

These traits of expression are consistent with sanity of mind; they are not adduced as evidence of actual mental derangement, but as signs of a temperament which will usually be seen on inquiry to own a neurotic inheritance or be observed to found one. But in extremer cases of hereditary degeneracy the physical

signs of defect are more marked. The physiognomy has not regularity and harmony, but shows irregularity, discordance, or actual distortion of features; there is sometimes an irregular conformation of the head, one side of which may be larger than, or differently shaped from, the other; the ears are not well and regularly planted, nor perhaps properly formed in all their parts, and there may be actual deformity of one or both of them, as Morel has pointed out; convulsions have perhaps occurred in early life, and some sort of spasmodic movement or tic of certain muscles may continue throughout life. In the worst cases, where degeneracy has reached the depth of imbecility, the walk is vacillating and uncertain, and there is sometimes a disproportion between the limbs. It would be true probably to say that no one who lacks power to use and govern his muscles will be capable of good power of attention. Arrest of development of the sexual organs is not very uncommon; slight diseases readily take on a fatal character, so little is the power of vital resistance; and the mean duration of life among those strongly marked by this fatal heritage is less than the average.

There are corresponding peculiarities of disposition: Morel, of Rouen, to whom we are most indebted for the scientific investigation of these victims of degeneracy, described them as purely instinctive beings; they display instinctively certain remarkable talents, as for music, drawing, calculation, or exhibit a prodigious memory for details; but they are incapable of sustained thought and work—they cannot bring anything to a steady perfection, "do not know that they know, do not think that they think;" and under any great strain they are almost certain to break down into insanity, or to explode in some act of violence. It is remarkable nevertheless how much talent of a particular kind may coexist sometimes with these extreme forms of degeneracy; as if to show how much of the acquisitions of countless ages of mankind is now contained in the most degenerate specimens—what an infinitely sublimed heritage of eons of culture belongs to the essence of any human being of civilised parentage. I once saw a little girl, æt. five, imbecile from birth by reason of hereditary degeneracy, who could not speak a word, screamed frightfully, and was so mischievous and destructive that she

could not be left alone for a minute; yet she could hum correctly many tunes—her mother counted as many as twenty. As the result of his elaborate researches, Morel came to the conclusion that "in the inferior varieties of degenerate beings a like physical type is to be observed amongst all the individuals that compose these varieties, and a certain conformity in their intellectual and moral tendencies. They betray their origin by the manifestation of the same character, the same manners, the same temperament, the same instincts. These analogies establish amongst degenerate individuals under the same causes the bond of a pathological relationship." Forget not that between the extreme forms of this degeneracy and those slight eccentricities compatible with high talent there are to be met with cases marking every shade of the long gradation.

Closely allied to the insane temperament is that which exists in those more or less hysterical women, mostly under thirty years of age, who are the favourite subjects of mesmeric experiments and of religious revivals, and who commonly exhibit some peculiarity of nervous constitution, such as catalepsy, paralysis, somnambulism, or spasmodic affections. Having no well-formed will of their own, they become the easy victims of ideas forcibly impressed upon them by others. Their spasmodic temperament, unfavourable to the proper co-ordination of ideas and feelings, is eminently favourable to the morbid exaggeration of some feeling or idea and to spasmodic movements. A further consequence of this bad organisation in most of these cases is a strangely perverted or defective moral nature. Certain women exhibit a desire for and a love of imposture which approaches a moral insanity: will blacken their eyelids with some pigment in order to look and be thought ill, when they are in good bodily health; will lie in bed for months or even years, affirming that they are paralysed, when the only paralysis they have is one of moral energy; will undergo extraordinary sufferings and privations in order to substantiate some outrageous fraud which they are practising; openly refuse all food for weeks, in order to produce the belief that they live without food; drink what urine they clandestinely pass, in order to have it believed that they never pass any; and burn or blister their arms and bodies

with some corrosive fluid, in order to fabricate a peculiar skin-disease. The religious ecstatics of the middle ages belonged doubtless to this class; the miraculous *stigmata* which they exhibited being as fictitious as the diseases which their sisters of the present day fabricate or counterfeit. When the vagaries of hysteria affect the mind rather than the body, as they are apt to do where the insane temperament exists, they occasion many extraordinary symptoms.

Hysteria is notably a very vague term used to include a mass of functional nervous disorders of all sorts and degrees, which are certainly not as distinctly marked out from one another as it is desirable they should be. One character they have in common, namely, that they suggest the notion of a counterfeiting of disease: a group or succession of symptoms which would be of grave omen otherwise are known not to be of grave omen when it can be said of them that they are only hysterical; wherefore, not having the significance which they seem or affect to have as the exponents of serious disease, they necessarily have the look of pretence or feigning. The appearance of unreality is further strengthened by the fact that in many cases the malady can be checked instantly by the will when it is vigorously roused by a strong enough motive, and that in other cases it may be gradually suppressed, as will is strengthened steadily by a suitable moral discipline, such discipline being the best treatment of the malady. The two principal features then which attract notice in all so-called hysterical cases are a seeming simulation of disease in protean forms and an enervation of will. Let it not be supposed, however, that the simulation is voluntary or even conscious in the majority of cases; although the symptoms do not mark the disease which they seem to mark, do not mean epilepsy, for example, when they are violent convulsions of an epileptiform character, they are none the less the outcome of a genuine disorder of the nervous system, and of a disorder which is nearly allied to that which exists in catalepsy, in ecstasy, and in those hybrid forms of convulsive seizures which we are at a loss sometimes whether to call hysteria or genuine epilepsy.

For the most part we hardly take sufficient account of the fact

that mimicry is a natural function of the nervous system, constituting the very basis of its culture, and that the tendency in many nervous disorders is to exaggerate much and even to simulate symptoms, apart from any question of intentional deceit. This tendency it is which will can combat and sometimes inhibit or hold entirely in check, whence the universal counsel to so-called nervous patients not to give way to distressing feelings and inclinations to do nothing, but to fight against them : it is counsel easily given, but hard to follow, since the misfortune is that the disorder which strengthens the tendency weakens the will, and so leaves less power to control what is more difficult of control. Be this as it may, however, it is plain that there may be all degrees of apparent or of real simulation in different instances —a gradation, in fact, ranging from an entirely unconscious mimicry down to deliberate fraud. We are in the habit of making in our conceptions so complete a separation between the physical and the volitional action of the nervous system, looking upon the will as something constant, psychical, and entirely apart, that we cannot help holding that it either absolutely is or is not in any given function ; we find it hard or impossible to conceive that it may present all degrees of degradation and that its basis is truly physical. Involuntary perverse conduct of a voluntary kind, convulsions of voluntary movements, perverse pleasure in self-torture, are expressions which would convey the best notion of the behaviour of some hysterical patients, if they were not self-contradictory ; but self-contradictory as they seem, I am inclined to think that they are not so mutually exclusive as the received doctrines of psychology would indicate. However, they will certainly be thought so ; for it will be a long time yet before it will be possible to bridge the gulf between physiological conceptions of the functions of mind and the usual conceptions of it.

Thus much concerning some peculiarities of an insane temperament which stop short of actual insanity. I go on now to treat of the varieties of actual mental derangement from a symptomatological point of view.

Varieties of Symptoms of Actual Insanity.

A passing survey of the inmates of a lunatic asylum could hardly fail to strike the mind of an unskilled observer with the perception of two principal classes of opposite symptoms: he would notice that there were some whose every attitude, word, and thought betokened the deepest depression of mind, and others who betrayed an opposite state of exaltation of mind in their look, their gait, and in everything which they said and did. These opposite symptoms mark the two great divisions of *Melancholia* and *Mania*, which correspond again to the two fundamental affections of self in which all the passions have their roots: on the one hand, a painful affection of self which shows itself in sad feelings, thoughts, and conduct; and, on the other hand, an expansion or elation of self which is expressed in answering feelings, thoughts, and deeds.

A closer examination would show the observer that while the derangement of mind was complete in some patients and betrayed itself in almost everything which they said and did, in others it was limited apparently to a few fixed ideas, apart from which they thought, felt, and acted very much like other men. Marking these differences by another division, we have, first, *Mania* divided into general and partial, the latter known commonly as *Monomania*, because of the opinion that the madness is limited to one subject; and secondly, *Melancholia*, divided likewise into General and Partial, the latter, although not now commonly distinguished, being what Esquirol described as *Lypemania*. In regard to both these forms of so-called partial insanity it may be noted at once that while the intellectual disorder is certainly limited to a few ideas, the same thing can seldom, if ever, be said truly of the feelings; they are more generally and deeply affected, and yield a constant nourishment to the delusion which is rooted in and fed by them.

Were our observer to reside long enough in the asylum to watch the course which these mental disorders went through, he would notice that there took place in some instances a gradually increasing failure of mental power with an increasing incoherence of ideas, the feeling that inspired the delu-

sions waning in force, while the delusions themselves persisted and perhaps became more in number and more extravagant in character. All such cases of wreck of mind consequent upon some other form of insanity are grouped together under the name of *Dementia;* which means, therefore, the destruction or loss of mind, as distinguished from *Amentia*, which is used to denote idiocy, or the privation of mind occasioned by causes that have acted before or soon after birth—that is to say, before there has been a chance of its development. A moment's reflection proves that there must needs be all degrees of dementia as of amentia, ranging from chronic mania or melancholia, in which the first signs of mental weakness show themselves, through varied conditions of incoherence or craziness, down to actual fatuity: in fact any one might represent, if he chose, the deepening degrees of mental deterioration as (*a*) chronic mania; (*b*) craziness; (*c*) fatuity.

Here then appear the lines of the symptomatological classification of Esquirol which is in practical use at the present day. We have only to add to it General Paralysis of the Insane, a disease the special characters of which have been observed and defined since Esquirol's time, and we have the commonly recognised varieties of mental derangement. It is obvious that they are not properly varieties of disease at all; they are grouped classes of symptoms, all of which may positively occur in the same patient at different stages, and as different phases, of his disease. For it may commence in melancholic depression, pass thence into acute mania, go afterwards through a chronic stage of depression or of excitement, and end in dementia. Such might indeed be considered its typical course. At the same time a patient will oftentimes go through his malady presenting only one of these well-marked groups of symptoms; and until we know exactly the obscure constitutional conditions which are at the bottom of the differences of symptoms—of which we know nothing yet—we cannot dispense with a symptomatological classification.

When the phenomena of mental derangement are examined with a more patient and scientific attention than the unskilled observer is able to give to them, it is found that the foregoing

classes do not include, or rather do not define adequately, all the varieties of symptoms. It is past all question that there are certain distressing and dangerous conditions of unsoundness of mind in which the feelings and the conduct are mainly or only disordered, the intellect being little or not at all affected. They have been described as insanity without delusion, insanity of feeling and conduct, affective insanity, mania sine delirio, melancholia simplex. All these names indicate that the perversion of feeling so overtops any disorder of intellect which there may be as to attract predominant or exclusive notice. Like the recognised disorders of intellect these affective disorders may take the form of exaltation or depression; they might therefore be justly included in the ordinary groups of mania and melancholia; but since in common apprehension the terms mania and melancholia have come to mean positive intellectual derangement, and would not adequately define these cases, which have furthermore a medico-legal interest and importance of their own, it is proper to describe them separately. This is the more necessary because delusion has sometimes been authoritatively proclaimed to be the criterion of insanity. Most unwarrantably; for on closely scanning the relations and the course of development of the symptoms of mental derangement it will be seen that the affective disorder has been the fundamental trouble in almost all cases that have not been produced at once by direct physical injury; that it notably precedes intellectual disorder in the majority of cases; that it co-exists with the latter during its course; and that it often persists for a time after this has disappeared. Esquirol rightly declared "moral alienation to be the proper characteristic of mental derangement." "There are madmen," he says, "in whom it is difficult to find any trace of hallucination, but there are none in whom the passions and moral affections are not perverted and destroyed. I have in this particular met with no exception." To insist upon the existence of delusion as a criterion of insanity, as is done sometimes, is to ignore those most grave forms of affective mental disease in which, notwithstanding the absence of positive intellectual derangement, dangerous impulses to homicide, to suicide, or to other destructive deeds are most apt to arise.

It will be most convenient then that I should treat generally of the symptomatology of insanity in the order of the subjoined classification, and afterwards describe particularly the principal clinical varieties.

Affective Insanity . . . or Insanity without Delusion	*a.* Instinctive.	
	b. Moral.	
Ideational Insanity . .	Melancholia	Acute. Chronic.
	Mania . .	Acute. Chronic.
	Monomania	
	Dementia .	Acute. Chronic.
Amentia	Imbecility	Moral and Intellectual.
	Idiocy . .	Moral and Intellectual.

I might abolish the division of affective insanity altogether, and place the varieties belonging to it under mania and melancholia, dividing these respectively into mania with delusion and mania without delusion, and into melancholia with and without delusion; but for the reasons just mentioned I think it better to classify them separately.

Affective Insanity — Insanity without Delusion — Insanity of Feeling and Action.

The feelings reveal the real nature of the individual; it is from their depths that the impulses of action spring, the function of the intellect being to guide and control. Consequently derangement of them means a profound derangement of the individual's nature; his whole manner of feeling, the mode of his affection by objects and incidents, is perverted and unnatural, and the springs of his action are disordered. The intellect certainly does not escape entirely, since it is affected indirectly or secondarily; it cannot contemplate things in the white light of a calm understanding, but sees them in the colours of the distempered feelings; moreover it is unable to check or to control

the morbid manifestations, just as, when there is disease of the spinal cord, a person may be afflicted with convulsive movements, of which he is conscious, but which the will cannot restrain. In dealing with this kind of derangement it will be most convenient, as in the investigation of the insanity of early life, to distinguish two varieties—impulsive or instinctive insanity, and moral insanity proper.

(*a*) *Impulsive Insanity.*—Fixing attention too much upon the insane impulse, or upon the act which it instigates, to the neglect of the fundamental perversion of the feelings which exists also, many writers have helped unwittingly to augment the confusion and uncertainty which prevail with regard to these obscure varieties of mental disorder in which violent insane impulses are displayed without corresponding insane thought. Already it has been pointed out, at sufficient length, that the first symptom of an oncoming insanity commonly is an affection of the psychical tone,—in other words, a perversion of the whole manner of feeling, producing a marked change—that is, an alienation—of character and conduct; and it will be seen at a later period that morbid impulses spring up irregularly and, so far as motives can be detected, unaccountably in all forms of insanity, and are of the very essence of the disease. What we have to fix in the mind is that *the mode of affection* of the individual by events is entirely changed by the disordered state of nerve-element: this is the fundamental fact, from which flow as secondary facts the insane impulses, whether mischievous, erotic, homicidal, or suicidal. In place of that which is for his good being agreeable and exciting a correspondent desire to acquire it, and that which is injurious being painful and exciting an answering desire to eschew it, the evil impression may be felt and cherished as a good, and the good impression felt and eschewed as an evil. The morbid appetites and feelings of the hysterical woman and the singular longings of pregnancy are mild examples of a perversion of the manner of feeling and desire which may reach the outrageous form of morbid appetite exhibited by the pregnant woman who killed her husband and pickled his body in order to eat it. The sexual appetite may likewise suffer painful perversions, which of necessity involve

the destruction of all those finer feelings of affection and propriety in the social system that are based upon it.

The morbid perversion of feeling is either general, when all sorts and conditions of abnormal feelings and desires are exhibited, or it is specially displayed in some particular mode, when one persistent morbid feeling or desire predominates. We meet with occasional instances of madness in which there is a morbid desire to be hanged, without particular intellectual disorder, and the victim of the diseased feeling is actually impelled to a homicidal act to satisfy his unnatural craving; or, again, such insanity as that of the father or mother who in a state of morbid gloom kills a child from no better motive than to send it to heaven. The act of violence, whatever form it takes, is the outcome of a deep morbid perversion of the nature of the individual; a state which may at any moment be excited into a convulsive activity, either by a great moral shock, or by some cause of bodily disturbance, such as intemperance, sexual exhaustion, masturbation, or menstrual disturbance. There are women, sober and temperate enough at other times, who are afflicted with an uncontrollable propensity for stimulants at the menstrual periods; and every large asylum furnishes examples of exacerbation of insanity or epilepsy coincident with that function. In fact, where there is a condition of irritable weakness or unstable equilibrium of nerve element, any cause, internal or external, exciting a certain commotion will upset its stability. Internal states have utterance by acts as well as by speech, gesture-language being the primitive language of feeling, as natural a mode of expression as speech and prior to it in the order of development; and it is in insanity of action that this form of affective insanity is expressed—most dangerous, indeed, because so expressed.

Many examples might be quoted to illustrate the character of this impulsive madness; but a few shall suffice.

A married lady, aged thirty-one, who had only one child a few months old, was for months afflicted with a strong and persistent suicidal impulse, without any delusion or any disorder of the intellect. After some weeks of zealous attention and anxious care from her relatives, who were all most unwilling to send her from among them, it was found absolutely necessary

to send her to an asylum; so frequent were her suicidal attempts, so cunningly devised, and so determined. On admission she was very wretched because of her terrible impulse, and often wept bitterly, deploring her own state and the great grief and trouble which she was to her friends. She was quite rational, even in her great horror and reprobation of the suicidal propensity; all the fault that could be found with her intellect was, that it was enlisted in its service. With as complete a knowledge of the character of her attempts at self-destruction as any indifferent bystander could have, she was powerless to resist them. At times she would seem quite cheerful, so as to throw her attendants off their guard, and then would make with quick and sudden energy a cunningly precontrived attempt. On one occasion she secretly tore her night-dress into strips while in bed, though an attendant was close by, and was detected in the attempt to strangle herself with them. For some time she endeavoured to starve herself by refusing all food, and it was necessary to feed her with the stomach-pump. The anxiety which she caused was almost intolerable, but no one could grieve more over her miserable state than she did herself. From time to time she would become cheerful and seem quite well for a day or two, but would then relapse into as bad a state as ever. After she had been in the asylum for four months she appeared to be undergoing a slow and steady improvement, and it was generally thought, as it was devoutly hoped, that one had seen the last of her attempts at self-destruction. Watchfulness was somewhat relaxed, when one night she slipped out of a door which had been carelessly left unlocked, climbed a high garden-wall with surprising agility, and ran off to a reservoir of water, into which she threw herself headlong. She was got out before life was quite extinct; and after this all but successful attempt she never made another, but gradually regained her cheerfulness and her love of life. Her family was saturated with insanity. In face of such an example of uncontrollable impulse, what a curious mockery of justice it is to measure the lunatic's responsibility by his knowledge of right and wrong, as some English judges still think it the perfection of judicial wisdom to do!

Such cases of desperate suicidal impulse without any manifest disorder of intellect are well known to those who take charge of insane persons, and are most unwelcome to them; for they are almost sure to succeed in the end in doing what they so frantically desire, so cunningly plan, so resolutely attempt. I have known one case of a lady, descended from a very insane family, who was afflicted with an overpowering impulse of the kind, without the least sign of any derangement of her understanding, and who, after having been frustrated in manifold suicidal attempts, was removed from the asylum in which she was residing to another asylum where it was thought the arrangements would be more suitable to the special care which her case demanded; but she had not been there long before she succeeded in committing suicide. Cases of the kind are to be distinguished from those cases of ordinary melancholia in which the suicidal feeling is common and the suicidal deed attempted from weariness of life, from despair, or from a delusion of some sort: in these latter cases the suicidal impulse is one among other symptoms of derangement, and has mostly a motive of some sort; but in the former cases the suicidal impulse is the disease, has no motive, is a sort of convulsive energy of the whole being, and the patient's misery is the result of the horror and agony of being so dreadfully possessed.

Cases of the same class occur in which the morbid impulse is not suicidal, but homicidal, and have been recorded by different authors. On several occasions I have been consulted by a married lady, the mother of several children, who is afflicted with recurring impulses to kill her youngest children, of whom she is most fond; she cannot bear sometimes to be in the room with them when there are knives on the table and no one else is present; and she is driven to retire to her bedroom, where she weeps in an agony of despair because of what she calls her wicked thoughts, and prays frantically to be delivered from them. In her paroxysms of despair she wishes a thousand times she were dead, and exclaims that there can be no God, or He would not allow her to suffer so. A gentleman, who is employed in a public office, has for some time been miserable because of impulses which he has to kill himself and his wife;

he has gone into society, applied himself to hard work, and travelled about in order to free himself from their torments, but in vain; and he now consults me not only that he may be told what to do to be delivered from them, but that he may be informed whether there is a real danger that he will some day give way to them. It seems ridiculous, he says, to speak of them, but no one can believe the agony which they occasion him, and the misery which his life is in consequence. Another gentleman, who was obliged to leave a house near the Crystal Palace because the high tower in view provoked such vivid suggestions of suicide that he feared he could not always resist them if he continued to live near it, was subsequently afflicted with impulses to kill his children; generally subactive, but distressing, from time to time they reached the height of a convulsive mental paroxysm and caused unspeakable suffering. He used to lock himself in his bedroom at night, and put the key on the window-sill outside the window when he went to bed, so that if he were overtaken unawares in the night by a paroxysm he might instantly push the key off the sill beyond his reach before he had time to determine to unlock the door.

An old lady, aged seventy-two, several members of whose family were insane, was afflicted with recurring paroxysms of convulsive excitement, in which she always made desperate attempts to strangle her daughter, who was very kind and attentive to her, and of whom she was very fond. Usually she sat quiet, depressed and moaning because of her condition, and was apparently so feeble as scarcely to be able to move. Suddenly she would start up in great excitement, and, shrieking out that she must do it, make a rush upon her daughter that she might strangle her. During the paroxysm she was so strong, and writhed so actively, that two persons could scarcely hold her; but after a few minutes of struggling she sank down quite exhausted, and, panting for breath, would exclaim, "There, there! I told you; you would not believe how bad I was." No one ever detected any delusion in her mind; the paroxysm had all the appearance of a mental convulsion; and had she succeeded in her frantic attempts, it would not have been possible to say honestly that she did not know that it was wrong to strangle

her daughter. In fact, it was because of her horrible propensity to so wrong an act that she was so wretched.

In the Report of the Morningside Asylum for 1850, Dr. Skae relates a somewhat similar case of a female who was tormented with "a simple abstract desire to kill, or rather (for it took a specific form) to strangle," without any disorder of the intellectual powers, and who "deplored, in piteous terms, the horrible propensity under which she laboured." The existence of this kind of disease is placed beyond doubt by the concurrent testimony of all those whose practical knowledge of insanity gives weight to their opinions and authority to their words; the denial of it for theoretical reasons based upon the deliverances of a sane self-consciousness is reckless and unwarrantable. The only fault that can be found with the intellect in some of these cases is, that it is enlisted in the service of the morbid propensity, devising means to give it free play, instead of devising means to hold it in check—that it is governed by it, instead of governing it.

The next case may serve to illustrate a multitude of insane acts without corresponding intellectual disorder: there was not the impulse to any particular insane act, but there were generally perverted feelings and corresponding impulses to different strange and foolish acts. I quote it at length because it is a fair example of a form of mental derangement which occurs not unfrequently in young unmarried women who have inherited a neurotic temperament, and which seems sometimes to be connected with unsatisfied or wrongly satisfied sexual feelings. A young lady, aged twenty-nine, of good appearance and manners, and well connected, was, after long and patient trial at home, sent to an asylum. From the age of twenty-two there had been a tendency to lowness of spirits without apparent cause. Lately she had become worse, and was now described as wilful, impulsive, passionate, and quite unlike her former self, having lost all affection for her parents, though formerly most affectionate and amiable. Her habit of body was sluggish, the circulation being languid and the extremities often cold and livid; menstruation was very irregular. She complained of feeling strange, quite unlike herself, and ill, and would buy all kinds of queer compounds at the chemist's and take them; sometimes she

wrapped a wet sheet round her body and put her clothes on over it. She entertained a high opinion of her talents, was exceedingly vain, seeming to think herself a peculiar person, and angrily complained that she was treated most shamefully if her inclinations were anywise thwarted. And her inclinations were peculiar, and suddenly manifested: she would all of a sudden scale a high garden wall and run off into the fields, or sit down by the roadside when walking out, and refuse to move for a long time, or stand still in the middle of the road, or jump up in the middle of the service and walk out of church. She was continually writing letters to her parents, relatives, and people whom she did not know, complaining of her confinement, sometimes angrily, at other times humorously. Usually the letters were not finished, but broken off abruptly, sometimes in the middle of a sentence, and sent for posting: one was addressed to "Tout le Monde." They often contained witty and vigorous remarks, but the sentences were rarely connected, each one being, as it were, an independent shot; as the thought came automatically into the mind, so it was automatically expressed. Now and then she would refuse to take any food for a day or two, and at other times would eat far more than was good for her. She always exhibited extreme religious feeling, was fond of distributing tracts as she went along the road, and would sometimes read to the unfortunate patients who were more severely afflicted; notwithstanding which benevolence, she would, if she had not the exact seat at church which she might happen to desire, burst into tears and sob with passion, or rise up in the midst of the service and walk out; at other times she would not move after the service was over, in spite of all the entreaties and reproaches of those who attended upon her. Adjured beforehand to behave properly, she would promise to try to do so; remonstrated with at the time of her extravagances, or after she had indulged in them, the reply usually was that her motives were not understood; when in a better mood she confessed that she was a great trouble, acknowledged the attention which she received, and said that she was prompted by Satan; sometimes she wished heartily that some one would give her a good beating so as to rouse her from her apathy. If any reason

was given for her impulsive deeds at the time, it usually was that "it was revealed to her" that she was to do so, by which was plainly meant that it came into her mind to do so; and it was remarkable that, though usually overcome with languor, and behaving as if scarcely able to move, she would, when the impulse seized her, scale a high brick wall with a cat-like agility, though she seemed to have no definite notion what she was going to do when she had got over and had run for a certain distance. In all her conduct she exhibited an odd combination of reason of thought and of dementia of action; a stranger conversing with her would not have discovered that her mind was at all affected; but any one living with her for a time could not fail to perceive how exceedingly insane she really was. Her case might not unfitly be described as one of *Dementia sine delirio*—demented feeling and conduct without intellectual dementia; with good natural endowments and general powers of reasoning unimpaired, there was a thorough insanity of feeling and of action, evincing fundamental derangement of her mental nature. Hereditary taint was denied, but it ultimately turned out that two near relatives were in confinement and incurably insane—a fact which might have been affirmed with confidence from the character of her disease; and it is perhaps not uninteresting to add that an uncle was the most distinguished architect of his day.

In most of the cases of this kind of impulsive or convulsive mental disorder it will be found on making careful inquiry into the family history that there is a decided hereditary taint; and in those cases in which no actual insanity can be detected by inquiry it is probable that epilepsy will be found in the family or in the individual himself. The two main predisposing conditions in which I believe the disease to occur are—(*a*) an insane neurosis, and (*b*) an epileptic neurosis. Acting as exciting causes in co-operation with the fundamental neurosis, such bodily disturbances as irregularities of menstruation will sometimes occasion an attack of the derangement. A woman who was in the deepest despair because she was afflicted with the idea that she must kill her children, and frequently ran actively up and down stairs so as to endeavour to drive away the idea by producing exhaustion, perfectly recovered on the return of

the menses, which had stopped. "We have, amongst others," says Dagonet, "observed a patient who was seized at each menstrual period with violent impulses. Under the influence of this disposition she had killed her three children a short time before her arrival at Stephansfeld." [1] Other occasions of bodily disturbance, such as pregnancy, childbirth, the climacteric change, may act similarly as exciting causes, as also will moral causes that have rapidly or by degrees produced great nervous exhaustion and irritability. The degeneration of nerve element induced by habits of self-abuse, or by great sexual excesses, sometimes manifests itself in these morbid impulses. A gentleman who was acute and energetic in business, witty and agreeable in society, so that he was the life and soul of every dinner-party he went to, and was invited everywhere, was nevertheless so afflicted with disgusting impulses to indecently expose himself, to make indecent assaults upon women in the streets, or to do some other act of obscenity, that his life was made miserable; he feared that they might become uncontrollable, since they sometimes brought him to veritable despair and to suicidal thoughts. He was of a highly nervous temperament, having a sister and other members of his family insane, and suffered from spermatorrhœa and loss of virility. Lallemand relates several striking cases in which patients suffering from spermatorrhœa were afflicted with painful homicidal and suicidal impulses.

The most desperate instances of homicidal impulses are undoubtedly met with in connection with epilepsy. Sometimes an attack of mania immediately precedes an epileptic fit or a series of epileptic fits; but more often the mental derangement so occurring has the form of profound affective disorder with suddenly arising impulses to violence, and with or without corresponding sudden hallucinations, but without notable intellectual derangement. It is a genuine *mania sine delirio*. A shoemaker was subject to severe epileptic fits, and was often furious for a while immediately after them; but in the intervals he was sensible, amiable, and industrious. One day, while in the gloomy and morose frame of mind that often goes before and

[1] *Traité Élémentaire et Pratique des Maladies Mentales*, par H. Dagonet, 1862.

foretells an attack of epileptic fits, he met the superintendent of the asylum, to whom he was much attached, and suddenly stabbed him to the heart. He had not had a fit for three weeks, but in the night following his homicidal deed he had a severe fit, and for some time the attacks continued to be frequent and severe. In such cases, as indeed there was in this case, there are often sudden and vivid temporary hallucinations.

Again, the mental disorder which sometimes takes the place of an epileptic attack, being in fact a *masked* epilepsy, may appear as simple impulsive insanity. A peasant, aged twenty-seven, had suffered from epilepsy since he was eight years old; but when he was twenty-five the character of his disease changed, and instead of epileptic attacks he was seized with an irresistible impulse to commit murder. He felt the approach of his outbreak sometimes for days beforehand, and then begged to be restrained in order to prevent a crime. "When it seizes me," he cried, "I must kill some one, were it only a child." Before the attack he complained of great weariness; he could not sleep, felt much depressed, and had slight convulsive movements of his limbs.[1]

The connection of homicidal insanity with epilepsy is of much importance from a medico-legal point of view, and has only lately received the attention which it deserves; it will not be amiss, therefore, to give additional examples, and to give them in the words of those who have related them. The first case is one mentioned by Dr. Burrows:—

"A very sober, quiet, and industrious man, æt. thirty, subject to occasional fits of epilepsy, who had lately been much inclined to religious devotion, was sitting calmly reading his Bible, when a female neighbour came in to ask for a little milk. He looked wildly at her, instantly seized a knife, and attacked her and then his wife and daughter. His aim appeared to be to decapitate them, as he commenced with each by cutting on the nape of the neck." He was secured, remained maniacal for three days, and then recovered, "but never had the least recollection of the acts he had committed.

[1] *De la Folie considéré dans ses Rapports avec les Questions Médico-judiciaires*, par C. C. H. Marc.

Nine years have since elapsed without a recurrence of the epilepsy, or disturbance of his mental faculties." [1]

Griesinger gives the following instance of the explosion of the epileptic *aura*, not in the usual epileptic seizure, but in terrible violence :—

"A man who was a brandy drinker lay in a room with his five children, who were that morning asleep. It came into his mind that he must then destroy the children ; but how could it be most conveniently done ? He said, 'It rose into my head like foam ; it went through the chamber like a shot, or like a strong gust of wind ; a strong odour of marjoram filled the chamber and took away my senses ; my thoughts vanished, so that I sank down.' He soon rose again, however, seized an axe, and hacked right and left among the children, three of whom fell victims to his violence. If nothing else had been known than the deed and these details furnished by himself, the epileptic might almost with certainty be recognised; but the medical investigation revealed actual and well-defined epileptic attack." [2]

Dr. Skae relates the instructive case which follows :—

"One of the patients admitted afforded a highly instructive and interesting example of homicidal and suicidal impulses without any intellectual derangement or delusions. His case is classed among those of epileptic mania ; for although he never suffered from an epileptic fit properly so called, he laboured under symptoms which closely approached to those of an epileptic seizure of the milder form known as the *petit mal*. He described a feeling like the *aura epileptica*, beginning at his toes and rising gradually upwards to his chest, producing a sense of faintness and constriction, and then going up to his head, and giving rise to a momentary loss of consciousness. This aura was accompanied by an involuntary jerking —first of the legs, then of the arms. It was at the times when he suffered from these attacks that he felt impelled to commit some act of violence to others or to himself. On one occasion he attempted to commit suicide by throwing himself into the water ; more

[1] *Commentaries on Insanity*, p. 156. The same author mentions another case in which an attack of epileptic insanity marked by mischievous tendencies was followed by an attack in which murderous tendencies were displayed.

[2] Introductory Lecture, *Journal of Mental Science*, 1866.

frequently the impulse was to attack others, and was at one time accompanied by such impetuous violence that it required the strength of several men to restrain him. He deplored his malady, of which he spoke with great intelligence, giving all the details of his past history and feelings. His attacks, which had been frequent and severe at about the age of sixteen years had for a long time almost disappeared, but had lately recurred at intervals, until it was found necessary to send him to the asylum. Sleeplessness and constipation almost invariably preceded his seizures. The state of the patient was greatly improved by the use of bromide of potassium and other remedies, and, with the exception of one or two very transient and slight attacks, he has kept well for some months." In a subsequent report he tells how the case had undergone an interesting physiological development, "the patient now having almost daily a vivid spectral hallucination in the form of a newspaper. He can see it for a short time so distinctly as to be able to read a long paragraph from it. He continues to suffer from the *aura epileptica* and other symptoms allied to epilepsy." [1]

Trousseau cites several instances out of a number of cases that he has seen in which the vertigo of epilepsy was followed by transitory fury, during which violence was done without any recollection afterwards of what had happened. Indeed he asserts that "sudden and irresistible impulses are of usual occurrence after an attack of *petit mal*, and pretty frequent after a regular convulsive fit." [2]

I have already alluded incidentally to the profound moral or affective disturbance which oftentimes goes before epileptic convulsions. The patient who at other times is cheerful, amiable, industrious, and pleased to converse, is now all of a sudden quite changed in character; he becomes moody, morose, suspicious, apprehensive of calamity, leaves off work, and, if addressed, answers surlily, or not at all, or only with a blow. His mental atmosphere is charged with sullen, gloomy feeling, which is discharged (*a*) by the convulsions which follow, as a thundercloud is discharged by the thunderstorm, and after their

[1] *Report of the Edinburgh Asylum*, 1866.
[2] *Lectures on Clinical Medicine.* By A. Trousseau.

effects have passed off he returns to his natural state of amiability. But in some cases there shall be no convulsions: instead of them (*b*) a violent mania ensues—an ideational in lieu of a motor discharge; and in a few other cases (*c*) a convulsive impulse to violence is the channel of discharge, which may then be as uncontrollable as the convulsions or the mania that are the two other modes of discharge. Let this also be noted well—that not only may epileptic insanity appear as homicidal impulse, but that in this form it may go before, take the place of, or follow the usual convulsions.

Because the deep perversion of the whole manner of *feeling* which commonly exists in these cases has been overlooked, attention being fixed exclusively on the morbid *act*, a great repugnance has been excited in the public mind to admit what seemed to be the dangerous theory of instinctive insanity. The word "instinctive," again, was not well chosen, since it naturally seemed absurd to imply that there is in man an instinct to commit homicide or suicide. Moreover, it is quite evident in some cases of impulsive insanity that the sufferer has the *idea* that he must kill some one; the idea starts up involuntarily in a mind whose affective nature is profoundly deranged, and becomes convulsive; he is conscious of the horrible nature of it, struggles to escape from it, and is miserable with the fear that it may at any moment prove too strong for his will, and hurry him into a deed which he dreads, yet cannot help dwelling upon. He never feels sure of himself. So desperate sometimes is the fear of yielding to the morbid impulse, so intense the horror of doing so, and so extreme the mental agony, that a mother, afflicted with the impulse to kill her child, has killed herself to prevent a worse consummation. In most cases the patient succeeds in controlling the morbid idea by calling up other ideas to counteract it, or warns his probable victim to get out of the way, or gets out of his way himself, or begs earnestly to be put under some restraint; but it may happen at last that owing to perhaps a further deterioration of nervous element through bodily disturbance the morbid idea acquires a fatal predominance; the tension of it becomes excessive; it is no longer an *idea*, the relations of which he can contemplate,

but a violent and exclusive *impulse*, in which the whole mind is engulphed, and which utters itself irresistibly in action.

That a person so afflicted can, and sometimes does, resist the diseased idea or impulse, causes many to think, and some to argue, that it might always be successfully resisted. The word irresistible offends much their theoretical notions of the power and dignity of human will. The truth is that it is a simple question of the degree of morbid degeneration of nerve element whether the idea shall remain in consciousness and be under subjection, or become uncontrollable and realise its energy in action; and bodily conditions will very much affect that question. By an act of the will a person may prevent involuntary movement of his limbs when the soles of his feet are tickled, but the strongest will cannot prevent spasmodic movements of the limbs on tickling the feet if the excitability of the spinal cord be increased by strychnia or by disease. The experience of the desperate homicidal impulse of epilepsy is proof enough that the impulse is sometimes beyond all doubt uncontrollable. It is impossible that true conceptions of mental disease can be acquired until men cease to regard its phenomena entirely from a psychological point of view, and consent to study them by aid of the established principles of physiology and pathology. So long as they judge them by the revelations of sane self-consciousness, they do what is not a whit less absurd than it would be to base conclusions concerning convulsions on the recognised power of the will over voluntary movements.

The behaviour of a person who, carried away by an uncontrolled impulse, has done a homicide, after the convulsive paroxysm is over, may show something like a positive sense of relief. He is perhaps a little dazed and stupefied at first before he comes to himself and realises what he has done, but when he has come to himself he does not evince the horror and remorse which might be expected; the reasons whereof I conceive to be,—first, because his previous mental agony was so great that his present state is a relief by comparison. He would willingly have been hanged twice over, if that were possible, to escape from his horrible impulse before he yielded to it: how, then, can he fear or much care what may happen to him after

he has done so? Secondly, because he feels that he was truly possessed by a demoniacal impulse which was not himself, and that what he did in consequence, being done under superior compulsion, or, as it were, in a dream, was not really his deed any more than had it been actually done in a dream or by an evil spirit that had seized upon his will. In other cases there is plainly no more than a vague, hazy, dreamlike consciousness of what has been done; while in a few cases there would seem to be a complete forgetfulness of the actual paroxysm. I am unable to say from personal knowledge whether such a patient would try to hide his deed or to escape from the consequences of it when he came to realise its character; he might or might not; but in any case probably his course would be decided more by his own character than by the character of his disease.

Before passing from the consideration of the different varieties of impulsive insanity I ought to mention that there are sometimes manifested other morbid impulses which have special names given to them—for example, an impulse to set fire to property or a so-called *Pyromania*, an impulse to steal or a *Kleptomania*, a frantic erotic impulse or an *Erotomania*, and the like. It will be found, I think, that the impulses to steal and to set fire to property usually go along with some degree of mental imbecility, the persons manifesting them being at any rate true moral imbeciles; but they are sometimes manifested by young women of average understanding at or after puberty, when they are undergoing the mental revolution which accompanies sexual evolution. From time to time one hears of cases in which such women have set fire to their masters' houses in a fit of ill-humour, or have strangled or poisoned their masters' children rather than be at the trouble to take care of them, or have done some other act out of all proportion to its motive, or without any other motive than the reckless relief of a painful mood. In the same way a youth sets fire to a haystack, not out of revenge, but merely to gratify a destructive impulse springing from a present morbid mood, or makes a criminal assault upon a woman, or commits suicide without apparent motive. Careful inquiry in these cases will commonly disclose either a measure of actual imbecility or the existence of a decided predisposition to mental

derangement. The cases occupy the borderland between crime and insanity: whether they are unsound enough to be treated as insane and irresponsible, or sound enough to be treated as sane and criminal, must be settled, not by any general rule, but by the particular consideration of each case on its merits.

(*b*) *Moral Insanity.*—Here the moral perversion is evident and cannot be overlooked, while the acts of the individual, being less convulsive in character, answer more exactly to the morbid feelings and desires than they seem to do in impulsive insanity. They look so witting and wilful that it is difficult to eschew the suspicion that moral insanity is anything more than vice. Much as the assumption of it as a disease has been reprobated, proper weight must be given to the fact that all the eminent men who have had practical knowledge of insanity, and whose authority we habitually accept, are entirely agreed as to the existence of a form of mental disorder in which, without hallucination, illusion, or delusion, the symptoms are exhibited in a perverted state of those mental faculties that are usually called the active and moral powers, or included under feeling and volition—that is to say, the feelings, affections, propensities, temper, habits, and conduct. As, however, feeling lies deeper in the mind than thought, the understanding is not entirely unaffected, albeit there may certainly be no positive delusion: the whole manner of thinking and reasoning concerning self is tainted by the morbid self-feeling. The person may judge correctly of the relations of external objects and events, and may reason very acutely with regard to them; but no sooner is self deeply concerned, his real nature touched to the quick, than he displays in reasoning the vicious influence of his morbid feelings and an answering perversion of judgment. He sees everything from the standpoint of the narrowest selfishness, gratifies each vicious desire of the moment without the least sense of shame or thought of prudence, extenuates and excuses or justifies his bad conduct as if others and not he were to blame for it, and lies most shamelessly and plausibly; leading in the end a life of suffering and shame which a low prudential self-regard, were he capable of it, would make him perceive to be folly. He cannot truly realise his relations as an element in the social system, and his whole

manner of thought, feeling, and conduct in regard to himself is more or less false. The social fabric is held together by moral laws; but we have here a being who, by reason of his insensibility to them, is practically outlawed from the social domain.

This disordered or literally *distempered* condition of mind oftentimes precedes an outbreak of unquestioned insanity in a more or less marked form; in other cases it is a condition that persists for a time after the intellectual derangement of an attack of madness has disappeared. The disappearance of hallucination or delusion is a sure sign of convalescence only when the patients return at the same time to their natural and healthy feelings. Some patients never do, although they seem in other respects quite sane: when that is the case, the experienced physician fears that the persistent bad feeling forebodes a recurrence of the malady.

When moral insanity exists by itself, and constitutes the disease, as it may do, it would be wrong to assume that a particular vicious act or crime, or even a series of vicious acts, proved its existence. No competent physician ever does that, although lawyers and the general public are apt to think he does, and to charge him therefore with confounding vice with madness. In the previous history of the patient there will be evidence of a sufficient cause of disease having been followed by an entire change of manner, feeling, and acting; the vicious act or crime will be traceable through a chain of symptoms to disease as cause, as the acts of the sane man are traced to or deduced from his desires and motives. "There is often," says Dr. Prichard, who first called special attention to this form of mental derangement, "a strong hereditary tendency to insanity; the individual has previously suffered from an attack of madness of a decided character; there has been some great moral shock, as a loss of fortune; or there has been some severe physical shock, as an attack of paralysis or epilepsy, or some febrile or inflammatory disorder, which has produced a perceptible change in the habitual state of the constitution. In all these cases there has been an alteration in the temper and habits."[1]

[1] *A Treatise on Insanity and other Disorders of the Mind.* By J. C. Prichard, M.D.

When called upon to give an opinion touching a particular case of suspected moral insanity, it is well to bear in mind that the individual is a *social* element, and to take account therefore of his social relations. That which would not be offensive or unnatural in a person belonging to the lowest strata of society —certainly nowise inconsistent with his relations there—would be most offensive and unnatural in one holding a good position in society, and entirely inconsistent with his relations in it: words which, used in the latter case, would betoken grave mental disorder, may be familiar terms of address amongst the lowest classes. There would be nothing strange in an Irish labourer going about the streets without his coat, or in his using coarse language to his wife; but if a grave and reverend bishop were to walk about the town in his shirt-sleeves and to use to his wife such language as the labourer uses habitually, there would be good cause to suspect that his mind was deranged. Between individuals, as elements in the social organism, there is in this regard a difference not unlike that which there is between the different kinds of organic elements in the bodily organism, which have more complex and refined relations as they rise in histological dignity. As it is chiefly in the degeneration of the social sentiments that the symptoms of moral insanity manifest themselves, it is plain that the most typical forms of the disease can be met with only in those persons who have had some social cultivation.

The following cases, which are samples of many others that have come under my observation, may serve to illustrate the character of this sort of mental derangement:—

A single lady, aged thirty-eight, was the only child of indulgent parents who were in a good social position and wealthy. Her father was harmlessly insane, nearly imbecile, and it was necessary, after every means of controlling her at home had been tried in vain, to send her to an asylum. She was given over to drink when she could get spirituous liquors of any sort, and would bribe the servants or any one else she could bribe to buy them for her; nor was she capable of any self-restraint in other regards, making no scruple to indulge whatever passion she found means of indulging. When excited she was extremely

violent in conduct, and on more than one occasion threatened her father's life with a pistol. When she could not get spirits, she was abusive, mischievous, quarrelsome, full of complaints of the injustice done to her, and truly intolerable. She had not the least appreciation of truth, saying whatever she thought would answer her purpose best at the moment; albeit the lie was gross and palpable at the time, or must plainly be detected instantly. In the asylum she was the cause of endless disturbances; she made continual complaints against the attendants, ingeniously perverting and exaggerating real facts so as to make of them monstrous iniquities, did the most mischievous things for the sole purpose of giving trouble and annoyance to the servants, and was delighted with her success; sometimes she would refuse to take her food, and at the same time would bribe the attendants to secrete it for her so that she might take it without any one else knowing. Removed from the asylum, partly in consequence of her manifold complaints, she was tried at home unsuccessfully, then sent back to the asylum, where she went on just as before, was removed again after a time, sent to a different asylum, taken away from that, and sent again to another; indeed her wanderings were many, and she was the hopeless patient of every doctor who had the misfortune to have anything to do with her.

Another single lady, æt. forty-five, was a cousin of the above patient, and also of good social position. Her appearance was anything but attractive; she was withered, sallow, blear-eyed, with an eminently unsteady and untrustworthy eye. So improper and immoral was her conduct that she was obliged to live apart from her family in lodgings; for she seemed incapable in certain regards of any control over her propensities. Whenever she was able, she left her lodgings to spend days together at a brothel with a common fellow, whom she supplied with money, frequently pawning her clothes for that purpose. When at home, she generally lay in bed for most of the day. No appeal was of any avail to induce her to alter her mode of life. She was prone to burn little articles, impulsively throwing them into the fire, saying that she could not help it, and then cutting and pricking her own flesh by way of penance. Now and then she would all

of a sudden pirouette on one leg, and throw her arms about; and, with like sudden impulsiveness, would not unfrequently break a pane of glass. When reasoned or remonstrated with about her foolish tricks, she professed to feel them to be very absurd, expressed great regret, and talked with exceeding plausibility about them, as though she was not responsible for them, but was an angel in difficulties which she could not overcome. It was of no use whatever speaking earnestly with her, since she admitted her folly to a greater extent than accusation painted it, and spoke of it with the resigned air of an innocent victim. Her habits were unwomanly and often offensive. The more sensible of the other patients amongst whom she was, used to get very angry with her, because they thought that she could behave better if she would. "One can bear with Miss ——, because, poor girl, she does not know what she does, and cannot help it; but Miss —— knows quite well what she is about, and I am quite sure she can help it if she likes," was the style of complaint made against her. There could be no doubt that she did know perfectly well what she was about, but her unconscious vicious nature, ever prompting, surprised and overpowered conscious reflection, which was only occasional.

It is quite certain that these women, so lost to all sense of the obligations and responsibilities of their position, could not restrain their immoral extravagances and vicious acts for any length of time; punishment had no effect, except in so far as it was a restraint for the time being. They knew quite well the difference between right and wrong, but no motive could be roused in their minds to induce them to pursue the right and eschew the wrong; their conduct revealed the tyranny of a vicious organisation, whose natural affinities were evilwards; the world's wrong was their right. Naturally, therefore, such patients feel no shame, regret, nor remorse for their conduct, however flagrantly unbecoming and immoral it may be, never think that they are to blame, and consider themselves ill-treated by their relatives when they are interfered with. They cannot be fitted for social intercourse. Friends may remonstrate, entreat, and blame, and punishment may be allowed to take its course, but in the end both friends and all who know them

recognise the hopelessness of improvement, and acknowledge that they must be placed under control. The moral agency which shall turn them from the errors of their ways has not been discovered; in order to do that it would be necessary that they should be literally born again and made new creatures.[1]

It is where hereditary taint exists that we meet with the most striking examples of this kind of derangement. There is much aversion to admit that an extreme hereditary taint may be as certain a cause of defect or disease of mind as an actual injury of the head; and yet it is the fact. It signifies some unknown defect of nervous constitution declaring itself in a disposition to irregularities in the social relations; the acquired infirmity of the parent having become the natural infirmity of the offspring, as the acquired habit of the parent animal observably becomes sometimes the instinct of the offspring. If a person who has the nerve tracts of moral function naturally but little developed in his brain does nothing to strengthen them by moral exercise, but leads a life in which they are not brought into habitual action, they undergo further atrophy, and his children or his children's children are likely to be born with them in such a state of defect that they cannot be developed by exercise, are incapable of function, mark a moral imbecility. I do not say that a deficiency or an absence of moral sensibility will be found in the parents in all cases; sometimes it is hard to say why the children should have been so afflicted; but as a rule we shall note some extremely suspicious strain or other peculiarity of disposition in one or both of the parents, if we do not find actual insanity. One must look to the fact that the parent who fosters eccentricities of feeling, thought, or conduct until they grow out of healthy relations with other mental functions, is likely enough to breed a child in which the mental equilibrium is unstable in some way—an instability not necessarily showing itself simply in an exaggerated reproduction of the parental peculiarities, however, but perhaps in some other form of degeneracy. Hence comes the impulsive or instinctive character

[1] See also the case of Christiana Edmunds, who distributed poisoned sweetmeats to the children of Brighton, as related in *Responsibility in Mental Disease*, and was tried for murder.

of the phenomena of hereditary insanity, the conduct being frequently startling, regardless of social usages, and seemingly quite motiveless. Appeal calmly to his consciousness, the individual may reason with great intelligence, and seem nowise deranged; but if he be left to his own devices, or placed under conditions of excitement, his unconscious life appears to get the mastery, and to drive him to immoral, extravagant, and dangerous acts. He perpetrates some singular act of eccentricity because all the world will be astonished at it, or even commits a murder for the sole purpose of being hanged. It is not right for a sound mind to fathom with its line the mad motives which spring up in a madman's mind, nor is it just to measure his actions by a standard based upon the results of an examination of sane self-consciousness; only long experience and careful study of actual cases of mental disease will suffice to give an adequate notion of what a madman really is.

When hereditary taint is not detectable in a case of so-called moral insanity, it is necessary to traverse carefully the whole physical and mental life of the patient, by exact research into his previous history and the closest examination of his present state. Let it be ascertained whether there has been any previous attack of insanity; since it sometimes happens that after one or two attacks of genuine melancholia, from which recovery has taken place, the patient suffers from true moral insanity, which may pass at last into intellectual disorder and dementia. The extremest example of moral insanity which I ever saw was in an old man aged sixty-nine who had been in one asylum or another for the last fifteen years of his life. He had no little intellectual power, could compose well, write tolerable poetry with much fluency, and was an excellent keeper of accounts. There was no delusion of any kind, and yet he was the most hopeless and trying of mortals to deal with. Morally he was utterly depraved; he would steal and hide whatever he could, and several times made his escape from the asylum with marvellous ingenuity. He then pawned what he had stolen, and begged and lied with such plausibility that he deceived many people, until he finally got into the hands of the police, or was discovered in a most wretched and dirty state in the company

of the lowest mortals in the lowest part of the town. In the earlier part of his insane career, which began when he was forty-eight years old, he was several times in prison for stealing. In the asylum he was a most troublesome patient. He could make excellent suggestions and write out admirable rules for its management, and was very acute in detecting any negligence or abuse on the part of the attendants, when they displeased him; but he was always on the watch himself to evade the regulations of the house, and, when detected, he was most abusive, foul, and blasphemous in his language. He was something of an artist, and delighted to draw obscene pictures of naked men and women, and to exhibit them to other patients. He could not be trusted with female patients, for he would have attempted to take indecent liberties with the most demented creature. In short, he had no moral sense whatever, while all the fault that could be found with his very acute intellect was that it was entirely engaged in the service of his depravity. It might, no doubt, be argued that he was a desperately wicked person, and that his proper place was the prison. But the prison had been tried many times, and tried unsuccessfully. And there was another reason why prison-discipline could not rightly be permitted to supersede asylum-treatment. At long intervals, sometimes of two years, this patient became profoundly melancholic for two or three months, refused to take food, and was as plainly insane as any patient in the asylum. It was in an attack of this sort also that his disease first began.

There is, in fact, a class of cases in which a state of deep genuine melancholia alternates with a state of mental excitement the symptoms of which are principally those of moral insanity. In some cases the intellect may so far share in the derangement as to enable us to call the excited phase true mania, but in others it is so little deranged that we certainly cannot speak of anything more than moral mania. The patient displays an excitement which is very like that of intoxication, and an extraordinary sense of buoyant happiness: though modest and reserved naturally, talks incessantly and addresses familiarly persons whom he would not have thought of addressing when in his natural state; prudent and careful in business, he now spends

money recklessly and enters into unaccustomed speculations; of grave and sober demeanour, he disregards conventional proprieties and even moral restraints; he listens to no advice nor remonstrance, and will not brook the least interference; his whole character is changed and his conduct entirely at variance with the habits of his natural life. Neither delusion nor incoherence goes along with this excitement and moral perversion; all the disorder of understanding which there is being shown in the incapacity of the patient to understand how unlike himself he is in his feelings and conduct. After lasting perhaps for months the state of excitement passes away and is followed by deep and genuine melancholy. In one case of the kind that I saw the change from the one state to the other used to take place suddenly and completely.

In other cases of moral alienation there has been more or less congenital moral defect or moral imbecility from the first; maniacal exacerbations of positive moral insanity occurring perhaps at puberty, perhaps at the menstrual periods, perhaps after severe disappointment. Again, moral insanity may come on after acute fevers, after injury to the head, after some form of organic brain disease; in some cases it is the first stage of mental degeneration consequent on self-abuse, lasting as such for some time before the intellect shows any signs of being directly damaged; now and then it occurs in consequence of a severe moral shock as the forerunner of a genuine attack of marked insanity; and it not unfrequently precedes general paralysis. But the disease with which it is most commonly found in conjunction is epilepsy. I have more than once adverted to the extreme change in moral character in some epileptics which precedes and forebodes the convulsions, when they become sullen, moody, suspicious, morosely melancholic; in others, however, the moral change is of an opposite and elated kind—they are animated, loquacious, active, borne up with an exalted feeling of physical and moral well-being, and eager to undertake anything. I may go on to point out that attacks of moral alienation, of variable duration and of periodical recurrence, sometimes come on regularly for months, and seem quite inexplicable until the characteristic convulsions make their appearance, proving them

to have been a sort of abortive or suppressed epilepsy; or again, the epileptic convulsions shall cease, and in place of them attacks of moral insanity with more or less maniacal excitement occur. There can be no question in the minds of those who have studied mental diseases that certain unaccountable criminals belong to the class of epileptics.[1]

Thus much concerning the group of symptoms which I have made into a second variety of affective insanity—*Moral Insanity*. When we look into its antecedent conditions we perceive them to be such as are known to be hurtful to the brain or to mark disorder of it: the destruction of the moral sentiment is an early effect of such deterioration of the mental organisation, as any one may recognise, if he will, in the demoralisation which alcoholic excesses and the excessive use of opium notably produce. The facts being what they are, it is not a little surprising that people should go on maintaining that the moral sense is independent of physical organisation. All observation shows that it is as essentially dependent upon a physical basis as is the humblest mental function of man or animal. If the evidence drawn from the nature and causation of moral alienation were insufficient, the fact that it is often the immediate forerunner of the severest mental disease might suffice to teach its true pathological interpretation. When, therefore, a person in good social position, possessed of the feelings that belong to a certain social state, and hitherto without reproach in all the relations of life, does, after a cause known by experience to be capable of producing every kind of insanity, suddenly undergo a great change of character, lose all good feelings, and from being truthful, temperate and chaste, become a shameless liar, profligate, intemperate, and perhaps a thief, then it will certainly be not an act of strained charity, but an act of bare justice, to suspect the effects of disease. At any rate it behoves us not to be misled in our judgment by the evident existence in such a patient of a full knowledge of the nature of his acts—of a consciousness, in fact, of right and wrong; but to remember that disease may

[1] Morel, *D'une Forme de Délire suite d'une Surexcitation nerveuse se rattachant à une Variété non encore décrit d'Épilepsie:* 1860. J. Falret, *De l'État Mentale d'Épileptiques.*

weaken or abolish moral feeling and the power of volition without impairing consciousness. Fortified by this just principle, we shall be in better case to interpret rightly the facts than when biassed or blinded by the opposite erroneous principle.

I pass now from the consideration of the symptoms of affective derangement, which exist alone in some cases and in so many other cases go before distinct intellectual derangement. By considering them apart, as I have done, before going on to treat of the varieties of intellectual alienation, we get a truer conception of the evolution of insanity, and therefore a more natural history of morbid psychology, than if we were to proceed otherwise. Moreover, there is the practical gain of bringing into prominent relief grave phases of mental derangement which oftentimes fail to obtain due attention, albeit they have certainly not been overlooked; for the *Mania sine delirio* of Pinel, the *Monomanie raisonnante ou sans délire* of Esquirol, the *Monomanie affective* of the same author, and the *Moral Insanity* of Prichard are different names that have been used to denote them. From a social point of view these morbid states are more alarming than positive intellectual derangement; for they mark a condition in which, dangerous hallucinations and impulses are apt to occur suddenly, and the tendency of which is, feeling-like, to express itself in deeds rather than in words.

CHAPTER VIII.

THE SYMPTOMATOLOGY OF INSANITY—(*continued*).

Melancholia.

We believe not, as did the ancients when they gave it its name, that melancholia is caused by black bile (μέλας χολή), but there is no doubt that the depression of mind which oftentimes goes before a genuine attack of the malady is very like that mood of gloom which a sluggish, ill-secreting liver occasions; when, without any change in external circumstances, the only change being in him, the person feels irritable, gloomy, apprehensive, suspicious. The antecedent symptoms of melancholia may indeed be summed up concisely as lowness of spirits, groundless forebodings of coming evil, and brooding abstraction. There is much mental suffering during this preliminary stage: the individual's self-confidence in thoroughly shaken, and he is in a distressing state of exaggerated susceptibility; apprehensive vaguely of some calamity being about to happen to him, and fearful of hearing or reading of any painful incident because it makes a terrible impression upon his mind and he dreads lest the like may happen to him; cannot go near a railway engine or a precipice or over a bridge lest the idea of putting an end to himself should take possession of him and overpower him; if he reads or hears mention of a disease is in instant distress for fear he shall have it; is afraid of doing something trivial and innocent lest he should be doing wrong, conscious all the while how foolish his fears are, which, nevertheless, he cannot shake off; imagines that preachers whom he hears are preaching

at him, and books that he reads write at him; thinks of some mistake or omission, real or fancied, that he has made in his business, magnifies it mightily, and torments himself continually with remorseful reflections thereupon. He has lost all estimate of proportion, and his mind is fascinated by the very horror or anguish which a painful idea, holding it in its grasp, occasions him; not because there is ground for the exaggerated idea, but simply because it is of a painful character. Before he fell into this "nervous" condition, as he calls it, he has had bad sleep and bad dreams, and has probably suffered some slow drain upon his vital energies, physical or mental,—from worries in business, from pecuniary anxieties, from domestic troubles, from exhaustion by illness or by excesses, and the like; but because of the sadness which is the main feature of his condition there is always a disposition on the part of friends to look out for grief as a cause, and when no cause of grief is discovered to suspect or to assume a secret cause thereof.

This is the common mode of onset of melancholia, but in some instances it has come on very suddenly, in consequence of a severe mental shock, such as the abrupt announcement of the sudden death of one who was very near and dear: the person has been thrown instantly into a state of apathetic stupor and despair,—a sort of tonic spasm of mental anguish with paralysis of all other mental functions. I remember the case of a gentleman's coachman who fell into that state of apathetic melancholy which is known as *melancholia cum stupore*, or *melancholia attonita*, on making the startling discovery of his wife in the act of adultery with his master. More often, however, the natural grief which a sad bereavement occasions passes by slow degrees into a morbid depression, in which the person accuses himself or herself of imaginary sins of omission or commission, broods over them continually, is full of self-reproach, abandons occupations and interests, and is at last quite indifferent to family, to affairs, and to all other urgent present claims. Before the profound change of feeling took place the patient has sometimes been distressed by a strange giddiness or numbness or other indescribable sensation in the head, or has perhaps felt as if something had suddenly cracked there.

At the beginning of melancholia in most cases, and throughout the disease in some cases, there is no definite delusion; the person is simply morbidly melancholic, suffering from *melancholia simplex* or *melancholia sine delirio*, as this condition of affective disorder has been called. But he is profoundly changed notwithstanding: his feelings regarding persons and events are strangely perverted, so that impressions which would naturally be agreeable are painful, and the attentions of his relatives occasion irritation or actual distress; he has no interest in his family or in his affairs, feels as if a cloud had settled upon him, or a veil had been let down between him and them, since things seem not real, as formerly, and it appears to him that he moves about in a sort of dream; he shuns society, which is distressing to him, cares not to do any work, neglects his personal appearance, sinks into inactive brooding, and ends, perhaps, if permitted, by lying in bed all day. All this while he is quite conscious of his unnatural state, and perhaps bursts into tears as he bewails it; he torments himself with reproaches because he has lost all natural affection; he would give anything in the world to be himself again, and cannot conceive why he is so miserably changed from what he was. After a time, commonly by degrees, but it may be suddenly, an overwhelming idea takes form in his mind that he is ruined in business, or that he has been guilty of some crime, or that he has committed "the unpardonable sin," or that he is a burden upon his family and ought to rid them of it by suicide; the vast and vague feeling of profound misery has taken form as a concrete idea of wrong-doing—has condensed, as it were, into a definite delusion which is the fitting expression of it. Sometimes the horror of the condition is aggravated by the sudden and startling way in which the delusion has arisen and taken hold of the mind; instead of having been gradually evolved, as it usually is, coming and going several times, so as to be divested of some of its horrors by familiarity before it is mature, it has started into activity instantly and unexpectedly—perhaps on the person's awaking out of sleep—entirely overwhelming reason and producing an alarming feeling of utter helplessness. I have known a suicidal and a homicidal idea to surprise and take captive the

mind in this sudden way and to mount almost instantly to the convulsive energy of a scarcely controllable impulse; the very suddenness and vividness of the revolting idea exciting such a paralysing horror as helped to fix it in the mind.

The apparently spontaneous origin of the morbid idea is another reason why it is accepted so unreservedly by the patient, who feels himself unable to give any account of it, or to offer any resistance to it. Had it come by the accustomed paths of association its origin might have been partially traced, its relations noted, its validity weighed by comparison and reflection; but coming, as it did, unexpectedly, fully formed, independently, without any discoverable relations to external impressions or to other ideas, it could not be tested by comparison, and might well seem to be the suggestion of an evil spirit, or otherwise of supernatural origin. Certainly it cannot be wondered at that a person should lose all self-confidence and be paralysed by a feeling of extraordinary helplessness who finds his mind playing him such alarming tricks. But it is not to be supposed that the idea has really arisen, or that the ideas of insanity ever arise, spontaneously; we may not know the secret chords by which they have been made to vibrate, but we are none the less sure that they have had their causes and their laws of morbid growth. As in dreams, other causes than normal impressions and habitual associations must be sought. There is, first, a possible organic suggestion coming from a particular organ of the body in consequence of the special sympathies which the brain has with the different organs; secondly, there is that constant unconscious mental operation—more active perhaps when the brain is in an abnormal state—whereby the revival of latent ideas and feelings frequently takes place without our being able to give any account of it; thirdly, impressions from without, which seem so trivial as to be hardly noticed at the time, may still have their effects upon the mind, and, when the brain functions are disordered and overclouded by gloomy feeling, may be worked up into strange morbid ideas; and, lastly, an idea may be excited sympathetically by another idea to which it has no apparent relation, particularly in a morbid brain, just as the muscular contraction of a group of muscles may notably be sympathetically excited sometimes by

the contraction of certain other muscles with which they have no normal functional connection. Persons whose nerve-centres are constitutionally unstable and mobile are most likely to have ideas start suddenly into consciousness in this seemingly spontaneous and independent way.

For any of these causes to act with much effect there must be a basis of disordered nerve element showing itself in that depression or perversion of the mental tone or mood which, known as simple melancholia, precedes the formation of the morbid idea. The common notion that the person is wretched because of the painful delusion is usually a mistake; the latter has been precipitated, as it were, out of the vague feeling of unspeakable misery which is the medium in which its gestation or incubation has taken place; and it takes different forms according to the person's culture and habits of thought, and according to the prevailing social and religious opinions of the time. Among barbarous nations now, as was the case among European nations in the middle ages, witchcraft is laid hold of by the distempered mind as the cause of its woes; at the present day in European countries the fear of being pursued by the police for some crime has dispossessed and superseded the delusion of persecution by witchcraft. The conviction of having committed the unpardonable sin, and of having incurred in consequence the doom of eternal damnation, has been a common delusion of melancholics since the disciples of Christ introduced that doctrine to mankind; but an ancient Greek who was suffering from the same form of disease could not have had that delusion: he would have imagined himself, Orestes-like, to be pursued by the Furies. In some instances it is plain that the delusion which the patient believes to be the cause of his gloom is ludicrously disproportionate to the extreme mental anguish evinced, and quite inadequate to explain it: a trivial act is thought to have been a sin or a crime charged with consequences of endless woe. One person who was under my care asserted that his great affliction was owing to his having drunk a glass of beer which he ought not to have done, and another was lost for ever because on one occasion he had muttered a curse when he ought to have uttered a prayer. With him who believes that his soul is lost, it is not

the delusion which is the fundamental evil and occasions his despair, but the affective derangement out of which the congruous delusion grows; he thinks he has got his adequate explanation, whereas he has got no definite idea in his mind at all, but is content with a form of words, or at most with a vague notion of terrible sin and terrible punishment, without ever attempting to apprehend sincerely and clearly what he thinks he believes. The finite cannot possibly form a definite idea of the infinite or eternal, which so-called idea must always be really a negation or imbecility of thought; and the insane delusion of eternal damnation is no more than the vague and futile attempt to interpret an utterable feeling of misery—a feeling by which it is nourished and strengthened, in accordance with the law that any passion, sane or insane, calls up and intensifies ideas that are congruous with it.

Some melancholics are in a state of panic fear without knowing what they fear, and exhibit an excessive susceptibility to every kind of impression: whatever is proposed, said, or done causes acute alarm and apprehension, expressed perhaps in such repeated exclamations as, "Oh! don't say that! don't do that!" or in actual shrieks of distress; the most trivial thing, the opening of a window or a door, occasions exaggerated protestations; they resist being washed, dressed, and undressed. and when pressed to eat protest earnestly that it is too dreadful, and perhaps retch as though they would be sick; they cannot walk out of the house, and are in despair if forced to do so; they resist the simple and necessary offices of attention to them with an energy which would suit more an attack upon their lives, putting into their resistance a great deal of passionate self-will. Their physiognomy, words, and actions alike betray the vague and acute apprehension which has taken possession of them.

It is worthy of note that the mental suffering is oftentimes actually less when the vast and undefined feeling of dread has been condensed into a definite delusion. This accords with the experience of the sane mind, which ever suffers more from uncertain apprehension and from suspense which paralyses its energies, than from knowledge of a certain evil to which it can

begin forth with to make some sort of mental accommodation. The murderer notably sleeps better after he has been sentenced to death than he did before his fate was decided. In like manner doubts and uncertainties about coming to a resolution on some point often cause more mental worry and distress than the execution of the resolution come to, however painful it may be; for the very act of resolving imparts a comparative calmness and repose to the mind by systematising its energies. When the vague morbid feeling of the melancholic has been embodied in a fixed delusion of some kind, he is not only less miserable, but, as a rule, he is more easy and safe to deal with than when his whole moral atmosphere is disturbed; for it is in this latter condition that painful ideas are especially apt to spring up in the mind, without apparent associations and in a quite unforeseen manner, and to become dangerous impulses of a suicidal or homicidal character. Superficial observers comfort themselves with the notion that the patient is not mad because he has no delusion, whereas he is more dangerously mad sometimes than if he had the most extravagant delusions, since his madness is likely to show itself in deeds rather than in thoughts.

The following cases may serve as ordinary illustrations of melancholia:—

A gentleman, æt. thirty-six, married, had always been of an extremely religious character and of exemplary behaviour. After he had been married for about a year his illness began with great depression and with the involuntary appearance in his mind of blasphemous ideas in spite of all his efforts to repel them; he was much distressed by this state of things, his gloom increased more and more, and at last he concluded that "he had done it,"—namely, committed the unpardonable sin. Here were, first, a morbid affection of nerve element revealed in the emotional depression, then an automatic and spasmodic activity of certain ideational tracts manifest in the involuntary and irrepressible ideas that arose, and finally the concentration or systematisation of the morbid action into a definite delusion. The patient was further very hypochondriacal, and fearful that he should die soon; but, although his heart's action was feeble, and his pulse remarkably slow, there was no evidence of organic

disease. The feebleness of cardiac action was due to the depressing effects of the morbid state of the nerve centres upon the organic functions, all which shared more or less in the prostration. Apart from his delusions his reasoning powers were nowise affected; he was fully alive to all business relations, and could converse intelligently and even cheerfully on indifferent matters. But the moment his attention was no longer diverted from his own suffering and otherwise engaged, the morbid idea returned in all its force and engrossed consciousness; his countenance became overcast, and he—just-now so cheerful—presented the characteristic dejected appearance of profound melancholy. He lived, as it were, two separate lives—at one moment that of a sound, reasonable being, and the next moment that of a morbid automatic being; he was quite aware of his affliction, and could reason about it as a man might reason about a peculiarity of his character or a particular conformation of his body, though he could not be persuaded of its true morbid nature; so soon as the train of mental ideas and feelings excited by external impressions was past, the morbid train of thought recurred. He was made so miserable by his sufferings that he more than once attempted suicide. Herein we have an example of the error of the statement that the monomaniac reasons correctly from false premisses; believing that he has committed the unpardonable sin, and that his soul is for ever lost, he does that which may soonest precipitate the result which he so much dreads. An uncle had been similarly afflicted, and had died insane.

Intelligently as this patient could talk, and rational as he seemed, apart from his delusion, it would not have been correct to have pronounced him perfectly sensible under such limitation. There was no sufficient reason in his intellectual disorder why he should not have gone on with his business, but he could not; he thought he was too weak in body to do so, whereas he was too weak in will to make a sustained attempt; he could not take interest in that, in his family, or in anything else but himself; every impression was more or less painful to him, his whole manner of feeling being perverted, and he sought therefore to avoid society, to be alone, and to nurse his sorrow. At

times, too, his anguish increased to a veritable acute paroxysm, and then he looked very helpless and insane.

The case which follows, very similar to the foregoing in general symptoms, illustrates, by an important additional symptom, a dangerous feature in some of these cases.

J. B., æt. fifty-one, married, had made a small fortune by his own energies, and had brought up a family respectably. He was a stout, hard-faced, big-browed man, of surly appearance and melancholic temperament. Of the Wesleyan persuasion, he had always been very attentive to his religious duties; indeed, religious devotion was said to be the cause of his illness, which certainly began with doubts as to his religious state. He became gloomy, morose, and depressed, and took to his bed five weeks previous to his being sent to an asylum. He would not get up, however much entreated: why should he? He was dying, and there was no salvation for him, for his soul was lost. He slept fairly and ate well, though he professed at times that he could not eat. In the asylum he was listless, gloomy, and exceedingly averse from exertion of any kind, always maintaining that he was dying. "It's of no use, I tell you, doctor, asking me how I am: you know I'm dying." Apart from the delusions as to his soul and his body, he was intellectually rational, although his affective life was much perverted. After a month's residence, there was some improvement in his state; he walked outside the grounds regularly after having been forced to go on the first occasion much against his will; he was more cheerful too, and would talk a little. It was thought that he was going on very favourably. One night, however, without any warning, he suddenly started out of his bed, rushed at a window, through which it would have been thought impossible that a man of his size, or indeed of any ordinary size, could have squeezed himself, struggled through it, and fell from a height of twenty feet, fortunately on his feet, so that he was only grievously shaken. He was, however, in a state of fearful excitement, fancying that the world had come to an end, writhing, and crying frantically, "Let me go, let me go!" Like sudden desperate paroxysms seized him periodically for the next three weeks; after which he began to improve. He became

talkative, cheerful, and interested in his family, though maintaining for a time, for the sake of consistency seemingly, that he was no better, and only reading or employing himself when he thought that no one was observing him. In three months more he was discharged quite recovered.

These paroxysms of anguish or panic, which are a notable feature in some cases of melancholia—paroxysms of *melancholic panic* they might be called—deserve careful notice. They often come on quite suddenly; the patient has perhaps been lying down to rest, and after a short period of repose, in which he has dozed or not, he starts up in great agitation, his heart beating tumultuously, his senses distraught, and rushes wildly to the window to throw himself out of it; he is overwhelmed for the time being, driven to desperation, and hardly knows what he does; the frenzy has all the characters of a convulsion affecting the mental nerve-centres. In some cases the convulsive panic is preceded by an anomalous and alarming sensation of distress about the region of the stomach or of the heart, a sensation which, appearing to rise thence to the head, is accompanied by an indescribable terror and a dreadful feeling of helplessness. The condition is insupportable, and he feels that he must go mad or rush out of the house and do something dreadful to himself or to some one else; no one can conceive the terrible agony which he underwent, he will say afterwards; and when the paroxysm is past he trembles from head to foot, is bathed in perspiration and completely exhausted. The whole affair is suggestive of the onset of a mental epilepsy, and the deed of violence that may be done is like that which is done sometimes in the transitory mania that occurs in connection with epilepsy. Whether the explosion of violence in such case shall be directed against the patient's own person or against the person of another will probably be determined in the main, partly by his own character, and partly by the character of his malady. If he has laboured under delusions that he was slandered, persecuted, or otherwise injured, and has had a hard task hitherto to withstand the impulses to retaliate against his supposed enemies, he will be most likely to attack one or other of them during the fury of his frantic panic; if his delusion, on the other hand, be

that he is himself a very wicked person who ought no longer to live, the probability is that he will do injury to himself. Moreover, if he is of a self-asserting temperament, which reacts passionately against opposition, answering blow with blow, meeting threats with defiance, he is more likely to be homicidal; if he is of a self-distrustful temperament, which shrinks from contests, foregoing his own claims rather than assert them defiantly, he is more likely to be suicidal. For the same reason a homicidal tendency is less likely to be present, and if present, less likely to be dangerous, in women than in men, and in old and feeble persons, the self-asserting energy of whose natures has abated, than in young and vigorous persons.

It is noteworthy, in some cases of melancholia, how sudden and complete may be the change from the deepest anguish and despair to a state of temporary calm and sanity; indeed it is not very uncommon to observe brief intervals of respite, like momentary breaks of blue in an overcast sky, during which the person is himself again. One of my patients, suffering from acute melancholy, who usually wandered about moaning grievously, or sat weeping profusely, and who had made several attempts upon her own life, awoke one morning seemingly quite well, rational, cheerful, and wonderfully pleased at her recovery, remaining so for the rest of that day. It was evanescent, for next morning she had entirely relapsed, and it was some months before she finally recovered. And I have met with one extraordinary case in which for a long time there were daily alternations of profound melancholy and complete lucidity. Griesinger mentions the case of a woman with melancholia and delusions as to loss of property and persecution, who for the space of a quarter of an hour was quite herself, and then relapsed. Such instances are of interest in regard to the pathology of the disease, as they prove that there is no serious organic disease so far; the condition of nerve element is a modification which, whatever its nature, may quickly come and quickly go, not unlike, perhaps, the electrotonic state that may be artificially produced in nerve.

In conversing with patients so afflicted it is impossible to avoid being surprised at the strange discord or incoherence

which their mental character exhibits, and difficult to help thinking that they could do more to control their morbid moods than they do. Certainly the self-control which they will exercise for a time, especially before strangers, is so great sometimes that a short interview might produce a very erroneous impression of their real state; for when alone or in the company of those who are accustomed to be with them, they will yell, moan, weep, and become pictures of despair. They seem to be double beings—at one time more rational than insane, at another time utterly insane: the two beings cannot be brought into intimate intercommunication and beneficial reaction upon one another, for the persistence of the delusion implies the cutting off of such healthy interaction: as conscious manifestations they are independent, isolated. One day the sound being is in predominant or exclusive action; another day, the unsound being; on different occasions one might say—"Now I am talking with the rational being; now with the morbid being." Herein we have the explanation of the doubt which such patients sometimes have of themselves; they are not uniformly confident, and appear only to half believe in their delusion at times, because they are not then under its entire influence: their rational nature is in predominant action, and they act in their relations as if their delusion really was a delusion. It would be a mistake, however, to put reliance on such seeming hesitation on their part: let the morbid feelings be stirred up and the delusion excited into activity, all doubts vanish, and the sound being is brought into dangerous bondage to the unsound being; and it would certainly be unsafe to conclude that a person who did some deed of violence must needs have known what he was doing at the time, because he plainly knew very well what he was doing half an hour before.

The profound depression of the mental tone which characterises melancholia and inspires the gloomy delusion makes itself felt throughout the bodily functions; and it will be convenient to consider its effects (*a*) upon sensation, (*b*) upon the processes of nutrition and secretion, and (*c*) upon the acts or general conduct of the patient.

The general sensibility of the skin is commonly much

affected, being either blunted or perverted. The diminution may be general, no part of the body showing its natural acuteness of feeling, or it may be local, when there is sometimes a complete loss of it. Hence it comes to pass that melancholics oftentimes inflict severe mutilations and other injuries upon themselves which they would hardly do if their sensibilities were normal; a delicate young lady who would shrink from undergoing the least pain when in health may thrust a needle or a pair of scissors into her heart in order to commit suicide; another patient gouges out his eyes with his finger as a penance for his wickedness and in obedience to the Scriptural injunction, "If thine eye offend thee, pluck it out;" a third thrusts his hand into the fire and holds it there until it is charred, or mutilates himself sexually in such a determined way that it is hard to believe any one possessed of normal sensibility would have the courage to do it. In some cases it is plain that the loss or lessening of sensibility helps to keep up, if it does not actually occasion, the delusions in the mind. Our sensibilities are our channels of communication with the external world, and we are so constantly and habitually dependent upon their normal functions, without thinking in the least of them, that we do not realise, until they fail us, how much we owe to the messages which we receive by them every moment of our lives. A person who has lost sensation in the sole of his foot feels as if his foot were enlarged and heavy and did not belong to him, or can hardly be persuaded that something cushion-like has not been interposed between it and the ground; in like manner, a poison like aconite, which deadens or paralyses general sensibility, produces a sensation of extraordinary enlargement or weight of the whole body. Such being the experiences of the sound mind, it is not difficult to conceive that losses or perversions of sensation may contribute materially to the generation and the maintenance of delusions in the unsound mind; they will be worked up by it into the strangest products, as we know sensations oftentimes are in dreams.

Perversions of sensation frequently occasion great distress. Strange feelings of precordial discomfort or pain in some instances, disquieting epigastric or abdominal sensations in other

instances, or anomalous sensations in the head and along the spine, such as dull pain, coldness, pressure, and the like, keep the patient in a cloud of despair or in a fever of apprehension about himself. A noteworthy fact in connection with these strange sensations, which are seldom actual pain, but more alarming than if they were pain, is that when they reach a certain pitch of intensity they cause an indescribable apprehension and distress, so that the patient feels as if the foundations of his being were giving way, and is perhaps driven to do some wild act of violence in order to deliver himself from his insupportable state. It is probable that they originate in a disorder of those organic sensibilities to which the sympathetic nervous system ministers, and which, though we are not directly conscious of them and have no power over them, are essential conditions of the physiological unity of the organism; if this be so, it is no wonder that a disorder of them which thrusts itself into consciousness, threatening, as it seems to do, a physiological disintegration, should be accompanied by a complete loss of self-confidence and an extraordinary display of anxiety and helplessness. It is seldom that any actual disease can be found to account for the disquieting sensations, but they are unquestionably sometimes more distressing, more disabling, than the pain of severe organic disease. Let it be noted that the disorders of organic sensibility in insanity are of more importance, and deserve closer attention, than has generally been thought hitherto. When a general paralytic patient alleges that he has no mouth, no throat, no stomach, no intestines, or that he is dying or is dead, it is worth inquiry whether his delusion is not due to a deadening of his organic sensibilities, the perfectness and union of which have so much to do with the consciousness of the physiological unity of the organism. In like manner, when the hypochondriac complains unceasingly of the distressing anomalous sensations in his interior, it is a question whether he has not cultivated such a hyperæsthesia of his organic sensibilities by constant attention to them as to be rendered sensitive to the functions of his organs or even to the passage of food through the intestines.

When the melancholia takes a hypochondriacal form as it

notably does sometimes, I think, in persons who break down in middle age after sexual excesses of youth and early manhood, there may be an exaggerated sensibility to almost every impression made upon sense—a sort of painful mental hyperæsthesia. They have so nursed their sensibilities that these have become their tyrants. The person cannot perhaps enter a room unless it has been very well aired, and at the same time he dreads the least draught of air, or fears to expose himself to the rays of the sun; he cannot read, he says, because his eyes immediately suffer, or bear to hear much conversation for fear it may produce pain and confusion of head; he is afraid of making any real exertion because of the pains and exhaustion which he declares that he feels if he does; walks, perhaps, as if his body were glass which would be shivered by a shock; is troubled about the sensations which he has after taking food, lest perchance he has taken something which disagrees with him; complains that his mind is a perfect void, that he has no memory, and that he cannot make the least intellectual exertion. Exhausted sexual sensibilities and powers have taken out of life that which was its main aim and gratification and the backbone of its interests; there is no capacity to feel and to respond to stimuli of a higher order, which have never been cultivated, and continual attention to bodily sensations has exaggerated them by degrees until they have become morbid and overpowering. A condition of morbid sensibility very like this in many respects is met with sometimes in young women soon after puberty, or in unmarried women at a later period of life who suffer from melancholia with hysterical features. Whatever the immediately active cause of their state, it is past all doubt that sexual feeling has had something to do with its production: perhaps it is that an ungratified instinct, having not vicarious diversion of its energies in a busy life of work and interests, has shown itself in the increase of the general sensibilities of the organism, claiming and obtaining its gratification in the fostering of them; or it may be that an illicit indulgence of the instinct is at the bottom of the mischief.

Illusions and hallucinations of the special senses are common in melancholia, and those of hearing more common than those

of sight. Why auditory hallucinations should be the most frequent in this as in other forms of insanity is a question which has apparently not been considered; but the main reason, perhaps, is that we do most of our thinking by means of words, the thoughts as they arise being instantly translated into their proper words; consequently, when a morbid thought is vividly conceived and acts intensely upon the sensory centre, the words into which it is forthwith translated are heard as actual sounds or voices, and thereupon attributed, in accordance with normal experience, to an external cause. Solitary habits and brooding thoughts would be likely to favour this transformation of thoughts into heard words. Secondly, hallucinations of hearing cannot be tested and corrected by touch, as a perception of sight can; we build up our visual perceptions by the aid of touch, so that they become a language which is interpreted instantly by past experience, and we correct habitually the inferences of sight by the mother-experience of touch; but we cannot test a voice by touch, and are more disposed, therefore, to let it pass unchallenged. Thirdly, the suspicious and distrustful nature of insanity comes in to strengthen the hold of an auditory hallucination, since it operates to check or withhold that reliance upon the testimony of others which everybody must practise in matters of which he cannot have personal experience; it adds to the person's confidence in his own opinion at the same time that it takes from his trust in the authority of others. After all, the last foundation of knowledge is *to feel* and *to do*, to be susceptible to external stimuli and to make respondent actions, — in other words, it is truly a *grasping* or *apprehension* of external nature, social and physical, as the result of close and sincere relations with it; whosoever, therefore, is separated from his kind by a barrier of distrust, being among them but not of them in feeling and doing, cannot apprehend truly concerning them, and is on the way to become a morbid social element.

Auditory hallucinations will be found to differ in character when they are closely examined; and these differences will throw some light upon their mode of origin. Some patients are much distressed by the involuntary upstarting in their minds of

painful ideas which are often of a blasphemous or obscene nature; if they are of a religious disposition they are the more alarmed by what they describe as dreadfully wicked thoughts, and cannot help thinking them proof that they are given over to Satan on account of their sins. So far there is not actual hallucination: morbid ideas start up against the will in disordered mind-centres, just as convulsions or spasms proceed from disordered motor centres, and are interpreted in accordance with the person's habit of thought. The next step in misinterpretation, however, is to imagine that the wicked thoughts are the suggestions of others—either of evil spirits or of corporeal enemies—who have got possession of their thoughts in some mysterious way, know everything that passes in their minds, dictate what they shall think, and reply to it before it is distinctly conceived by them: no actual voices are heard, but the conviction is that their persecutors have made themselves masters of their thoughts by some extraordinary trickery, and direct them as they please. It is the only explanation which they can conceive of the origin of thoughts which are painful and hateful to them, which they feel strongly are not the thoughts of their true selves, and which certainly come to them against their will.

The next step is that the ideas as they arise are transformed into words heard; they strike upon the auditory ganglia, become actual hallucinations, and are heard distinctly as the voices of persons uttering them. In vain we attempt to convince the patient so afflicted that the thoughts momentarily precede and really cause the voices; he hears them as plainly as he hears our words, and has the same certitude of their reality; and he is not expert introspectionist enough to be able to watch his ideas and to catch them at the instant of their rise before they are transformed into sounds. The late Sir H. Holland mentions the case of a gentleman who believed in and acted upon illusive sounds and conversations of this kind, being treated as deranged in consequence, and who after a while recovered so far as to recognise and treat them as hallucinations. When he was asked to explain how it was that he had come to look upon them in that sensible light, he said that it was partly

by never discovering any person in the places from which the voices seemed to come, but chiefly by finding himself able, on trial, to suggest the words which appeared to be uttered by some one to him. Without doubt he was already on the way to recovery from his malady when he was able to make this successful self-examination and to detect the tricks which his mind was playing upon itself. In dreams a person is similarly self-fooled. The apt replies and admirable arguments of the person with whom the dreamer talks are of course his own replies and arguments,—his own thoughts which he hears spoken —though he is not aware of it at the time; coming not by the regular paths of association, but in a way quite independent of will and consciousness, they meet him as strangers and are ascribed to some one else whom he sees and hears. The habitual co-ordination of thoughts and feelings, which is the basis of the consciousness of personal identity, is suspended in sleep, and it is only when the normal co-ordination is being re-established, as was the case with Sir H. Holland's patient when he was able to suggest the words which were seemingly uttered by another person, or as is the case with the dreamer who is just about to awake, that he recovers his sense of personal identity and begins to suspect or to perceive the true nature of the hallucinations.

It is a common observation that hallucinations of hearing abate or disappear for a time with change of scene, those who have them being most free from them when travelling from place to place: insulted by offensive remarks in one hotel or town, they leave it in consequence, and in the new hotel or city which they arrive at they are free from trouble for a day or two. Then, however, the insults are renewed. Believing that they have left their persecutors behind them, they expect not to hear them when they reach the new place, wherefore their minds are not running on the train of morbid thoughts; the diversion of thought is further aided by the interest of the new surroundings; soon, however, this source of interest is exhausted, the morbid habit of suspicion revives, attracting and holding the attention, the hallucinations recur, and the unfortunate persons declare that their enemies have followed them and are at their evil work again. One gentleman who consulted me because of

persecutions of the kind found himself much relieved when travelling in Norway, especially so in its wilder parts, where he seldom met any one; as soon as he returned to populated countries his afflictions were as bad as ever. Another gentleman could only make life endurable by wandering from place to place day after day, not staying more than one night in the same hotel; when in England he bought a horse and gig, and drove from town to town, leaving in the morning the place where he had slept at night and carrying food with him which he took by the roadside or in a field. He had got into various troubles on account of his vagrant life: once the police had taken him in charge and locked him up; once he had been brought before a magistrate for cruelty to his horse, which had a neglected sore on its shoulder; twice his horses, wearied of standing, had run away with his gig while he was taking his midday meal and had done injury, the one to itself, the other to the conveyance; but he had got over that danger by buying a London cab-horse, which would stand still for any length of time. He had tried most of the best hotels in London, had fancied himself persecuted in all of them, and having had quarrels in consequence, was hard put to it to go where he would be received again.

At an early stage, before the hallucinations are fixed, travel in a foreign country, the language of which the patient does not understand, may help much to dispel them; but when they are fixed and he has ceased to have any doubt about them he sees threats and insults in looks and gestures, interprets in an ill sense words which he does not understand, or hears reproaches uttered in his own language which he declares his persecutors understand. A gentleman I once saw who knew three languages besides his own was always most persecuted in his own language, very seldom in the language which he knew least, more often in the other foreign languages with which he was well acquainted. And Esquirol mentions the case of a gentleman who heard reproaches in all the languages of Europe, which, being an accomplished linguist, he understood; he had, however, most difficulty in understanding those which were made in the Russian language, which he himself spoke with most

difficulty! "For the rest," he said, "the language is of no consequence; one may communicate many things by a look or a gesture, even when one is a long way from the person." [1]

The secondary production of hallucination through the agency of morbid idea is not the only mode of production; there can be no doubt that hallucination may originate directly in a deranged sensory ganglion. There are several poisons which, when introduced into the blood, act through it upon the nervous system to excite distinct subjective sensations, chief among them being belladonna, which gives rise to very remarkable visual hallucinations; in fevers again we observe hallucinations and illusions, the characters and manner of origin of which certainly indicate that they proceed immediately from disordered sensory centres; and reasons have already been brought forward to show that the hallucinations which occur in dreams and just before going to sleep are often provoked by internal affections of the sensory organs or their ganglia. It is easy to understand then that the hallucinations of insanity are sometimes excited directly in the same way. Whenever an impression from without is made upon the senses, of which the person is distinctly conscious, it stirs up an idea of some kind; naturally therefore the stimulations of sense by internal causes will similarly excite ideas, which may be true or, more likely, untrue interpretations of them. A bad taste in the mouth owing to disordered digestion may generate the hallucination of poison in the food; a neuralgic pain in the face that of torture by electricity or by some more mysterious agency; a bad smell the hallucination of poisonous vapours diffused through the room; and so with the other senses. Although the morbid sensation is truly the occasion of the hallucination in these cases, this would never be believed in as denoting an objective reality and take rank in the mind as a distinct perception, without the co-operation of disorder in the higher centres of thought; since were they perfectly sound they could not fail to correct the evidence of the deranged sense and to perceive the true nature of the hallucination—as was done indeed by the celebrated Nicolai of Berlin and many others who, like him, suffered from hallucinations of purely

[1] *Dictionnaire des Sciences Médicales*, t. xvi. p. 154.

bodily origin. In most cases there is without doubt a combined action, or, so to speak, a conspiracy of disordered thought and of disordered sense in the production of the hallucination; the illusive sensation excites a morbid idea, which thereupon plays back upon the sensation, giving it a morbid interpretation; and we can no more mark the respective limits of the function of idea and of that of sensation in the false perception, than we can mark their respective limits in sound perception. The major part of every perception, true or false, is inference. It may be set down then as established by experience: first, that the *primary* occasion of a hallucination or an illusion may be either in the subordinate sensory ganglia or in the superordinate centres which minister to ideas: and, secondly, that although sensory and ideational centres are commonly in an intimate conspiracy to produce it, yet they sometimes do not agree, the one contradicting and correcting the other. Certainly it were an excellent thing if a man could always keep his ideas sound when his senses are disordered, and his senses sound when his ideas are disordered.

Hitherto I have dealt almost exclusively with hallucinations of hearing, which are the most frequent in mental derangement, but most of what I have said concerning them is true of the hallucinations and illusions of the other senses which occur. The patient sometimes has hallucinations of taste, his food has a poisonous or disgusting taste, and he believes that he is being poisoned or being fed on carrion; his smell is disordered, and he imagines that stinking odours or pestilential vapours proceed from his own body or are diffused through his room by his persecutors; he has illusions of sight and no longer recognises his nearest relations, believing them to have been changed in some extraordinary way, and, worse still, he sometimes sees them as devils and resists violently the attentions which he receives from them as tortures which they are inflicting upon him. I was once consulted by an old gentleman who, perfectly intelligent in other respects, believed that offensive odours emanated from his body to such a degree as to cause great distress to all who were brought near him in his business, which he nevertheless conducted with skill and judgment. So bad

was this smell, he declared, that the persons in the next house were annoyed by it and he could often hear them cough in consequence ; that the cab-horses standing on the cabstand moved restlessly as he passed them; and that those who did business with him were obliged from time to time to put their handkerchiefs to their noses, being too polite, however, ever to say anything to him on the subject. To prevent the excessive accumulation of these odours in one room, he used to sleep for the first part of the night on the ground-floor of his house, mounting higher at a later period of the night. He was very depressed because of his sufferings, took his walks in solitary places where he might meet as few persons as possible, and sometimes felt inclined to put an end to them by suicide. All this time his partners in business had not the least notion that there was anything specially wrong with him. At the end of several months an abscess formed at the lower part of the sternum, and after this had burst, discharging a large quantity of pus, he recovered entirely from his delusions. It would seem that an offensive smell of subjective origin, due probably to some latent disease which eventually caused the abscess, was so strong as to overpower reason and to fix firmly in the patient's mind the delusive conviction that everybody else smelt what he smelt.

Let it be noted with regard to hallucinations that they sometimes originate apparently as the remembered hallucinations of dreams which are taken to be real. One lady whom I saw had visions of a person entering her room in the night ; at times she was uncertain whether the occurrence was a dream, but at other times was positive that it was real. If one studies carefully the beginnings of hallucinations it will be found that they are oftentimes first experienced in the night or in the intermediate stage between sleeping and waking, and afterwards only as they gain strength get possession of the mind in the day.

The *processes of nutrition and secretion* are usually much affected in melancholia, the depression of tone making itself felt throughout them. Considering the profound depression and extreme prostration of energy which are witnessed in some instances, it is almost a wonder that the organic life goes on as

well as it does. The heart's action is often much lowered, the circulation being languid, the extremities cold and livid, the pulse slow, feeble, and irregular, or actually intermittent. It will be noted sometimes that the pulse is very irregular or actually intermittent during a paroxysm of melancholic depression, and that it recovers its natural beat as the depression passes off. The respiration, in sympathy with the heart, is slow, interrupted by frequent sighs, and perhaps moaning. The temperature of the body is lowered. The skin loses its freshness, becoming sallow, dry, and harsh, and in this, as in idiocy and some other forms of insanity, its excretions have a disagreeable odour, which will hang about a room in which several patients have been assembled. I doubt not that an acute nose might be trained to recognise insanity by its odour in some instances. The excretions from the bowels are sometimes particularly offensive. Digestion is often deranged, the tongue being coated —like a piece of chamois leather in a few cases; flatulent eructations are frequent, and there is sometimes great distress or actual sickness after food. The patient does not improve matters perhaps by his mode of eating, since he is apt to take food hastily and indifferently, without taking any care to masticate it properly.

The bowels are usually constipated; owing partly to defective secretions of their lining membranes, partly to indolent action of their toneless muscles, and partly to the obtuse sensations of the patient, and to his want of energy to attend to them. In some cases the urine is abundant in quantity and very pale in colour; in others it is scanty, thick, and high-coloured; these differences betoken, I believe, different states of nutritive derangement and prescribe different constitutional treatment. Menstruation is commonly irregular or suppressed. In a few cases I have known the hair to turn quickly grey during an attack, becoming less so again after recovery from it. Everything shows the depressing influence of the gloom of mind, or rather of the disordered nervous function which is the condition of the gloom, upon the organic life. There is often great want of sleep, at any rate before the disease has become chronic, but these patients are apt to affirm that they have not slept a

wink when they have slept tolerably well; the sleep having been imperfect, or disturbed by vivid and painful dreams, they feel unrefreshed and tired when they awake, and can hardly say whether they have slept or not. The early morning is usually the worst time with melancholics, who become more cheerful towards the evening, when they may for a short time be almost themselves. This may be owing to the diminution of the blood in the brain during sleep and to the delay or difficulty of restoring an active supply because of the enfeebled heart; or it may be simply the despair of a mind undistracted by external impressions and concentrated upon its gloomy thoughts, on awakening anew to them from the blessed repose of a temporary oblivion. In some cases, on the other hand, the terror and distress are greatest at night, amounting perhaps to a veritable panic when the time comes to retire to bed. It is remarkable too that a good night of sleep is sometimes followed by a worse state of things than is a sleepless night: the sleep has seemingly restored more sensibility to feel the sufferings and more energy to express the distress in conduct.

Refusal of food is common and is sometimes very persistent: it may be owing to delusions—such as that the food is poisoned, that the throat or the bowel is closed and will not let it pass—whence violent exclamations perhaps against the cruelty of being obliged to take it—or that the patient is unworthy to live and ought to die of starvation; it is sometimes the mere outcome of a morbidly perverse humour to resist everything that ought to be done, and of a crossgrained pleasure in doing the contrary; and it is at other times, in great part or in whole, the expression of a want of appetite and of the general sluggishness of nutrition. Even when the refusal is associated with decided delusions which appear to have instigated it, both it and the delusions will be aggravated, the latter being more active and the refusal more determined, whenever the tongue is coated and the digestion out of order. I once had under my care a lady who refused food entirely for a week, at the beginning of her illness under the delusion that her throat was closed up, the refusal being overcome only by the use of the stomach-pump; for some time afterwards in her case the old delusion, at low-water mark usually,

became full and active, and the disposition to refuse food returned, whenever the digestion was disordered.

The *movements and conduct* of the melancholic share the languor and accord with the character of his other functions. He is commonly averse from exertion of any kind, slow, languid, and heavy in his movements, and disposed to sit, lie, or stand for any length of time without caring to move until he is prevailed upon by much importunity or by actual force to do so. He has no interest in what is going on, and neither desire nor energy to take part in it. In that extreme form of depression which I have already spoken of as *melancholia attonita*, he sits, lies, or stands almost motionless in one position, not moving, even though it be a constrained one; he allows flies to settle on his face without brushing them away; he must be moved or carried from place to place, must have his food put into his mouth, and must be cared for by others in every respect; his muscles are generally relaxed, or some of them—those of the arm, for example—are fixed in a quasi-cataleptic rigidity; he is in a waking nightmare, so to speak, or like a person paralysed by a great fright who cannot stir a foot, and he cannot realise the true nature of his surroundings nor command the volition to exert himself in the least. The fact is that his mind is fixed in the cataleptic rigidity of some terrible delusion: he believes himself to be the cause of all the horrors in the world, and to be a wretch too vile and loathsome to be touched by any human being; or he imagines that he is surrounded by flames of fire, or that he is standing on the edge of a vast sea of fire or of blood and will be precipitated headlong into it if he moves a step forward; or he has the delusion that he is actually in hell, sees devils about him, and hears shrieks of sufferers ringing in his ears. He is not always, however, so unconscious of external realities as he appears; if his nose or his feet be tickled with a feather, or if his skin be pinched or pricked, he will sometimes show by a grunt or a groan, or by a shrinking movement, that he feels pain; and when he comes out of his trance-like state he may prove that he was a great deal more keenly alive to what was going on than he was thought to be, by remembering exactly most of what was said or done in his presence. Many times I saw a gentleman

who lay in this state of suspended mental animation for upwards of two years, being carried from bed to couch and back again each day, never speaking a word all that time, taking no food except fluid nourishment which was forced into his mouth, altogether inattentive to the calls of nature; at the end of this long period, when he was in an extremely emaciated and feeble state, he startled his attendant one day by asking him in a weak whisper for a cup of tea, which he drank willingly; thenceforward he was perfectly rational, and went on rapidly to entire recovery of bodily strength. He had believed that he was in hell, and that those who attended on him were devils who were mocking and tormenting him; that he was a horribly disgusting object and must not be approached or touched; and that he could not possibly or must not for the life of him make the least sign or exertion. But what was very remarkable was that when no one was in his room, and he believed that he was entirely unobserved, he would assume a more comfortable position as he lay, or would actually raise himself on his bed or couch so as to look out of the window; and when his wife visited him or something deeply affecting him was said in his hearing, he showed by a slight twittering of the closed eyelids or by a shrinking movement that he was not so insensible as he looked. Moreover when he came to himself at the end of his long nightmare he had a very fair remembrance of what had taken place while he was under its spell: the Franco-German war had broken out and run its course, and he had gathered from the conversation of his attendants a general notion of the events of it. Once he had lost his reckoning of the month for a time, but had managed to regain it by seeing the date on a newspaper.

In other melancholics, movements that seem to be almost automatic serve to give monotonous expression to their grief: they moan or groan piteously with each expiration; repeat in a whisper or aloud the same ejaculation of distress; rock their bodies to and fro continually; wring their hands; pace backwards and forwards over the same piece of ground with sad eyes fixed blankly upon it. The nervous irritability of some is so great that they cannot refrain from rubbing or picking their face or scalp until disfiguring sores are formed, or from pulling out

their hair in patches, or from gnawing their hands and fingers. They are hardly conscious of what they do; if vigorously remonstrated with they may refrain for a moment, but soon the movements, which have become a morbid habit, begin again. They illustrate the steps of the gradual transition from voluntary to involuntary acts, for it is hard to say sometimes whether they are voluntary or not. They certainly may be checked usually by arousing a strong enough motive in the patient's mind to exert his will steadily, as may be done by placing an attendant by his side with instructions to hold his hands or to quietly take hold of them each time that they go up to his head or face. After a while he will get tired of that process of restraint and control his impulses.

We pass by gradations from these cases of irritable and restless melancholia to those cases of more acute melancholia in which there is an active expression of the internal anguish by voice, gesture, and behaviour—a sort of *melancholia agitans;* the patient rushing continually about in aimless agitation, wringing his hands wildly, crying out in loud lamentations or shrieking violently, and writhing in frenzy if restrained. The excitement is so great that one does not observe the symptoms of bodily depression that belong to most of the forms of chronic melancholia; in fact, the features generally are like those of acute mania, so much so sometimes that it is a chance whether the case is classed under mania or under melancholia. What may be noted, however, with regard to acute melancholic activity—whether of delirious ideas or of frenzied conduct—is that, although very great, it is of a more uniform or even monotonous character than the corresponding activity of acute mania; it is limited to the expression of the mental suffering, or to the frequent attempt to escape from it by suicide, and, when surveyed as a whole, is strongly suggestive of a machine in deranged action. It must not be supposed, however, that a distinct line can be drawn between the group of symptoms which it is the custom to describe as melancholia and those which are called mania; in some instances they pass insensibly into one another, while in other instances they alternate.

The following case may serve as an example of ordinary acute

melancholia. A young woman, æt. twenty-four, whose parents were Dissenters in a respectable position, had been religiously brought up; she had been much engaged in Sunday-school work, and had written several little tracts of more or less merit. When first seen by me she was said to have been ill for two months, but there was reason to believe that she had suffered for a longer period. She was miserably restless and unhappy, and wandered about moaning and exclaiming, "My poor father! My poor father!" She also spoke incoherently of the house being burnt down, and of every one in it being lost; and she made several attempts at suicide. There was a background of anguish behind the excitement, marking a difference from acute mania, where the mood is elated, or, if the elation disappears during a remission, is sullen, moody, and morose. After a little while she became still worse: she was much excited during the day, rushing wildly at any door the moment it was opened, grasping at the clothes of any one who might enter, and clinging to them with offensive tenacity; and at night she slept not, tore to pieces bed-clothes, nightdress, and whatever else she could tear, and plastered herself and her chamber with her excrement. Day by day she seemed to get, if possible, worse and worse, gabbling automatically some such sentence as "Let me see my poor father; let me kiss my poor father," and making the most frantic rushes at any door that was opened, no matter where it led to. Night was not the time for sleep, but for the awakening of a more disgusting frenzy. Withal it was clear that, notwithstanding her terrible and distressing excitement, she knew what she was doing, and could control herself in some measure for a time; she did not like, for example, to be put in seclusion, and the threat or employment of that means of treatment had a calming effect upon her. On the whole, there was certainly an appearance of wilfulness in the worst acts of this poor woman, whom an ordinary observer would have pronounced the maddest person that he could imagine; she was perfectly conscious whether she was doing what she should do or should not do; and if a sufficiently powerful motive was excited, she could sometimes restrain the automatic utterance of her convulsive frenzy. Had the supremely absurd question whether she knew the difference

between right and wrong been put to a medical witness in her case, the reply, so far as rational answer could be made to irrational question, must needs have been that she did. In this case the so-called asylum ear,[1] which is ever of evil augury, appeared first on one side and then on the other, and the end was the natural end of such cases,—namely, dementia: the fury had raged out, and the calm of mental extinction followed: by making a desert of the mind peace was made in it. As in the natural order of events convulsion is the forerunner of paralysis, so maniacal fury is the forerunner of dementia in the regular course of mental degeneration.

Suicidal feelings and attempts are common in melancholia; so much so that one suspects their actual or possible existence even when they have not been openly manifested. Suicide is sometimes attempted or accomplished in consequence of a hallucination, which perhaps occurs very suddenly to the depressed mind—it may be at the instant of awaking from sleep: the patient hears distinctly a voice commanding him to kill himself; so mysterious, so entirely independent of himself, so imperative does it seem, that he thinks it a command from heaven or a temptation from hell. In the latter case he may withstand and overcome it for a time or altogether; in the former he is not unlikely to yield early obedience to it. Again, suicide may be the consequence, direct or indirect, of a delusion, or it may be sought as an escape from a misery which is intolerable. The two delusions which are most often accompanied by suicidal tendencies are the delusions of eternal damnation and of impending worldly ruin. It has been truly said that the fear of

[1] The "Insane Ear"—Hæmatoma auris, or Othæmatoma—is produced by gradual effusion of blood under the perichondrium, which is stripped from the cartilage, or, in some cases, by an effusion within the cartilage. The effused blood may remain some time in the cystic stage, absorption finally taking place, and the ear becoming dry and shrivelled. When this bloody swelling appears, the prognosis is very unfavourable. Some have attributed it to a traumatic cause, but its gradual manner of coming on, its symptoms and duration, are widely different from those of a contusion. Dr. Stiff, who has investigated its nature most carefully, believes that there is no foundation for supposing it to be produced by injury.—("Hæmatoma auris," *Brit. and For. Review*, 1858.) At the beginning its progress may be checked sometimes in a remarkable manner by painting the ear with a solution of cantharides.

poverty has caused more suicides than any insane delusion except the fear of hell. Certainly it seems curiously inconsistent that the patient who is unspeakably miserable because he has sinned beyond hope of pardon, and expresses the utmost agony because his soul is doomed to eternal damnation, should be so frequently driven to precipitate the fate which he dreads, and the dread of which he believes to be the entire cause of his misery on earth. Therein nature shows itself deeper and stronger than creeds; by an impulse whose roots go far down below any conscious motive it declares its certainty, and seeks the relief, of the annihilation of a tormented self. One may point out to the unhappy sufferer that, by his own showing, suicide will only be the entrance to a greater and an eternal weight of anguish; he will acknowledge that he knows it too well; nevertheless he is urged irresistibly by an inspiration from the depths of his being to get quit of the intolerable burden of life. In the same way an exaggerated fear of poverty oftentimes causes the melancholic to put an end to his apprehensions by suicide: he may be deemed to act from an implicit certitude that there is nothing in life of such worth, and nothing after it of such account, as to make it reasonable to bear so great suffering.

It is most certain that the happiness of living is constitutional, and very different in different persons, some having but little of it, while others feel it so keenly that they cannot conceive any one should feel weary of the sun, or believe him if he says so. However miserable they may be they have not the least inclination or desire to end their sufferings by death: so long as they breathe it is a happiness to breathe. Little as they can conceive it, however, there are persons afflicted with a constitutional melancholy who have no sense of positive enjoyment in living, who go through with life as with a task that is to them at best indifferent, at worst burdensome and painful, and who at certain times, when more out of tune than usual, are oppressed with a desponding sense of the dreary emptiness of life, with a deep disgust of the meanness and meaninglessness of its strifes, with a weary apathy from all its interests. If wise, they betake themselves to steady work, wherein they gain a refuge from the thoughts and feelings which come of idleness and reflection;

if unwise, they may resort to alcoholic stimulants in order to counteract their depression and to get the joy of a temporary exaltation of mind—a treacherous remedy, which yields transient relief at the cost of a future misery that may end in suicide. On persons of this melancholic temperament the suicide of a relative or an acquaintance, if such chance to occur, fastens and has a singularly powerful effect; it strikes the note of life-weariness which is inbred in their nature and vibrates habitually in their feelings, and they feel themselves urgently impelled to follow the example set them.

The essential difference between an optimistic and a pessimistic view of life is simply a question of temperament, and arguments as to which is the right view between persons who have no common ground to meet upon may be amusing literary exercises, but they are not profitable. One person, as he gazes into the fathomless depths of the heavens on a calm and cloudless night when all around is silence, or, in a stillness that is almost felt, looks down from some Alpine height upon a mighty range of snowclad mountains resting one upon another in their eternal and majestic repose, is oppressed with so overwhelming a sense of the vastness and duration of that which is not himself and of the petty meanness and insignificance of life, that he wishes its fitful fever were over, and his individuality merged into the great whole whence in an evil hour its elemental atoms took component form: it is a desire to be one with nature which is the outcome of a want of sympathy with the fleeting aspirations and achievements of his kind. Another person in similar circumstances has no more sense of such a mood than a blind man has of colour or a deaf man of sound: the glory of a fine night to him is that he can walk out and smoke his pipe, the grandeur of a mountain height that he can rest and eat comfortably after a long climb. If we justly weigh these differences of temperament it will appear that when the man hanged himself in order that he might be no longer at the trouble of putting off and putting on his clothes each day, his deed did not outgo the motive so disproportionately as is commonly assumed.

When I have reasoned with melancholics who felt themselves

impelled to suicide against the right of any one, however miserable, to put an end to his life, and have pressed upon them the commonplace arguments—that it is base for a soldier to desert his post; that each one is bound to stay and provide and care for the children whom he has brought into the world, whatever may be his own desire to get out of it; that it will be a wicked thing on his part to leave to his family the stigma which he will do if he kills himself; that he will do in a moment of despair an irreparable act which, did he go on living, he might have a thousand occasions bitterly to regret—and the like; I have found the reasoning, though assented to probably with the lips, to have little practical weight with them in their calmer moments, and no weight at all when the paroxysm of anguish overwhelmed them. The penalties which society has attached to suicide, in order to express its condemnation of it as an antisocial offence, a criminal desertion of duty on the part of one of its members, a revolt against the conditions of human progress, will not touch one who thinks meanly of society and its highest aims, and foresees in imagination the time when the countless myriads of the human race with its work and worries will have disappeared as completely as so many myriads of creeping ants with their works and worries.

The real effective force against suicide is the instinctive love of life, and when a man has lost that he has no appreciation of the good reasons that may be given for living; they fail to touch and to take hold of him. Just as the movements necessary to life—those of the heart and of respiration—are independent of human moods and will, so there is infixed in the intimate constitution of man's being a stronger power than could ever come of deliberation or be exerted by will to ensure the continuance of life. The instinct is the outcome in consciousness of the fundamental property of all living organic elements to assimilate and to increase, without which it would not be living matter—a property which, declining with bodily decay, extinguishes gradually the old man's love of life. When a person's temperament is such that he cares not to live, it marks a defect of that fundamental organic nisus or energy; if, under the spell of a morbid depression, he actually commits suicide, it is proof that the organic element

was then so wanting in this fundamental quality that it could not assimilate and increase, but must be assimilated and decrease; wherefore an act of self-destruction is always proof of a sufficient reason, and there is no more to be said. The one great argument against suicide I take to be the instinctive love of life; the one convincing argument in favour of suicide is the loss of that instinct.

Some melancholic patients show by despairing expressions that the idea of suicide is in their minds, or they utter their fear or conviction that they shall do it some day. Albeit it is a common, it is an erroneous, notion that those who talk of it in that way will not go on to act; they may talk of it for a long time and yet commit suicide at last. The idea is familiar to their minds; it has lost the horror with which it startles the mind when it first occurs to it; opposing feelings and considerations are not so actively roused to combat it; during an acute paroxysm of misery, when the despair is overwhelming, the ever present idea, which has perhaps been toyed with in the first instance rather than seriously entertained, is carried into convulsive effect. Everybody learns by experience that, if he would not have an unwelcome idea grow in his mind until it gains undue power over it, it is of the first importance to dismiss it while it is yet a stranger; and assuredly constant thinking about death makes the way to suicide easier. Very few persons have committed suicide who have not pathetically hinted or expressed on some occasion or other the danger in which they were; but having been met by incredulity, or banter, or a boisterous and unsympathetic encouragement to get rid of such foolish ideas, they have shrunk back from making further confidences, and have shown by the sad event how earnest their slighted fears were. Oftentimes the balance shall oscillate for a long time between the impulse to live and the impulse to end life, and it may be that a slight change of mood, a very straw, will turn it this way or that. As I have said already, the early morning, when they awake too soon to renewed suffering and, tossing about in misery, go through in imagination the apprehensions and fears of their morbid state, is a particularly dangerous time for melancholic patients who are suicidally disposed.

Different from the ordinary melancholic who commits suicide in consequence of a delusion or in order to escape from the intolerable misery of his state is he who, free from delusion of any kind, is possessed by a single, strong, dominant impulse to do it. He is the most dangerous to himself of all melancholics: he may reason about the morbid impulse almost as well as a perfectly sane man could, he may deplore it, be in despair about it, and may even pretend a thankfulness to have got quit of it; but, notwithstanding his own knowledge of its nature, and notwithstanding the greatest watchfulness on the part of those around him, he usually succeeds in the end in carrying it into effect, either suddenly at the instigation of a favourable occasion, the sight of means to do the ill deed making the ill deed done, or methodically with cunning foresight in plan and ingenuity in execution. It is where some other member of the family in a former generation has committed suicide, and where the impulse therefore has its roots deep in the foundations of the person's nature, that it is most powerful, most independent of reflection, most persistent, and most likely to have its way in the end.

Other dangerous impulses displayed by some melancholics are homicidal. Like suicide, homicide may be done in consequence of a hallucination or of a delusion: in a few instances the patient hears a voice commanding him directly to kill, or has some extravagant delusion that he must sacrifice life in order to confer a great benefit on the world; most often he believes himself to be the victim of a malignant and persistent persecution, by which he is driven at last to such a frenzy that he attacks and perhaps kills his imagined persecutor. Poisonous fumes or vapours are diffused through his room in the night, or indecent assaults are made upon him in his sleep; strangers call him offensive names, or make abominable accusations, or use insulting gestures as they pass him in the streets; his enemies have caused him to have some obscure disease which is slowly wasting his manly vigour, or prowl around his premises and interfere in his affairs, so that nothing prospers with him; if he has a smattering of education he will say that his nerves are tortured by the secret use of electricity or by some more mysterious agency; but if he is ignorant and superstitious he

fancies that he has been bewitched. Worn out by what he suffers, he appeals to the police or to the magistrates to protect him, and, getting no redress from them, arms himself in self-defence with dagger or revolver; changes his lodgings frequently in order to elude, or tries all sorts of schemes to frustrate, the machinations of his persecutors; goes on from week to week, from month to month, and perhaps from year to year, suffering, complaining from time to time to the authorities, scheming to protect himself, and at last is brought to such a pitch of desperation, or so far loses self-control under the influence of a temporary bodily disorder, that he makes a fatal attack upon some person who is innocent of having done him the least harm. A suspicious husband is sure that his wife is unfaithful to him, on grounds that are ludicrously inadequate to warrant the suspicion, and, sensible as he seems in other respects, sees proof of what he grossly imagines in the most trivial and innocent incidents, believing adultery to be committed in almost impossible situations; he broods over his calamity until it becomes an insupportable wrong, and in the end perhaps takes a fatal revenge upon her or upon her supposed paramour.

Patients who, having such delusions of being wronged or persecuted as I have described, exhibit deep brooding depression, and especially those of them in whom the depression is of a hypochondriacal, sullen, and moody character, are often very dangerous to others and ought not to be suffered to go at large; for it is impossible to predict at what moment the fury bred of their insane feelings and ideas may sweep away self-control and hurry them into a deed of desperate violence. However, not every one who has delusions of persecutions is necessarily a dangerous lunatic: each case ought to be judged upon its merits, the character of the patient and the special features of his depression being weighty facts to be taken into account. Some who are thus wrong-minded are of an open disposition, talk freely of their troubles, and are for the most part tolerably cheerful: they proclaim their grievances loudly to all the world, declaim vigorously against their enemies, appeal repeatedly to the police and to courts of justice, write to the Queen, threaten what they will do if a stop is not put to the persecution,

are great social nuisances, but do no serious mischief, being satisfied for the most part to proclaim their wrongs. Moreover, women are less dangerous than men, since it is not the custom of women to resort to personal violence to avenge their wrongs; old men are less dangerous than men who are in the turbulent vigour of youth or in the more sedate vigour of manhood, since with the decay of passion and energy that marks the decline of old age it becomes more easy to endure and less easy to retaliate. Persons of an energetic, self-asserting, and dictatorial temperament are more dangerous than persons of an opposite self-distrusting temperament, since they will be disposed to attack others while the latter will be more likely to do harm to themselves.

So far I have taken notice of homicide done in two conditions —namely, directly at the instigation of delusion, and under the compulsion of passion bred of insane delusion. In the latter case the passion, be it jealousy, envy, anger, revenge, is so much like ordinary passion that it is sometimes hard to think a person who yields to it is not perfectly responsible for what he does; sane or insane, it may be thought, it was his duty to have controlled a passion whose evil nature he was conscious of. But he might know its nature and yet not be able to control it. Because an insane person feels the same passions as a person who is in his right mind, it by no means follows that he is therefore sane, as many persons seem incontinently to assume, or that he has the same power of control over them. The passion is easily kindled in a diseased mind, smoulders there in consequence, and from time to time is inflamed by the insane delusion which accompanies it; and before we venture to assume that he could and should always check or quench it, we ought to be sure that the disease from which it has sprung has not so inflamed it and so weakened the will as to render the contest between them an unequal and forlorn one. It is notorious that a sane person when under the dominion of strong passion is carried out of himself to do acts which he would never do in his temperate moments—that his passion is truly a short madness: how absurd then is it to exact that in the unsound mind, where consensus of functions is weakened or destroyed by disease, the morbid passion should be always under control!

As a matter of fact it is not: just as when there is disease of the nervous system a movement is easily provoked and made convulsive which is perfectly under control when the person is in good health, so when there is disease of mind a passion is easily provoked and made uncontrollable which is kept in subjection when the mind is sound.

I ought not to omit to mention that homicide, like suicide, is done in some instances during a paroxysm of melancholic panic, without premeditation, without reflection, without distinct motive, almost without consciousness at the time. The unfortunate sufferer is so overwhelmed with the anguish of the moment that it must find an outlet in some discharge of frantic energy; and when the act is done, he obtains ease and calm, comes to himself, and for the first time realises the gravity of what he has done. So far from evincing the distress and remorse which might then be expected, he has perhaps the apathetic look of a person who is exhausted or stupefied by violent emotional agitation.

Closely akin to these cases are those in which a melancholic father or mother kills one or more of their children from motives which, if an attempt be made to give an account of them afterwards, seem singularly inadequate. The sort of alleged motive is perhaps that they could not bear to see them starve, and felt it would be better for them to be dead; or they may not be able to say what motive they had to kill them; the truth being probably that there was not a clearly conceived motive at the time, that the act was done in a paroxysm of melancholic anguish, and that the person, when pressed for an explanation, lays hold of any gloomy idea that he may have had, however inadequate, which appears to be an explanatory motive. Perhaps it was that just before the deed a frenzied idea that they must do it started up suddenly out of the substratum of deeply despondent feeling under which they laboured and hurried them into the homicidal act.

Lastly, there are those more chronic cases of which I have already spoken under the head of impulsive insanity, where the unfortunate person is afflicted by a homicidal idea, sometimes quiescent, at other times so active that he is in an agony of apprehension lest he shall yield to it, but hardly ever leaving him

free from its tormenting impulses. He may be so much depressed in some instances as to present a picture of genuine melancholia; but in other cases it is remarkable how little evidence of his sufferings is presented to outsiders, who may be quite ignorant of what he undergoes until he confides his sorrows to them.

The course which melancholia runs is to recovery in half or more than half the cases. In almost all cases there are great variations from time to time in the intensity of the symptoms, and these variations sometimes take place very suddenly: a patient shall be calm and composed in the afternoon who was in a perfect frenzy of agitated distress in the morning. Sometimes there are complete intermissions of the symptoms for a few hours or for a day, and then they return in all their intensity. For the most part these sudden conversions from deep gloom to apparent sanity are not to be relied upon to be lasting; but I have met with two instances in which the recovery was quite sudden and yet was lasting, the acute melancholic symptoms having ceased abruptly, without the least sign of so happy an event having been noticed beforehand. Usually when recovery really takes place, it does so by very gradual steps, the patient going up and down, but on the whole making an ascent: he begins to notice and to interest himself in what is going on around him, although he is probably very unwilling to have it observed that he is doing so, and may abandon these hopeful beginnings if they are imprudently commented upon in his presence as proofs of improvement; he will take up a newspaper and look at it if no notice be taken, putting it down at once if attention is drawn to him or declaring that he is not interested in it and cannot even understand it; he is less averse from being made personally clean and tidy, or begins himself to have a little care for his appearance; he employs himself in some way, and evinces the return of his natural affections and interests by inquiring, at first timidly as if he were ashamed of his new-born interest, and afterwards openly, about his family and his affairs. These indications of natural feeling, though slight, are happy omens; they are breaks in the dark mist of feeling which has overspread the intellect, but which is now beginning to rise and will probably go on to do so until

the whole mind is clear. Meanwhile the delusions lose energy and abate in activity; he speaks less often and less openly of them, and shows by his behaviour a commencing doubt or distrust of them, though he will still probably hold to them when directly challenged; by degrees they fade away, as healthy thoughts and work engage more and more of the attention, and at last he comes to himself entirely, as one who has awakened with joy out of a dreadful dream which was inconceivably real while it lasted. An animation of the bodily functions goes along with the brightening of mind: digestion improves, the bowels act more regularly of their own accord, the skin and hair lose their dryness and harshness, the nutrition generally is better, the circulation is more vigorous, and the suppressed menstrual functions in women are restored. The recovery in most cases is within from three to twelve months from the outbreak of the illness; after twelve months have passed without signs of amendment it is less probable, but still not hopeless; for many instances are on record in which it has occurred at a later period, and there have been a few exceptional instances of recovery after years of suffering. Some melancholics, particularly those who have had delusions of persecution, never return entirely to good feelings and abandon their suspicions even when they are supposed to be recovered: they will not sincerely admit that they have been ill, are hostile to those who have put them under treatment or who have treated them, and maintain that there was no reason whatever for interfering with them.

The course of melancholia, when it is not to recovery, is to one of four issues: either it lapses into a chronic state which continues for the rest of life; or it goes on to such increasing mental weakness as to become actual dementia; or it ends in death from exhaustion, aided commonly by some intercurrent disease—phthisical, cardiac, or abdominal—and especially phthisis; or lastly, it now and then passes into the opposite condition of mania, the patient disappointing the confident expectations of recovery which his symptoms of returning animation raise, by the supervention of an extreme elation and by getting more and more excited until he is actually maniacal. When this

transformation takes place it is not of good augury, for it is too probable that there will be a return of the depression after the excitement has subsided. Death is owing in some cases to exhaustion consequent upon persistent refusal of food, the fatal event being hastened at last either by diarrhœa or by a low form of pneumonia, which sometimes passes quickly into gangrene of the lung. It is obvious that the great and general depression of nervous tone is very suited to increase, very unsuited to check, any disease that may be going on in other organs than the brain; wherefore the prognosis concerning such disease will always be more grave than where there is no nervous depression.

Mania.

I go on now to describe the class of symptoms of mental derangement which it is agreed to call mania. The dominant note of them is an excitement or exaltation of the self-feeling, which finds outlet in a sense of extraordinary well-being, in elated ideas, and in self-confident actions of the most extravagant kind. In a few cases acute mania has come as a sudden explosion without any premonitory symptoms, after some powerful moral impression, or after great physical exhaustion, or after excesses of some sort; but this sudden outbreak is unusual, and when it has occurred there has probably been a strong hereditary predisposition to insanity. Most often there is a forewarning of the calamity—a precursory stage of depression, of shorter or longer duration, sometimes so short as to escape notice, at other times lasting for weeks or even months; the patient feels sad, ill, apprehensive, without knowing why, having a vague foreboding of some misfortune being about to happen; perhaps he has a definite fear that he will go mad, and anxiously seeks medical advice for himself. Like the unaccountable sadness which sometimes goes before the outbreak of a fever, his depression is the projected shadow of a coming calamity, a forefeeling of it which is replaced after a time by an opposite state of great excitement, sleeplessness, restlessness, unbounded self-confidence, extravagance of conduct, rapid flow of imperfectly associated or entirely incoherent ideas, and by hallu-

cinations and delusions of various kinds, with utter scorn of the suggestion of medical advice; for he is now as exultant as he was down-hearted a little while ago. In a few instances I have noticed that ecstatic visions during the night, perhaps of a very vivid character, have gone before an acute maniacal outbreak; insomuch that if an elated patient has seen in the night an angel who has brought a message from heaven, or has been visited by Jesus Christ, I look forward to a very acute attack with great excitement and violence, and possible death by exhaustion. Lastly, the outbreak of acute mania may be the gradual development of a chronic state of moroseness, suspicion, restlessness,—the outcome of a sort of subacute state which has increased by degrees until it has culminated in an acute attack. The experienced physician is not always sorry to see the frantic outbreak in such case, since he feels a hope that after the mind has gone through the furious storm it may be found free from the morbid thoughts and feelings which, while the malady was chronic, could not be gathered to a head and dispersed; the result being much as when a chronic inflammation which has defied treatment is found to have gone after the supervention and disappearance of a more acute inflammation.

It is impossible to describe adequately the conduct of a person during acute mania; for it is all that imagination can picture of the ridiculous, the noisy, the fantastic, the furious, the violent, the disgusting, in different cases. The distempered moods and ideas are translated instantly into excited acts, which may be of a harmless kind, as singing, shouting, dancing, writing endless letters to great personages, rearranging in methodical disorder the furniture of the room, tearing up grass, and the like meaningless, busy activity; or may be threatening, abusive, violent, and destructive, especially where opposition is offered to the instant gratification of the mood, or to the realisation of the scheme of the moment. Between the sane and insane being the contrast is so extreme that it is not easy to realise that they are the same person: at one time, for example, we have the graceful, modest and delicately-nurtured young lady, whose every word and act are gentle and refined; at another time we are amazed and horrified at the coarse and indecent gestures of a

furious virago, her volubility in the use of abusive, blasphemous and obscene words, which it is hard to believe she ever could have heard, her bold and ferocious mien, her violent and destructive acts. She is morally naked and not ashamed, as she would make no scruple to be corporeally in some instances. Day after day and week after week this demoniacal state continues; at last it subsides, passes off, and once more we have the modest and gentle lady whom it seemed inconceivable we should ever see again.

Before matters have reached this height of incoherent fury there are symptoms which it will be well to consider briefly. The patient, in the first instance, is often happy beyond measure in an extraordinary feeling of unfettered mental power, evinces a supreme self-confidence and elation, and acts and looks very much like a person who is half intoxicated. His natural reserve and prudence are replaced by confident address, by vainglorious pretensions, by bold and reckless projects; nothing is difficult to him; he conceives and is eager to put into action grand schemes of pecuniary speculation, or of political reform, or of scientific discovery; he will sing who knows nothing of music, or will frequently and confidently speak at public meetings, though a speech in public would be the last thing he would try to make were he in his sound senses; withal he is sly, crafty and untruthful.[1] It cannot be denied that he sometimes evinces acute insight, recalls forgotten ideas, makes witty and satirical remarks, puns cleverly upon words, strings together rhymes, hits upon acute comparisons, and displays eloquence of speech, after a fashion that transcends the range of his sane capacities. So far there is a resemblance between mania and the prophetic frenzy—*μανίη* and *μαντικὴ*; in both there is an inspiration which giveth an unaccustomed understanding, an inspiration which, being involuntary and not in the least due to any conscious exercise of faculty, but due to the exaltation of feeling arising from the organic state, shows

[1] "I then felt so happy! my memory was clear and facile, and nothing fettered my mind, but at the same time I was crafty and sly, nay malicious." These were the words of a patient after his recovery to Dr. Willis.

how little consciousness and will have to do directly with the highest products of mental activity. This stage of premaniacal brilliancy in no case lasts long; impatient of interference, the patient is easily irritated by opposition, however gentle it be, and gets much excited if it be at all serious; and in any case his state of exaltation is likely to run quickly into incoherent frenzy.

Let it be particularly noted here how the overthrow of reason is accompanied and, indeed, preceded commonly by a perversion or destruction of moral feeling; the last acquisition of social culture in the most advanced races of men being the first to show the effects of the disorder whose end is to make the individual a social discord. Candour is supplanted by craft, veracity by cunning misrepresentation or actual falsehood, reserve by impudence, modesty by indecency, refinement of feeling by coarse indelicacy, family affection by indifference or even by hatred and malice. The delicate and refined inhibitory feelings, which are the last acquisitions of culture, are submerged while the storm in the supreme centres lasts, and the coarse and deeper-rooted impulses of the animal nature, and of the human nature in its lower relations, come to the front and dominate the conduct. One sees a similar illustration of this early paralysis of the highest inhibitory functions of mind in the temporary changes which an alcoholic excess produces in the moral characters of most persons; for moral feeling and the highest will are notably weakened at an early stage of intoxication. And just as it is with the person who is not too far gone in intoxication, so it is with the insane person who is not too far gone in acute mania; he may on occasion pull his scattered ideas together by a strong effort of will, stop his irrational doings, and for a short time talk with an appearance of calmness and reasonableness that may well raise false hopes in inexperienced persons. It is a deceptive calm; although a strong impression, rousing and holding the attention, will balance the mind for a short time, the turmoil of wild and whirling ideas soon recurs and is expressed in an answering incoherent volubility of speech and endless freaks of conduct. All the while the patient knows well what he is doing, and will say, after his recovery, that he was quite aware of the consternation which he

caused, but had an indescribable pleasure in yielding to his impulses and no desire whatever to check them.

There is probably no definite and abiding delusion; an idea is no sooner conceived than it is either discharged in action or thrust out of attention by another, so that there is not time, even were there the inclination, to examine its bearings and see that it is a true idea. Illusions are frequent, the patient misseeing oftentimes what he sees; for while a true perception is the resultant of the external object *plus* the fitting idea, it is now a chance what idea may be active at the moment when the external object presents itself to sense, and how, therefore, the object is interpreted. Hallucinations, too, come and go, for the sensory centres of the excited brain are stimulated to sensations which, as in dreams, are transformed into external realities. Patients will imagine that they hear voices address them, and will answer them angrily; or they see persons who have no actual existence, or more commonly they declare those whom they do see to be others than they are; or they smell strange odours and taste strange substances in their food; or they feel singular pains or shocks in their bodies, which they attribute to the malignant agency of enemies who are playing tricks upon them. There can be no doubt also that some have motor illusions and hallucinations: one who is lying in his bed fancies perhaps that he or it is moved upwards or downwards, or that his limbs are flying through the air; the disordered motor centres give rise to the sensations of such movements, and these are thereupon imagined to be real. I think that the great restlessness of the patient who frequently cannot remain still for a minute betrays also the excitement of the motor centres; for he seems to be overpowered by veritable impulses to be continually on the move without having definite motives for his movements. In truth, the whole nervous mechanism is in a disordered commotion: the person is maniacal to the extremities of his nerves. Therein we have the explanation of the facts which led Pinel to think that the primary seat of mania was usually in the abdominal organs, and that the intellectual disorder was propagated thence by a kind of irradiation; appealing in support of his opinion to the voracious and capri-

cious appetite and to the abnormal intestinal sensations which lead to the drinking of large quantities of water or of other liquids; to the restlessness, sleeplessness, agitation and panic fears; to the disorder and confusion of ideas shown, not in what the patient says and does only, but in his gestures, demeanour and aspect.

The following example of ordinary acute mania will serve to illustrate what I have said concerning its symptoms:—A merchant, of some originality of thought and of much energy of character, became insane, after making a considerable fortune entirely by his own abilities. His mother had died insane. After slight depression, followed by certain speculative transactions in business which rather astonished his friends as being opposed to his usual cautious manner of doing things, he broke out into eccentricities and extravagances of behaviour, with which was associated an unaccustomed liveliness; he acted very much as if he were intoxicated, turning his pictures with their faces to the wall, putting chairs in queer positions, walking about the garden bareheaded and singing: he was, indeed, singularly elated, talkative in a rambling way, and eccentricly and aimlessly industrious. If spoken with, he was lively, witty, original, and satirical, laughing with a laugh of peculiar harsh and metallic ring: still he could control himself for a time, assume instantly an aspect of grave deliberation, and speak with a marvellous assumption of calmness if he pleased. He would listen to advice, appear to consider it deeply, and perhaps profess to approve it; after which he immediately fell back into his eccentricities. There was so far much more insanity of feeling and conduct than of thought: his condition might be said to represent an acute form of that stage of disease which has already been described as the mildest form of hereditary insanity. Degeneration proceeding, however, he became in a few days much worse: he raved incoherently in conversation, was violent in action, and not amenable to control; his language was obscene and disgusting, his behaviour not less so; and he represented very completely the condition of a furious maniac whose habits were of the worst kind. His tastes were depraved, and he would eagerly seize and swallow

the filthiest matters; and he occupied himself busily in doing the dirtiest acts, chanting a wild chant or talking in rapid incoherence the while. In the worst extremity of his frenzy, however, there were plain indications of a consciousness of his extravagances and a capacity to control his actions in certain regards, which could not fail to give his conduct the semblance of a witting and wilful defiance of the feelings and opinions of those who had to do with him. As the fury of this stage somewhat subsided, various delusions—as that he was made the victim of medical experiments by night and by day, but especially by night—were exhibited: the strange disease-produced feelings nowise conforming to the order of his previous experience, and a vague feeling probably that he was the agent of acts not truly his own, were interpreted as the results of external malicious agencies, as they were plainly not within the compass of his knowledge and voluntary control.

This condition of things lasted for more than a week, after which, as the excitement and delusions disappeared, there ensued a state of gloom and profound moral disturbance. He was possessed with a great hatred of all his friends; was sullen, morose, and gloomy; misrepresented in the unfairest way everything which had been done to control him—and he had an excellent memory of what had been done—as deliberate cruelty; misinterpreted any kindness or act of attention from his relatives; refused his food or took it most capriciously; and, although all positive delusions seemed to have vanished, it was plain he looked upon others as responsible for all his sufferings and extravagances. One might reason with him, but even if he acknowledged the justice of the arguments, which he sometimes did, it was a hypocritical affectation; for to another he would immediately afterwards set forth his unparalleled grievances in the most perverse and untrue manner—more untrue because he ingeniously twisted and perverted some little truth. When well, he was said to have displayed a scrupulous regard for truth. There was no intellectual incoherence: he told his story so coherently and with such an appearance of moderation in his complaints, accusations, and statements as to actually

succeed in imposing upon an influential friend, who, himself a most honourable man, was so much impressed by the plausible way in which he accounted for all his peculiarities as consequences of the position in which he was placed, or slurred them over, that he represented in the strongest possible manner to his immediate relatives the injustice of keeping him any longer under restraint. Accordingly, in this condition of imperfect convalescence—of unquestionable moral or affective insanity—and in opposition to medical remonstrances, he was released from restraint; all the people in his neighbourhood thinking that he had been most unjustly confined. The consequence was that in the course of a few weeks he so managed, or rather mismanaged, his property—selling stock at great loss and giving away large sums of money under the most absurd pretences—as to afford an excellent harvest to the lawyers, and greatly to impoverish his children. It was found necessary to place him under restraint again. The event proved that the mania was recurrent, for after he had been in an apparently rational state for three or four weeks the excitement used to return and to go through exactly the same course.

In this case then we note a short period of unquiet and unaccountable depression which was the foreshadow of the coming calamity; quickly followed by a stage of so-called exaltation, in which the patient seemed to be in an exuberantly happy state, as though transported with some joyful tidings, and perpetrated various extravagances of speech and action as though from an overflow of life. Some have not hesitated to describe this condition as one of increased mental power and activity. The real state of the patient is rather one of irritable weakness: he is unduly impressible, abnormally excitable, and reacts in sudden impulses of feeling, thought, speech, and action, which, though they may be sometimes brilliant, more resemble spasms than anything else; he is entirely unequal to a calm reception and discrimination of impressions and a subsequent quiet reflection and final intelligent act of volition—to that complete co-ordination of mental function which is implied in the highest mental activity. The condition of nerve element which is the basis of this excitability is a reaction after the preceding depression,

and it marks the beginning of a degeneration which, if not checked, will go on to the further stage of positive maniacal degeneration of mental function—like as the reaction of other kinds of organic element that have been chemically or mechanically injured passes into inflammation and purulent degeneration: it is a state of instability of constitution not unlike that which is the condition of the mildest forms of hereditary insanity, where, as already pointed out, striking exhibitions of particular talents occur sometimes.

Striking in this case was, what is often heard in other cases, the harsh ring of the strangely altered voice. This maniacal change in the tone of voice, which is apt to grate on the sensibilities of those unaccustomed to hear it, testifies, like the deranged thought, perverted sensibility, and furious conduct, to the profound and general disturbance of the nervous system. In almost every disease, but especially in insanity, there are a great many unobtrusive and almost entirely overlooked symptoms in which nature speaks, attention being fixed on a few prominent symptoms. In insanity, for example, besides the changed tone of the voice, there are peculiarities in the expression of the countenance, in the look of the eye, in the posture of the body, constituting the physiognomy of the disease, which deserve exact study. Such signs may show whether the patient is suicidal, and in what degree—whether there is a desperate impulse that, like an evil fate, governs his mind and waits and watches for opportunities, or whether a fluctuating impulse is excited to activity by opportunities. Again, there are great diversities in the character of what we confound under the general name of *pain*, as well as in the character of those manifold modifications of sensibility which fall short of pain, so much complained of in some forms of mental disorder, all which have their specific meanings had we but the knowledge to interpret them. Two circumstances, noteworthy in many cases of insanity, were marked in the case under consideration: these were the peculiar indescribable odour of the patient—the *bouquet de malades* of lunatic wards—and the intensely offensive character of the intestinal excretions. Most likely there is some unknown chemical change produced in the excretory

functions by the profound nervous disturbance, not otherwise than as secretions are altered in composition by passion; the effect attesting, as other effects just mentioned do, the essential interaction of the mental life in the whole bodily life, and the impossibility of separating, save in thought, mental and bodily phenomena. It behoves the inquirer therefore to carry with him to the investigation of every case of insanity a deep sense of the importance of scrupulously studying every sign of physical disturbance, motor, sensory, or nutritive, as well as the prominent mental symptoms.

The third stage of degeneration exhibited by the patient was that of acute maniacal fury; of which it is not necessary to say more than to direct attention to the evidence of the persistence of a certain amount of self-consciousness, and to the occasional manifestation of a certain power of self-control for a moment. This is the more necessary because of the ill-founded criterion of responsibility sanctioned by English law, or rather by English lawyers. Certainly this patient, at all but his very worst moments, and perhaps even then, was conscious of what he was doing at the time, as he had an exact and complete memory of it afterwards, and was quite aware that it was disgusting and offensive to those around him; he had even some power of self-control at times, as he would not do before me offensive acts which he would not scruple to do before attendants; so that if the legal criterion of responsibility had been strictly applied to his conduct, he, though suffering the extremity of mania, ought not to have escaped punishment. As the frenzy subsided and delusions appeared, the disease becoming more chronic, we might say that a fourth brief stage was passed through—a stage characterised by the persistence of ideational disorder; that is, not only of morbid ideas, but of the morbid association of ideas, after excitement of conduct had ceased. From this state the patient soon passed into a well-marked stage of affective insanity, a condition which usually lasts for some time after ideational disturbance has disappeared. The result of his premature removal, while so suffering, affords an excellent illustration of the truth of the observation of Esquirol, that the disappearance of hallucination or delusion is only a certain sign of

convalescence when there is a return to the natural and original affections. To this moral disorder an interval of apparent sanity succeeded before the supervention of a new attack.

Now, if one chose to suppose each of the stages of disease gone through by this patient to exist separately in some individual and to be the disease in him—to conceive in fact the progress of degeneration through generations instead of through an individual life—then one might form a tolerably correct idea of the varieties of mania that are met with. In one person the fury of action may be most marked; in another, the delirium of thought, chronic or acute; in a third there is a predominance of the affective disorder; and according to the predominance of one or other of these characters will the features of the variety be determined. Eliminating the element time in considering the nature of mental disease, and looking upon it as a degeneration whose course may be through generations or within the compass of a single life, we shall certainly get more correct views of the relations which the different forms bear to one another; a morbid phase, which would barely be noticed or might be entirely passed over on account of its rapidity and briefness in the individual, will be distinctly evolved and represented in the course that extends through generations; and a phase of disease which might have too great importance or an independent character assigned to it in the generation will receive its right interpretation by a consideration of the course of the disease in the individual. Had this principle been at all times clearly apprehended, it may be justly questioned whether any one would have been found to doubt or misinterpret those obscurer forms of mental disease which have been the cause of so much unprofitable contention and angry feeling.

It must suffice to have indicated the main features of the differences which acute mania exhibits in different patients, according as it runs more in a motor, or ideational, or affective groove, since a separate description of them would be a long task and must entail a great deal of repetition. But there is one variety of acute mania which is very like the delirium of acute disease, and claims particular notice. It is really an acute delirium rather than a systematised mania—the *délire aiguë* of

French authors—and is characterised by great excitement, entire incoherence, apparently little or no consciousness of what is going on around, extreme restlessness, and violent and utterly unreasoning resistance to treatment; the course of the disease being swift either to recovery or to death. The following example will serve to illustrate it:—

A cook in a gentleman's family, whose age was not known, though plainly somewhere between forty and fifty, was rather suddenly attacked with acute mania. Nothing was known of her previous history, but she had been considered by her fellow-servants to be a little peculiar, and she had suffered from a chronic erysipelatous inflammation of one leg, which had disappeared a short time before her attack of insanity. She had been ill seven day when admitted into the hospital, and during the whole of that time had been noisy, violent, and utterly incoherent; and she had taken no food for several days. On admission her state was one of extreme delirious mania: she was noisily incoherent, stripped off her clothes, rolled on the floor, was unconscious of the calls of nature, and seemingly unconscious also of what was said or done to her; she was continually spitting frothy and sticky saliva, and her countenance was haggard, wild, and painful to behold. She could not be got to take food, and it was with the greatest difficulty that beef-tea, eggs, and brandy were administered to her at frequent intervals. Morphia made her sick, and did not make her sleep. This went on night and day for a week, when she was reported to have become quiet; but it was the quiet of complete exhaustion. Her pulse was so feeble and rapid that it could not be counted, though up to the moment of the collapse she had been as excited, noisy, and restless as ever, and she still rolled about on the floor, tossing her arms about and pulling at her clothes. Next day the heart beat feebly 160 times in a minute, so far as could be made out where no exact examination was possible. The skin was hot and dry; there was extreme jactitation; and she drank fluids eagerly, as she had never done before. There seemed to be some abdominal tenderness on pressure, but one could not be sure of it. Next day she was clearly sinking fast, and muttered words which, so far as could be made out, were a request for

holy water: she was a Roman Catholic. Pressure on the abdomen now produced evident shrinking. On the following day she died. Though the issue was fatal in this case, it is not so in all cases of acute delirious mania; it is however a disease of the gravest omen, because of its liability to end in fatal exhaustion. Whoever asks why the mania should take this acute delirious form what peculiarity of individual temperament or of constitutional state is the cause that it breaks out rather than the ordinary systematised mania—will ask in vain.

It is noteworthy in many cases of mania how complete and acute is the memory which there is of the past during the attack, and of all that has happened during it after it has passed off; in other instances, however, the thoughts, feelings, and events of the paroxysm are only remembered indistinctly and confusedly, as though they had occurred in a dream. This persistence of memory is a fact which it is well for those to bear in mind who have the thankless office of taking care of insane persons, since an impatient utterance, a harsh word or act, a tone of ridicule, a sneering remark, a look of disgust, an angry speech, may be remembered bitterly, and leave a sore feeling in the mind when the frenzy has passed away. However great the caution used, it will not be possible in every case to avoid giving offence, for the patient, confounding persons and things with his delusions, sometimes imagines those who have the care of him to be the sole cause of his sufferings, and, after his recovery, fails to recognise sincerely the true nature of his frantic doings, which he will extenuate, excuse, or explain, as having been provoked by the ill treatment which he underwent. This is most likely to happen in recurrent mania and in those cases in which the mental disorder is a pathological intensification of a selfish, suspicious, and unamiable character—the outcome, in fact, of ill-regulated thought and feeling fostered by unwise habits of life. In such case he can hardly be said to have been actually *alienated* from himself, seeing that he has not been radically changed; it is no wonder therefore that, although seemingly recovered, he does not heartily acknowledge his past morbid condition, but explains his insane feeling and conduct as natural, and contends that though he may have been

a little excited there was no insanity in it. In a few cases of acute mania, especially those that run into the form of delirium, the patient forgets altogether the events of his madness, like as a dream is sometimes forgotten. A second or third attack of mania will often bring back the same thoughts and feelings which were displayed in a former attack, but have been latent since, so that even attendants, when they perceive them coming back, know well that an outbreak is at hand. Herein we note a resemblance to what happens in epilepsy when the aura forerunning the convulsions is the recurrence of an idea or feeling, or the vivid recollection of an event, which has uniformly gone before the fit on former occasions.

Looking to the extreme and long continued agitation, mental and bodily, and to the loss of sleep in acute mania, the bodily functions suffer less seriously than might be expected. In the early stage the pulse is perhaps quicker, but this is owing to the muscular exertions rather than to any febrile disturbance, and it is afterwards scarcely accelerated. The temperature of the body is only slightly, if at all, raised in ordinary cases, except when it is hot from exertion; but in cases of a typhoid type, where there is muttering delirium and the tendency is to death from exhaustion, it may rise from three to five degrees above the natural standard. In the insanity occurring during convalescence from acute disease, Dr. Weber found only a slight increase of temperature, although it had been raised considerably during the acute disease, and rose again directly in those cases in which there was a febrile relapse. When it does rise notably in mania there is just reason to suspect the supervention of some other disease or a tendency to fatal exhaustion. Notwithstanding that the temperature is pretty nearly normal, it is plain that the patient has oftentimes a feeling of heat or of bodily discomfort which urges him to do such things as strip off his clothes in the daytime; to lie naked at night on the floor; to wet his clothes in water and wear them without evincing the least suffering on a cold day; to expose himself to the severest weather in the lightest clothing. Moreover he does not suffer in health from this sort of conduct while animated and vigorous at the beginning and at the height

of his attack; but although he continues throughout it seemingly insensible to cold, his body does not, since he may be attacked with pneumonia or other severe disease at a later stage when his vigour is exhausted. His body usually becomes thinner and the countenance haggard and aged, contrasting so much perhaps with its natural expression that he would hardly be known sometimes for the same person. It is generally pale and sallow, although reddened during an acute paroxysm, and the eyes are wild, bold, sparkling, sometimes bloodshot, and at the same time vacant and unsettled. The physiognomy—proud, defiant, suspicious, expansive, or expressive of some other passion—betrays the character of the ideas and moods. The skin is commonly dry and harsh, as is also the hair, which cannot easily be made to lie smooth, not because it is being frequently rubbed with the hands only, but because it is harsh and disposed to stand on end. It sometimes goes rapidly grey during an attack. The menstrual function in women is usually suppressed, but not in all cases.

Acute maniacs do not commonly refuse food; they eat with voracity, hastily, and without discrimination. It is plain that their tastes and organic feelings are profoundly vitiated, since they will eagerly devour refuse and drink the most unclean liquids. Some of them cannot be induced to take food: either they are so violently delirious that they are insensible to the feeling of hunger and incapable of a momentary attention; or they suspect its nature and misconstrue the attentions of those who offer it; or they reject it in direct consequence of some such delusion as that they are exalted beings who can live miraculously without food. It is seldom that the refusal of food is persistent in acute mania; for the delirium abates from time to time, the moods change rapidly, the delusions come and go with kaleidoscopic transformation, and as a foul tongue becomes clean and gastric disturbance subsides the natural craving for food comes back. They will mostly take it therefore at one time when not at another. However, those who will not eat must be fed by force if they seem likely to persist in their refusal: first, because of the risk which they run to sink from exhaustion, which may come on rather

suddenly in the midst of a fury that seemed up to that moment to be unabated; secondly, because the downward tendency is to dementia, that is to say, to exhaustion and destruction of mind through exhaustion and degeneration of nerve element—a result which obviously will be more likely to happen when the bodily strength has not been properly supported during the paroxysm. Divergent and contradictory statements have been made respecting the condition of the urine in this as in other forms of insanity, some observers having professed to discover an excess of phosphates in it, which they have thought to be proof of an abnormal disintegration of nerve-tissue, while others have found no such happy chime of fact and theory. This divergence of statement need not excite surprise when we reflect that in some cases of acute mania there is positively little or no derangement of the bodily functions throughout; the tongue being clean, the pulse normal, the digestion strong, and the sleep fairly good, notwithstanding the mental turmoil.

I know not what satisfactory explanation can be given of the fact that some maniacs are able to keep up an unceasing activity so long as they do with little or no sleep. Certainly some of them sleep fairly well and regularly, being wound up thereby to greater excitement when they wake; others shall sleep only on alternate nights, and they are oftentimes more excited on the day after a good night's sleep than after a sleepless night; but there are others who, continuing their turbulent activity day and night, hardly seem to sleep at all. It is easy to say that there is an excessive production of nervous energy, the exhaustion of which in ordinary circumstances occasions sleep, but the explanation does not carry us any more forward. Excess of production means excess of consumption; expenditure of energy must be balanced by a corresponding supply in the maniac as in the steam-engine; and if this supply in him is procured from the blood without sleep, where is the necessity of sleep in order that restoration of energy may take place in a person who is in good health? Two considerations may be offered as fitted to lessen in some measure the seeming strangeness of the phenomenon. First, we ought to take note of the *kind* of energy

displayed by the maniac; it is the large and explosive outburst of an inferior energy, many equivalents of which are needed to balance one equivalent of the higher energy of a calm and co-ordinated mental and bodily activity: it may be looked upon in fact as proceeding from the decomposition of the higher energy. As convulsion is not strength of body, so mania is not strength of mind, notwithstanding that several men cannot hold the person who is writhing in the one, nor reason with the person who is labouring in the other. All the energies of the being are absorbed in the disordered activity of mind and body; there is an almost entire suspension of all those inhibitory functions which are in quiet but constant use by a sane person, and form so large a part of his habitual expenditure of energy; and the consequence is that there is a greater show of excess of energy than there really is, a display of sound and fury which does not signify strength. The turbulent fury and weltering ideas are the outcome of an inferior grade of nervous functions, the highest co-ordinating functions of the mental organisation not being in action at all. Secondly, there can be no doubt that a prolonged mania without sleep does in the end produce exhaustion of mind and some weakness of body, though less soon than one might theoretically expect; in most cases there is considerable mental prostration left for a while after the excitement has subsided, and in not a few cases permanent mental feebleness is the result.

Acute mania is seldom uniformly progressive in its course: there are great variations in its phases as well as in its duration in different cases. Sometimes it quickly reaches its height, like a thunderstorm, and continues active, with scarcely notable remissions, up to its termination. Most often several longer or shorter remissions give promise of convalescence which is mocked by relapses into renewed fury. In some instances there take place almost complete intermissions or so-called lucid intervals; the mania recurring perhaps with singular regularity after a few days of lucidity, or every month, or every three months, or once or twice a year, and oftentimes without any one being able in the least to say why it should thus recur. In one remarkable case which

came under my notice a lady was always sane one day and maniacal the next day, and this regular alternation of states had gone on for several months when I saw her. Everything that could be thought of was tried in order to break the chain of morbid habit, but in vain; on every other day she continued to wake in the morning sane or deranged according as it was the turn of the one or the other state.

When the attacks of mania are separated by considerable intervals of sanity it is called *periodic* or *recurrent*, and the outlook is then very unfavourable. Noteworthy in these cases is the exact repetition which one attack is of another: the person becomes unusually elated, talkative, restless, or busily mischievous; passes thence into a state of incoherence and greater excitement marked by the usual symptoms of mania which lasts for two or three weeks or longer; and then sinks into a brief condition of depression or confusion of mind from which he wakes up to lucidity: after a sane interval, of varying length in different cases, there occurs another attack, which is ushered in by the recurrence of the same feelings and thoughts that went before the former attack; goes through the same phases during which the same sort of feelings are evinced and the same sort of insane acts are done, and ends in the same way—to be followed in due course by other attacks, until the mind is permanently weakened and the lucid breaks that occur are shorter and less complete.

Another variety of mania in which the excitement alternates with periods of depression, described by French writers as *Folie circulaire* or *Folie à double forme*, is also of an unfavourable character. In this form, as in the recurrent mania, the phases of the attacks are close repetitions of the phases of former attacks, and intervals of sanity intervene that may last for a few weeks only or for years, coming either after the excitement and before the depression, when they are apt to be short, or more often, as I think, after the depressed stage, when they are of longer duration. Let it be noted in these cases that the excitement generally has the form of an extreme moral elation and alienation rather than of an actual intellectual incoherence, and that the depression is as completely opposite a state of moral prostration and self-distrust as it is possible to imagine.

The duration of acute mania is very variable: it is for a few hours or a few days only in occasional instances, for a few weeks or months in most cases, for several months in some cases. A transitory mania, *mania transitoria*, lasting for a few hours only, and terminating perhaps in a heavy sleep from which the person wakes calm and rational, certainly sometimes follows or takes the place of an attack of epilepsy. But a similar passing mania may occur where there is neither evidence nor suspicion of epilepsy; it has followed a drunken excess now and then; and I have known two instances in which acute mania was the result of the moral and physical excitement of the first night of marriage, in one of them passing off in a short time. Again, a kind of acute hysterical mania will sometimes come on in consequence of a strong moral impression, especially if the shock be coincident with some functional irregularity, and may pass off in a few hours or days. In most of these cases of transitory mania it will be found on inquiry that there was a decided predisposition to mental disorder; and the brief storm, though it has happily passed quickly this time, may justly raise apprehension for the future. The duration of acute mania is under three months or under six months in most cases where recovery takes place; it may be prolonged by the remissions which are so common in its course to nine months or a year and still end in recovery; but when it has lasted beyond nine months or a year the prognosis is very bad. The longer the disease lasts the worse generally is the prognosis, which is always bad in the recurrent form, whether the attacks are short or long.

It may be truly said that nearly half the cases of simple acute mania get well if placed under proper treatment in good time; but the longer suitable measures of treatment are put off the worse becomes the prospect of recovery. The return of reason is foretokened by the steady waning of the excitement; by the discontinuance of senseless acts; by a shrinking from noisy parleys which before were courted; by an increasing coherence of talk; by a reviving sense of decency and propriety; by less disregard of dress and demeanour; by an occasional curious or anxious inquiry about friends or affairs, or by some other rational question; and in some instances by periods of

depression. It is an excellent omen when the patient begins to recognise that he has been ill and is depressed; a bad sign, as foreboding relapse, when he is much elated, exultantly talks of his perfect recovery, and ignores his serious illness. When the mania is entirely past a patient sometimes falls into a state of apathetic depression which looks like fatuity and occasions alarm; he seldom speaks, betrays confusion of mind and impaired memory when he does, is without the least energy, and evinces little or no interest in anybody or anything: it is not, however, a state of true dementia, but a temporary prostration, and the mental power may be regained by degrees as the exhaustion following the mental storm is recovered from. One sees a similar effect after the acute delirium produced by a seriously poisonous dose of *Datura stramonium* has disappeared; apathy and confusion of mind and great impairment of memory remain, which are not recovered from for some days. In like manner the effects of the delirium of typhus fever are sometimes evident for a considerable time in a damaged memory. The return of an accustomed discharge, healthy or morbid, such as the menses, or a leucorrhœal, hæmorrhoidal, or bronchial discharge, which has been suspended during the paroxysm of mania; or the recurrence of a neuralgia, of an asthma, or of some other wonted bodily suffering from which the patient has been free during his derangement—not unfrequently accompanies the return to a right mind.

When recovery does not take place the disease either declines into a chronic mania or dementia; or it is followed by an attack of melancholy and enters upon the bad circle of a so-called *folie circulaire;* or it ends fatally. Death is most often the result of exhaustion, but it may be due to some intercurrent and rapidly spreading disease such as pleurisy, pneumonia, peritonitis, erysipelatous inflammation and sloughing of some wound. When maniacal exhaustion proves fatal the end is sometimes sudden and unexpected, leaving in the mind an anxious feeling of doubt whether a more energetic treatment might not have prevented death, or, if sedatives have been given largely, whether they have not helped to hasten the fatal issue. More often after continuing in a state of unabated frenzy for

some time, the patient suddenly collapses, not dying immediately, but tossing about in a feeble and prostrate state, with quick and hardly perceptible pulse and inability to take food, until he sinks gradually from exhaustion. I have never seen in these cases a return of reason before death, such as novelists are apt to depict in their so-called brain-fevers, but I have noticed sometimes a little more consciousness of their surroundings before the end than was ever shown during the frenzy.

When acute mania has declined into a chronic mania, the latter exhibits varied features according to the degree and extent of mental degeneration. If the general disease has localised itself in a part of the mental organisation, leaving the rest of it comparatively free from disorder—not otherwise than as a general disturbance of nutrition localises itself in a particular morbid growth—there are delusions limited to one class of subjects, apart from which the patient for the most apprehends, feels, reasons, and acts like the rest of mankind; the case then falls under the head of *monomania* or *partial mania*. When there is a greater loss of mental power, together with delusions and general incoherence, the morbid action implicating the whole of the mental organisation in a chronic form, as is more likely to happen when the primary attack has been produced by a physical cause or has lasted long in a feeble mental constitution, the case may be referred to *chronic mania* or to one of the groups of *dementia*. For the difference between chronic mania and dementia is only a difference of degree of mental disorganisation, and examples perpetually occur that render it impossible to make a definite line of division between them. At the one end then chronic mania has the partial or circumscribed character of a so-called monomania; at the other end it passes insensibly into dementia.

Monomania.

The best examples of partial ideational insanity, so-called, are undoubtedly furnished by those cases of melancholia in which the mind labours under a particular delusion of a gloomy

nature and is in other respects singularly rational—those cases, in fact, to which Esquirol gave the name of *Lypemania*, in order to distinguish them from the cases of partial intellectual derangement in which the inspiring passion was of an elated or expansive nature. To these last it is that the term monomania is now limited by custom, the former class being described under chronic melancholia; and it is with them that I am concerned now.

In the outset it is proper to point out that Esquirol, who first used the word monomania, applied it to three different classes of symptoms of incomplete mental derangement: to those which, now commonly known in this country as cases of *moral insanity*, he designated *monomanie affective;* to those which, described by me in a previous chapter under the head of *impulsive* or *instinctive insanity*, he called *monomanie instinctive* or *monomanie sans délire;* and to those which I have to deal with now, and which he distinguished as *monomanie intellectuelle.*

Although this intellectual monomania is often secondary to acute mania, it is not so in all cases; sometimes it is a primary derangement which has been developed by degrees as an exaggeration of a fundamental fault of character. A vain and aspiring person, for example, whose pretensions far outrun his powers, or in whom the pride of some natural powers has been nursed by success and flattery, may grow into the delusive belief that he is a prophet, an emperor, a great discoverer, or some other extraordinarily distinguished character, without ever having had an attack of acute mania. Any one who reads with competent insight the history of Edward Irving, so distinguished as a preacher in the early part of his career in London, cannot fail to perceive that the mental derangement in which it ended was the natural and inevitable morbid outcome of his character in the fostering circumstances in which it was placed. The lesson of Swedenborg's life is perhaps still more instructive; the son of a father whose placid assurance of his own singular worth was remarkable, he displayed from the earliest period of his intellectual activity a serene and boundless self-sufficiency, undertaking without the least hesitation or self-restraint

the most difficult problems of scientific speculation in magnetism, in chemistry, in astronomy, in anatomy, in any other subject, and solving them to his own satisfaction with a self-confidence incapable of doubt; and the period of his life when he relinquished all scientific studies and worldly learning, devoting himself to the sacred office to which he believed the Lord Himself had called him, "who," he says, "was graciously pleased to manifest Himself to me, His unworthy servant, in a personal appearance in the year 1743; to open in me a sight of the spiritual world, and to enable me to converse with spirits and angels,"—was coincident with what was evidently an attack of acute mania. When the acute attack passed away a monomania was left behind which was the morbid evolution of his self-sufficient character; and thenceforth he occupied himself in intercourse with the spirits of heaven and of hell, and in recording the revelations which he received, declaring calmly and seriously that through him the Lord Jesus Christ had made his second advent for the institution of a new church described in the Revelation under the figure of the New Jerusalem.[1]

There is no large asylum for the insane in which patients will not be found who imagine themselves to be kings, princes, great lords, or other highly placed personages; who nevertheless converse sensibly on all subjects that, being outside the sphere of their delirium, do not stir their morbid trains of thought, and who behave themselves with habitual propriety. It may be a hard matter to elicit from some of them in conversation any evidence of derangement if they have a motive to conceal it; and they are quite able sometimes to exercise self-control enough to do that successfully for a time. Others believe themselves to be in direct communication with God or with angels, and receive messages which they write down and deliver or address to their medical attendants, always speaking with the same quiet or energetic assurance on these matters when they are touched

[1] I may refer for a fuller exposition of the character of his derangement to my essay on Swedenborg in *Body and Mind*, second edition. It has provoked violent criticisms and angry letters from some of his disciples. I am sorry to have hurt their feelings, but until the evidence of his own *Diary* be proved false, I cannot alter my opinion.

upon, and evincing no unsoundness in ordinary conversation on other subjects. All these people, however, are easily irritated by contradiction of their claims or by arguments against them; their faces then flush, their eyes sparkle, they become passionately energetic and denunciatory and perhaps actually incoherent in their language, and it may be some time before they forgive the offence done to their dignity.

I am acquainted with a gentleman, the inmate of an asylum, who has the delusion that he is Jesus Christ; he mixes little with other patients; seldom speaks except when addressed, when he answers intelligently and with great courtesy; walks in a retired part of the grounds with a calm dignity that arrests notice, dressing with scrupulous care and wearing a long white beard; and never gives utterance to any insane ideas that are not extracted from him by close questionings. At one time his wife, having wished for his discharge, had him visited and examined by two eminent physicians, who, after a long conversation with him, could find no insanity in him and recommended his discharge. This was not granted by the authorities,—first, because he had been sent to the asylum in the first instance in consequence of his having struck a cabhorse violently on the head with an axe as he drove past it, and this he had done in order to obtain a public trial and so enforce the world's attention to his claims; and, secondly, because it was certain that notwithstanding the failure of the eminent physicians to detect his delusion he was still as firmly convinced that he was Jesus Christ as he ever had been. In fact, he has never abandoned the belief, to which, his mind being weaker, he now gives utterance more readily than formerly. Moreover, it is apparent now, when a real examination of his mental state is made, that the infection of his main delusion has spread into much secondary delusion of thought.[1]

[1] Dr. Hood, formerly Superintendent of Bethlehem Hospital, had a patient there who had been sent to the asylum for annoying the Queen in Rotten Row. He had been twenty years in confinement, during the last fifteen of which he had not presented any symptom of his particular delusions, nor during eight of them any symptom of insanity. After persevering efforts Dr. Hood obtained his discharge. Five months afterwards he received a letter from Lord Palmerston, asking if he was aware that

Were the most experienced physician asked to say beforehand what cases of mania were likely to end in monomania, I doubt whether he would be able to answer the question satisfactorily in any case. This much he might say—that a person of moderate self-esteem, regulated temper and desires, habitual self-command, who had the misfortune to be driven maniacal by some powerful exciting cause, would not fall into monomania after the acute paroxysm; and that he who would be most likely to do so would be one in whose character some exaggerated passion of an egoistic nature, such as pride, ambition, envy, had been fostered before the attack—in whom, in fact, the madness was not something, as it were, extrinsic and accidental, but intrinsic and essential. It will be noticed in some instances that the patient who begins with a doleful delusion that he is the victim of a persistent and mysterious persecution ends by imagining himself to be some very great personage, and the persecutions which he undergoes to be done to him on that account; he cannot conceive that so many mysterious signs should be made wherever he goes, or that so much trouble should be taken to do him hurt and mischief, unless he is a person of far greater consequence than it is pretended he is; and he grows perhaps to the notion that he is of royal descent and has been deprived of his birthrights by an extraordinary conspiracy. It is a quasi-logical explanation of the primary delusion, a pathologically logical evolution of it.

I think it will be noticed again that the most characteristic examples of monomania are commonly met with in persons who have a decided insane inheritance; for it is in them certainly that we find an outrageously extravagant delusion or the strangest conduct coexist quietly side by side with a degree of reason that could not fail, it might be thought, to correct it. The individual embodies in his constitution the insanity of previous generations which, when it comes out, coming out as a sort of natural evolution, is accentuated in character, self-sufficient and self-dependent, neither requiring the support nor

such a man was at large, and sending three or four letters to the Queen which he had received from the patient, asking for the hand of the Princess Alice. He was really as insane as ever he had been, and had delusions of the same kind as he had twenty years before.

susceptible to the criticism of adjacent mental functions, which, on their part, are not greatly disturbed by it. What wonder indeed that it does not seem very strange to the reason whose potentialities have "lain in the same egg" with it through successive generations! Of notable eccentricities of thought and conduct which cause it to be said off-hand of the person who displays them that he must be mad, one hears it remarked sometimes that they do not mean madness in him, and need not be taken notice of as if they were of any consequence, because he comes of a peculiar family who have always been accustomed to think and to do some very odd things; and it is quite true that eccentricities of thought and conduct which would be ominous signs of madness in a person who had no such peculiar inheritance and would certainly portend a grave ultimate issue may continue in him unto the end of his days side by side with a lucidity of reason in other respects with which they might seem utterly incompatible, and without causing further derangement. The most typical example of monomania is only an extremer illustration of this character of hereditary insanity. Lastly, it will be noticed that monomania is apt to occur in some weakminded persons whose intelligence, if not actually defective enough to constitute them imbeciles, is of a low order and has been little cultivated; for a weak strain of intense vanity commonly goes along with a feeble intellect both in idiot asylums and outside them.

The course of monomania is not often towards recovery. The reasons are plain: in the first place, when it is secondary to mania or melancholia it signifies a chronic morbid nutrition which is a further stage of degeneration of the delicate organisation of mind; in the second place, when it is primary, it is the morbid outgrowth of a fundamental quality of character, so that to get rid of it would be to undo the very character from its foundations. Nevertheless, there is occasionally a recovery under the influence of a steady and systematic moral discipline or in consequence of some great shock to, or change in, the system—whether a shock of an emotional character, such as the announcement of the sudden illness or sudden death of one who was most near and dear; or a change in the system

produced by some intercurrent severe bodily disease of an acute character, which, having just missed being fatal to life, has restored the reason; or the great bodily change which takes place naturally in women at the climacteric period. I have known recovery to take place in each of these circumstances. I call to mind in particular the case of a gentleman who had laboured under a long-standing delusion of a gloomy nature, which was thought to be fixed and never likely to leave him, but who recovered in consequence of a severe attack of pleurisy which necessitated the tapping of the chest and the subsequent insertion of a drainage tube for some time. When recovery does not take place the mind is apt to get slowly weaker, and the disease so to decline into dementia: the more the exaggerated self-feeling which underlies and inspires the delusion wanes, and the more this, losing the inspiration which gave a sort of unity and coherence to its manifestations, becomes a mere form of words, the more plainly the patient sinks into an incoherent dementia. Recovery is at all times more likely to take place in this chronic insanity when the delusion is gloomy than when it is exalted; in the former case the derangement is more extrinsic in its origin, the system evinces its suffering, is depressed thereby and sensible, so to speak, of the need of amendment, while in the latter case the malady is more intrinsic in its origin, the system is abundantly satisfied with its condition, exalted, and not sensible of anything to amend.

For the most part there is more derangement than appears on the surface in any case of monomania, however circumscribed the range of the delusion may seem to be, and one may feel pretty sure that the application of a sufficient test will discover it at one time or another. Hallucinations of sense, especially of hearing, exist sometimes when not suspected. The faculties of the mind are not independent, but work together in a vital harmony, so that when a part suffers the whole suffers more or less with it: when an insane delusion persists in spite of evidence of its absurdity it is proof that the whole mind is overpowered or weakened and cannot exert upon it that controlling and corrective influence which, were it sound and strong, it would not fail to do. If a person who has hitherto lived on

the best possible terms with his wife, loving and trusting her entirely, conceives the insane idea, without the least reason in fact, that she is dishonouring him by adulterous intercourse with other men, the very existence of a delusion so foreign to the whole habit of his healthy thought and feeling marks a deep and general derangement of mind, notwithstanding an appearance of entire sanity in all other matters, and it will be impossible to foresee the influence it may have eventually upon his thoughts and upon his conduct. Locke's description, so often quoted, of the lunatic as a person who reasons correctly from false premises is a notion of the closet, not one that is founded on experience. The monomaniac is far from deducing the logical consequences from his delusions and acting in accordance with them; he deduces not logical but pathological conclusions; the same lack of reason which is shown in the existence of the delusion in his mind is shown in irrational inferences, in incoherent ideas, and in inconsistent conduct. Accepting the premises of his delusion and reasoning correctly from them, a sound understanding could not foretell what he will think and do. It is strange, however, how long an extravagant delusion may co-exist with apparent sanity on all matters outside its range in a person who has a decided insane mental heritage; in whom, in fact, there is a natural tendency to a want of harmony, or to a sort of dislocation or discontinuity, of mental functions.

When the monomaniac, so-called, comes under the observation of one who is not only competent to observe, but has sufficient opportunities to do so, it will commonly be found that there is a bluntness or loss of his natural affection and social feelings in consequence of his being so entirely centred in his morbid self; that his character and habits have undergone some change; and that he exhibits an excitability of mind with loss of self-control in circumstances which would not formerly have provoked it. His mind generally is in that condition of disturbed moral tone in which unforeseen whims and feelings and impulses are apt to start into spasmodic activity abruptly. What is sufficiently remarkable too is that when a patient of this kind is placed in an asylum, instead of being surprised at his position, and distressed by what he sees around him, as so seemingly sane

a person might be expected to be, he adapts himself to his new surroundings with remarkable equanimity and as if he had lived in them all his life; moreover, he evinces little or no anxiety to know why he is there, or how he is to get away, and an imperfect appreciation of the derangement of the other patients. Inside the asylum, where his life is ordered in a quiet and regular way, and there is no strain upon his mental resources, he will go on calmly from day to day and from week to week without any outbreak of excitement; but if he be at large in the world, free to follow his own devices and exposed to occasions of excitement, then he is likely to show paroxysms of unreason and even outbursts of dangerous frenzy. It is surprising what extreme unreason and incoherence on these occasions may be exhibited sometimes by one whose general manner and conversation would not be thought to forebode anything of the sort.

During the Franco-German war, when Paris was being besieged, Dr. Foville noted the effects of the commotion upon some patients in his asylum whose insanity was of the partial sort which is usually described as monomania; and the result was to discredit strongly in his mind the theory of a partial lesion of the understanding. One patient, who read the newspapers regularly, and appeared to follow the events of the war intelligently, declared nevertheless that he was not fool enough to be taken in either by the accounts which he read or by the incessant roar of the artillery which he heard; he affirmed that all the noise was produced by some fools who pretended to fire the cannon to amuse themselves, but whose real object was to make a pretext for causing him to die of hunger by reducing more and more the allowance of food. A still more remarkable case was that of a captain of the Imperial Guard, who had been admitted into Charenton a few weeks only before the outbreak of the war, labouring under delusions of persecution. From his profession, from the fact that he had several relatives in the army, from his perfect lucidity on many subjects, it might have been expected that he would follow the events of the war with interest. Nothing of the kind: all the defeats and sieges, the fall of the empire, the investment of Paris, the conflicts before it, various episodes of which he saw, the bombardment of the

forts which he heard incessantly, the capitulation of Paris and its deplorable consequences—all were met with entire incredulity. He would not believe a word of what he was told, although every means was employed to convince him, but declared that all the noise made by the cannonading was the work of certain officers of his regiment—his persecutors—who were bent upon annoying him, and that the authorities of the asylum made common cause with them by refusing to forward his letters to his relatives, and by withholding from him their replies. He was one day shown five or six newspapers, all of the same date and relating the same facts; he read them with incredulity, alleging that they were sham newspapers, printed for him alone by his persecutors, who were determined not to desist from their persecution, cost them what it might. When a person has got so completely out of sane relations with his surroundings as to cherish the sort of extravagant delusion which the monomaniac has the plainest evidence affects him not in the least if it goes against his opinion; his judgment upon all matters that concern himself is utterly disorganised and rotten: it is engulfed in the morbid self.

The insane person who believes himself to be Jesus Christ is commonly, while in the asylum, well-behaved, courteous, dignified in manner, evincing in bearing, gait, and speech a placid exaltation and serene self-confidence; but he is very likely to be dangerous if he be left at large. By a pathological logic he develops some other great delusive notion—that he must discover or attest his divinity, or draw an unbelieving generation's attention to it by some mighty deed; accordingly he may sacrifice his own life or the lives of others in order to give proof of his divine mission, or perhaps to redeem mankind by the baptism of blood; or he may do some other desperate deed from an equally insane motive. At all times he is possessed with a thoroughly insane exaltation, and there can be no certitude felt that it may not explode in equally insane conduct.

The foregoing considerations render it easy to understand that a fixed monomania which ends not in recovery will probably entail eventually an increasing impairment of mind; like a cancer or other morbid growth that has fixed itself in

some tissue of the body, it is nourished at the cost and to the detriment of the sound elements, which dwindle and degenerate, and the result is a state of mental disorganisation and decay, which may be justly described either as chronic mania or dementia, according as the degree of degeneration is less or greater.

Dementia.

Most of the permanent inmates of asylums are persons who after a more or less acute mental derangement have sunk into a condition of permanent mental feebleness and incoherence. To describe in detail the different varieties of degeneracy which are met with would be an endless and barren labour. It would be as tedious as to attempt to describe particularly the exact character of the ruins of each house in a city that had been destroyed by an earthquake: in one place a great part of the house may be left standing, in another place a wall or two, and in a third the ruin is so great that hardly one stone is left upon another. So with respect to the mental wrecks that are seen in long-standing insanity: one person will talk reasonably and calmly for a while on most subjects, until, his enfeebled attention being exhausted or the trains of his many morbid ideas hit upon, he breaks off into rambling and incoherent nonsense; the conversation of another is habitually incoherent, although he may for a short time or on some occasions so far hold his attention as to answer rationally simple questions put directly to him; a third is utterly crazy and scarcely ever utters a word of sense. Between what is described as chronic mania and what is known as dementia it is evident then that the distinction must be theoretical.

Three principal groups may be made of these cases of mental disorganisation. The first will consist of those who, representing the terminal dementia of monomania, still exhibit a few striking delusions, which now, however, seem to be automatically expressed; for the strong self-feeling which formerly underlay and inspired them is extinct, and there is none of the earnestness, consistency, and self-assertion which there was once. They quietly

give utterance to the most extravagant delusions as if they were saying the most trivial commonplaces, and seldom show any feeling when they are contradicted. The paths of mental association are obstructed or broken up, so that the delusions are cut off from any systematic and active influence upon such mental functions as are left, and the incoherence is extreme. Family and social feelings are pretty nigh extinct; they ask not and care not for relations, and all real interest in the past and present is abolished. How can there be a past when its organic registrations are disorganised; how can there be a present when there are no linked memories of the past to give it meaning and interest? Their acts exhibit a corresponding imbecility. Several of them are capable of employing themselves in useful mechanical labour under suitable supervision; but the industry of others is confined to strange antics and monotonous gestures, to walking backwards and forwards for a certain distance over a particular path, to crouching or standing in a particular corner, or to gathering stones, pieces of paper, and the like. Some of the movements witnessed which are definite and uniformly repeated, albeit strange in character, are probably dictated by the remains of an extraordinary delusion or hallucination: one person, for example who day after day licks with his tongue a certain place on the wall or on some other object imagines that he is tasting something of delicious savour; another, the singular movements of whose arms perplex the observer, is busy spinning sunbeams into threads; a third is constantly shouting in answer to voices which he alone hears; a fourth keeps up violent movements of his arms in order to prevent his blood from coming to a standstill. Other strange movements which we cannot account for might probably have been similarly explained had we been able to watch carefully the evolution of the insanity and to follow closely the steps of the mental dissolution that has taken place. For the explanation of others it might be necessary to search even yet further back—to make the reversion to ancestral experiences which they perhaps represent. The bodily health is usually good, there being not unfrequently an improvement in this respect as the frenzy of mania or of melancholia subsides into the peace of dementia. The mood of mind, which appears to be

determined in great measure by the patient's former disposition, may be surly and gloomy, or brisk and cheerful, or even and placid.

In a second group of cases there is more general incoherence—a genuine *craziness* in fact—without the expression of particular delusions, but with a greater display of outward activity. Their incoherent drivel or their senseless parrot-like repetitions of certain words may discover the wrecks of delusions which existed in the preceding maniacal stage. The fact is that the mental disorganisation has gone so far that not only are the paths of association broken up, but the centres themselves of ideas also; there is an incapacity to receive accurately and to fashion into ideas the impressions made upon the senses, as well as a great loss of memory; and in extreme cases the capability of a distinct delusion and of a definite passion is gone. An entire indifference to what is going on around, reaching a placidity beyond what philosophy can attain unto, would certainly warrant it being said of him more truly than of the just and self-contained man—

> "Si fractus illabatur orbis
> Impavidum ferient ruinæ."

The extinction of all emotional feeling of the higher sort is frequently accompanied by a bluntness of sensation, in consequence of which the patient shows himself singularly insensible to pain, being very little affected by so severe an injury as a broken arm or a broken leg. Sometimes the sensations are manifestly vitiated, as shown by tendencies to swallow stones, live frogs, worms, and the like; these perverted appetites coming on or being more marked perhaps at certain times and then disappearing or abating for a while. In some cases paroxysms of excitement occur from time to time, and there are outbursts of incoherent passion and fury or even of desperate homicidal violence without any apparent cause in external circumstances to provoke them. A demented person under my care who was utterly incoherent, used to walk about muttering to himself, without any one ever being able to understand what he muttered or to get an intelligent answer from him; from time to time, without giving the least warning, and without anything

having happened to provoke his anger, he would rush upon some one and strike him violently or make a furious attempt to strangle him; so sudden and dangerous were these outbreaks that nothing would induce an attendant who knew his propensities to sleep in the same room with him. Another instance: a heavy, wild-looking, hopelessly demented woman, who usually did no more than laugh vacantly when spoken to, and seemed not to comprehend what was said, used to begin every now and then, without apparent reason, to shriek and howl furiously, and to stamp on the ground violently, her whole body being agitated convulsively; the paroxysm would end either in a violent attack upon some one, made with the rush of an avalanche, or she would throw herself down on the ground and lie there shrieking and kicking for some minutes; after which she would, with maniacal drawl, murmur, "I beg pardon," "I'm very sorry."

Some of the homicides that are done in asylums are done by demented patients of this class: one who has worked side by side with another for months without ever having shown the least ill-will suddenly smashes his skull one day with a spade or a hammer; and it will most likely be impossible to get from him any explanation of the murderous deed. The probable explanation is that some bodily derangement has occasioned a painfully uneasy disturbance of the affective tone, and that a straggling idea of a suspicious nature arising into activity in this atmosphere or medium of gloomy feeling, and unrestrained by other ideas from which it is cut off by the disorganisation of the paths of association, acquires a delusive character and a convulsive energy. The tendency of the gloomy mood is to outward expression, and the upstarting idea has determined the direction of its discharge and discharged it in the deed of violence.

The prevailing mood of these dements is different in different cases. some are gay, happy, and chatter and laugh incessantly; others are gloomy and display the mimicry of grief; while others, again, are malicious, spiteful, destructive, and addicted to a purposeless mischief with a monkey-like cunning and persistence. The bodily health is usually good and the bodily functions are well performed; some of them get fat, and remain

so until an outbreak of excitement and agitation, to which they are liable periodically, reduces them. The physiognomy is blank and expressionless, especially when the patient is spoken to, or it expresses only in coarse traits the predominant mood; it is often also prematurely aged.

Lastly, there is a group of demented patients in whom nearly all traces of mind are extinguished: they must be fed, moved, clothed, and cared for in every way; they evince little or no sensibility; their only utterance is a grunt, a moan, a whine, or a cry; and the only movements which they make of their own accord are to rub their heads, their hands, or other parts of their bodies, or to continue some other meaningless and monotonous movements. They represent the lowest of the degrees of dementia—the last term of mental degradation to which it is possible for a human being to sink. Their life is in truth little more than a vegetative existence; mental dissolution has anticipated bodily dissolution; and if they are not carried off by pneumonia, tubercle, or some other welcome bodily disease, as they sometimes are, they die from effusion on the brain, serous or hæmorrhagic, or from atrophy thereof, or from the effects of accident to which, in consequence of their apathetic helplessness, they are much exposed. It is a robust faith which infixes the certitude of a resurrection to life eternal of this mind which is seen to dawn with the opening functions of the senses, to grow gradually as the body grows, to become mature as it reaches maturity, to be warped as it is warped by faulty inheritance, to be sick with its sicknesses, to decay as it decays, and to expire as it expires.

Before leaving this subject it will be proper to take notice that dementia is not always chronic, secondary, and incurable, but sometimes acute, primary, and curable. *Acute dementia*, when it occurs, is usually the effect of some severe mental or bodily shock. It has followed the shock of a serious attempt at strangulation. One observes it in greater or less degree after an epileptic fit or a succession of such fits, occasionally in an extreme form; for example, in one case that came under my notice—that of a delicately constituted person who was said to have had "fits" from time to time—what was called a slight

"faintness," but was probably an epileptic vertigo, was followed by a blank confusion of mind, an entire incoherence, and a complete inability to recognise anybody or anything—a condition, in fact, of extreme dementia, which lasted for a few days. After a severe attack of acute mania, as after the delirium of fever in some instances, a condition of mental confusion and feebleness may be left, which is truly a temporary dementia and is gradually recovered from. Again, acute dementia is sometimes caused by a moral shock. A pale, delicate, fragile, blue-eyed young lady once came under my care after she had been ill for a week. She had scarcely taken any food, and was much exhausted. Her vacant, wandering eyes were devoid of all intelligent perception, and her countenance was blank and expressionless. There was a restless, agitating movement to and fro of the body generally, and of the head in particular, with a low monotonous moaning. She was speechless, and it was impossible to fix her attention or to elicit any kind of intelligent response. She took no food except what was forced into her mouth, and was inattentive to the calls of nature. Within three months she recovered under suitable treatment. She had suffered a great disappointment of her affections; menstruation had ceased; and acute dementia had followed. In another case, a young gentleman, nineteen years of age, of pale and delicate appearance, with large prominent grey eyes, who had been hard worked as clerk in an office, and whose life out of it had not been satisfactory to his friends, was suddenly attacked with a quasi-hysterical attack of incoherence. There was blank confusion of mind; he neither uttered nor otherwise expressed anything indicating intelligence in his mind, and showed no sign of understanding what was said to him by others; and there were occasional periods of confused excitement. He took no food except what was forced upon him, and he was inattentive to the calls of nature. Recovery took place within a month.

The late Dr. Skae described, under the name of sexual insanity, a form of acute dementia met with according to him both in the male and female sex, but more often in the latter, which he believed to be produced by the moral and physical effects of sexual

intercourse upon the nervous system. There is some reason to think that habits of excessive self-abuse have been the cause of a similar form of derangement sometimes in persons of feeble constitution and highly nervous temperament.

The examples which I have given will serve to exhibit the general features of acute dementia, and to indicate the favourable character of the prognosis. The mental functions are abolished for the time by reason of some severe shock to their nerve-centres, and the abeyance of them is shown by the expressionless countenance of the patient, his passive attitude of body or meaningless movements, perhaps by an occasional aimless and confused excitement, by his inability to understand what is said or to say what can be understood, and by loss of general sensibility. If recovery does not take place soon, as in most cases it does, there is danger lest the disease pass into chronic and incurable dementia.

NOTE.

In mentioning, at p. 319, the species of insanity which has been described as *agoraphobia*, reference should have been made to three cases described in the *Archiv f. Psychiatrie u. Nervenkrankheiten*, Band VII., 2 Heft, and to the *Annales Médico-Psychologique*, November, 1876, p. 405. One of the patients says of himself :—"From my early youth—in my sixteenth year—I could scarcely cross a large open space alone, or even a large open space in a church or in a concert-room, without suffering from an overwhelming feeling of distress." To cross a square alone he must go round the houses. If he had a companion and was engaged in conversation he had no difficulty. If he attempted it alone, he must fix his eye upon a cart, carriage, or person in the middle of the square as a point to be aimed at, and so get across from one object to another. In vain he had tried to overcome his fears. It was not actual giddiness, but an indescribable distress that affected him. I have recently seen a similar case of a nervous gentleman who cannot cross a square, but must go round by the houses, unless he is accompanied.

CHAPTER IX.

CLINICAL GROUPS OF MENTAL DISEASE.

When we have to do with insanity in medical practice—that is to say, when we have to think how a particular case has been caused, what course it will run, how it will end, and what sort of treatment should be used, we do not so much consider whether the symptoms are mania or melancholia as we do what constitutional diathesis underlies, or what bodily disturbance accompanies, the derangement. It is certain that we get more help generally from the exact observation and appreciation of such bodily states than we do from the mental symptoms alone: for example, whether a mental disorder is maniacal or melancholic is not of much moment, but the recognition of a gouty disposition, of a syphilitic infection, of a commencing paralysis, of a puerperal cause, and the like, will help us much. It is proper, therefore, to enumerate and describe the principal clinical varieties of mental disorder. To the late Dr. Skae belongs the merit of having insisted strongly upon this clinical classification of mental diseases, and of having been the first to sketch, although vaguely, the leading features of numerous groups.

General Paralysis of the Insane.

For many years now—since Bayle first distinguished them—a group of cases presenting characteristic features have been described under this head, and they unquestionably constitute the most definite and satisfactory example of a clinical variety

of mental disease. For that reason I begin with them. They represent a form of disease which is characterised by a progressive diminution of mental power, and by a paralysis which creeps on stealthily, increases gradually, and invades progressively the whole muscular system. The concurrence and concurrent increase of mental and motor disorder are not accidental but constant: the patient loses the power of performing both ideas and movements, and gets worse and worse gradually in both respects until he dies. In the great majority of cases there are extremely exalted delusions of personal power, or wealth, or grandeur; but as they are not present always, it is impossible to make the character of the delusion a necessary part of the definition of the disease. Indeed. all the varieties of mental symptoms—melancholia, mania, monomania, dementia—may be met with in different cases of general paralysis; but what will be observed always is, that whether the symptoms are melancholic or maniacal, there is a marked weakness of the understanding and memory which there is not in ordinary cases of melancholia and mania.

General paralysis gets a painful interest from the fact that it attacks those who seem to be in the prime of life and at the full height of their energy, and that it selects so many of its victims in the better classes of society. Hereditary predisposition is less often met with than in other forms of mental disease; and there is no little uncertainty as to what is the most frequent exciting cause. Sexual excesses I hold confidently to have that evil pre-eminence, but I doubt not that a certain temperament, oftentimes of a genial and expansive kind, must co-operate. Those who reject this opinion object that the sexual excitement observed is really an effect of the malady, and that it counts among its victims more respectable married persons than unmarried persons of incontinent lives. Neither objection has the weight which at first sight it appears to have. No doubt there is oftentimes increased sexual excitement at the beginning of the disease—I overlook not that—but there is not even then corresponding sexual power, and very soon the excitement vanishes in complete impotence. It is not to this temporary excitement that I refer, but to the steady sexual excesses which

have gone before the first symptoms of illness and have by degrees sapped the vitality of the nervous system. He can have but little experience and little insight as a physician who does not know that this sort of steady sapping excess is as common or even more common among married persons, with whom provocation and opportunity are constantly at hand, than among unmarried persons who have often to seek or to make the occasions of indulgence. Not a few married persons, moreover, are so innocent as to believe that there cannot be such a thing as sexual excess when the Church has consecrated the union, and they yield to habitual indulgence which is gross excess, without thought of harm to themselves. General paralysis is emphatically a disease of manhood, being seldom met with before thirty or after sixty years of age. In two cases I have known it to occur after sixty: one gentleman had married late in life, after he had made a large fortune in active business, a woman much younger than himself who was evidently of large receptive capacity; the other, who had made his fortune by persevering industry and an almost miserly carefulness, had betaken himself in the evening of his life to politics and to keeping a mistress.

It is a noteworthy fact that women very seldom suffer, and women of the better classes hardly ever, from general paralysis: perhaps it is that women are not subjected to such severe and constant mental strain as men are; that they are not so much addicted to alcoholic intemperance, either in the shape of acute excesses or in that more dangerous form of habitual indulgences in small quantities of wine and spirits throughout the day by which some active men of business endeavour to spur their overtasked energies; or, lastly, that they are not so prone to, and suffer not so much from, sexual excesses as men do. Another noteworthy fact is that the disease is very rare in some parts of the country; for example, it is said to be very uncommon in many parts of Ireland, and hardly ever to be met with in the Highlands of Scotland, where of course there is no deficiency either of women or of whisky. I doubt, however, whether persons who spend most of the day in the open air, going through a great deal of bodily exercise, are so easily provoked

to indulgence or so inclined to excesses, sexual or alcoholic, or again suffer so easily from them, as the dwellers in town, who have another source of drain of energy in their habitual greater mental strain and anxiety. Some writers deem syphilis, others intemperance, to be the most frequent cause of the disease.

It has been disputed whether the mental symptoms precede the paralytic symptoms, or whether the latter occur first—whether, in fact, the insanity is essentially primary, or whether the paralysis is the primary and main affection, the mental disorder being secondary. A barren controversy: observation certainly shows that the mental symptoms are evinced in many cases before there is a trace of paralysis, and that in other cases the mental and motor symptoms appear simultaneously. Instances again do occur occasionally in which the paralytic phenomena appear first; and some have been recorded in which the disease undoubtedly began in the spinal cord and spread thence to the brain. In cases which begin so it will be noticed sometimes that the walk is that which is characteristic of so-called *tabes dorsalis*—uncertain, swaying, the feet being raised and thrown forward abruptly or outwards to the right and left, and brought down with a jerk on the ground. It is certain, in fact, that some cases begin as *tabes dorsalis* and end as general paralysis; but this sequence is not usual, for the mind is commonly cheerful and unaffected unto the end in the former disease. I take it to be certain also that in a few cases of general paralysis the motor symptoms, which were not those of *tabes dorsalis* in the first instance, became the motor symptoms of that disease later on. Dr. Skae was of opinion that the paralysis was the essential part of the disease, and that it might go on to a fatal ending sometimes with only a slight impairment of the mental functions, or without any affection of them at all; and in support of this view he related the case of a gentleman who laboured under the peculiar paralysis of the disease for many years, during all which time he was esteemed a man of great intelligence. Ultimately he was attacked with the extreme delusions of grandeur, and died with all the signs of general paralysis running its usual course. Before asserting that there is no trace of paralysis, or no trace of mental dis-

order in a particular case, it will be well to observe the patient when he is emotionally excited or after a sleepless night; for as both motor and mental symptoms may come and go at the beginning of the malady, there may then be evidence of tremulousness and uncertainty about the muscles of speech or signs of mental impairment which would not be observed when he is calm and collected.

The motor symptoms are noticed first in the tongue and lips, which have to execute so many delicate and complex movements with exact precision, and especially in the articulation of words abounding in consonants, where the most complex co-ordination of movements is necessary; when the patient speaks earnestly, he does not articulate clearly, and there is a certain pause or thickness or stumbling in his utterance, as if there was a difficulty in bringing out the syllables; in some cases the speech is slower, more deliberate, with a strong accentuation of and a lingering on the syllables, as if he were speaking with great consideration. When the tongue is put out, which it is with some difficulty, there may be a fibrillar quivering of its muscles, or a trembling of the whole of it, but it is not pulled to one side. There is a tremulousness also in the muscles of expression when they are put in action, especially in those of the lips, which quiver as in one just about to burst into tears. The tone of the voice is often altered, although this may be noticeable only by those who have known the patient well before he was taken ill; it becomes harsher and loses its various shades of expression. These symptoms are more evident when there is any mental excitement. An inequality in the size of the pupils is often an early symptom, but it is not a characteristic one; it is sometimes present in other forms of insanity, and it is not always present in general paralysis. In a few cases the pupils are contracted to a pin's point. A transitory squint is observed occasionally at the commencement of the disease, and at a later period perhaps a slight ptosis of the upper eyelid.

As the disease advances the muscles of the limbs and trunk are affected; in walking, the feet are not quietly raised and firmly planted on the ground, and the gait is somewhat feeble and shuffling; the patient will find some difficulty in mounting

on to a chair, easily stumbles at a step or on uneven ground, and, if asked suddenly to turn round when going straight forward, he sometimes sways or staggers like a drunken man. Nevertheless he may be energetic in walking, setting about it earnestly, as if it were his business, and pleased with his performance of it; he does not want muscular power, but the power of using his muscles; he is unaware of his deficiencies and commonly thinks himself wonderfully well and strong. Precise coordination of movement, such as is necessary for writing, sewing, playing upon a musical instrument, and like acquired automatic acts, is much impaired or quite lost. At the outset of the disease it is sometimes very difficult for one unacquainted with the patient before his illness to perceive anything peculiar in his walk; but when no symptoms of paralysis are detected, there may be something stiff, proud, abrupt about it; the steps shorter and quicker, and the foot being set down more sharply. One set of muscles may be more affected in one case, and another set in another; and it is noticed sometimes that the articulation is most impaired when the legs and arms are scarcely touched, or again that there is no impairment of articulation when there is marked paralysis of the legs. Like the mental symptoms, the motor symptoms may disappear almost entirely for a time. As the disease advances towards its end, the articulation becomes less distinct; the walk more and more tottering; the knees fail; the patient frequently tumbles, and finally is unable to get up at all. The contractility of muscles for the electric stimulus is retained. At last the primary automatic or reflex movements fail; the pupils become dilated, but unequal in size; the sphincters lose their power; and the patient, who is very apt to swallow his food without masticating it properly, may be choked by a lump of it sticking in the paralysed pharynx and blocking up the opening of the larynx or even getting into the larynx. Transitory contractions of an arm or leg occur sometimes, and a persistent grinding of the teeth is not uncommon in the last stages of the disease.

Cutaneous sensibility is diminished in the early stages, and towards the end it is sometimes almost lost. These patients when injured by violence make no complaint perhaps, and go

about even with broken ribs without showing any sign of pain. A sudden local perversion or loss of sensation may be the occasion of an extravagant delusion—*e.g.* that one half the face or chest has been torn away. In some cases transitory attacks of extreme hyperæsthesia of parts cause the patient to shriek out in agony; and before the disease shows itself it is not very uncommon for the person to have suffered from neuralgic pains—perhaps from intense headaches, or from facial neuralgia, or from pain in other parts of the body, all which were forebodings of the evil to come. The muscular sense is especially affected—exalted at first so as to give a false feeling of great bodily strength, but impaired much afterwards, so that the sufferer, having lost all power of executing the more delicate and complex movements, is quite unaware of his impotence, and deems himself not less skilful than when at his best state. Reflex excitability is lessened in both cerebral and spinal nerves as the disease advances; but it is not impaired at the beginning, and it may appear to be even increased in the spinal cord when the brain is affected notably and it is not. The special senses are not usually affected until near the end, when smell and taste are diminished or lost, and vision fails. Sometimes, however, the impairment of smell and taste shows itself much earlier. Perversions or defects of the organic sensibilities may be the cause of delusions that the intestines are closed or destroyed. A great increase of sexual desire and an excited display of it are not unfrequent at the beginning of the disease, but there is not corresponding sexual power; and this is soon quite lost.

The bodily nutrition is differently affected at different stages of the disease. At the beginning the patients often lose weight and become thin, but later on, particularly when they reach the stage of placid dementia, they get stout and flabby, and sores or wounds on them heal remarkably well. At a still later stage, when nervous energy is nearly extinguished, bedsores are easily caused, and after death the tissues are soft and flabby, while the bones, and especially the ribs, are softened and friable so as to be easily broken.

The mental disorder which goes along with the motor impairment is remarkable usually for an extraordinary feeling of

elation and well-being with corresponding delusive ideas. But here also, as in so many cases of insanity, a period of initial depression often goes before the outbreak of excitement; a period which is brief and transient in some instances, but in other instances lasts for a few weeks. It is a state in which the patient, conscious of a threatening mental trouble, complains of impairment of memory, of inability to think, of incapacity to do his work, sometimes of difficulty to pronounce his words, is depressed and apprehensive, and perhaps expresses gloomy fears that he will go mad. He is willing enough to consult a doctor now. But after a while a remarkable change takes place in his feelings and ideas—from the depths of sadness he rises to an extravagant pitch of elation: he is in a state of exuberant joy, "hail fellow well met" with everybody; full of projects to benefit himself and mankind; reckless in spending money, all sense of the value of which he seems to have lost; eagerly buys pictures which he declares to be Michael Angelos or Raphaels, or jewellery and other things which he does not need and cannot afford to pay for; breaks out into sexual excesses that are quite foreign to his natural character; and rushes into extravagantly absurd commercial speculations by which he is sure he will make an enormous fortune. If pressed to see a doctor, he may consent out of the excess of his geniality and his gladness to talk of his great schemes to everybody, but he laughs at the idea of there being anything the matter with him and protests that he was never in stronger and better health in his life. Notable is the mental weakness which prevents him from seeing through transparent schemes to divert him from his projects and renders it comparatively easy to approach and manage him. With the ordinary maniac, who presents at first somewhat similar but less extreme symptoms, great caution and address are necessary to avoid rousing his suspicion and anger; but it is commonly easy to approach the general paralytic, who hardly asks his interviewer who he is and why he has come, or, if he does, is easily satisfied with almost any sort of explanatory or apologetic answer, shows no suspicion or resentment, hastens to tell him of his great projects, perhaps offers to make his fortune for him, and invites him when he leaves to come again soon.

As the mental disorder increases it issues in the most extravagant delusions conceivable of wealth, power, or grandeur : he can talk all the languages of the world ; has a superb musical voice, can sing better than Mario ever could, and will make a thousand pounds a night on the stage; is as strong as Hercules, an accomplished athlete, and can perform muscular feats which no other man ever could ; is possessed of inexhaustible wealth and gives away cheques for millions to any one who asks for them ; is a duke, a prince, a king, or sometimes even king of kings, and will confer dukedoms or greater honours with lavish generosity; is going to marry a princess or a queen, or to have a harem of all the finest women in the world. There is no limit to the absurd extravagance of his delusions, which he will utter placidly without the least show of feeling, or with only a feeble smile of self-complacence, or with a burst of imbecile laughter. When he is sent to an asylum he is delighted with everything, his accommodation is capital, and he is determined to buy the place and to make a great palace of it. His great mental weakness is shown in an extreme loss of memory, in glaring inconsistency between his ideas and conduct, or even between his gross delusions themselves, and in his fatuous insensibility to ridicule; he is going to marry a princess, forgetting that he has a wife, whom nevertheless he acknowledges when she visits him ; he gives cheques for millions at the same time that he begs for a little tobacco; he cannot perceive the insanity of other patients in the asylum, however outrageous it is, and is insensible to their ridicule of his absurd pretensions. In the Edinburgh asylum was a general paralytic under Dr. Skae's care who thought himself king of kings and had other characteristic delusions of grandeur, and who was most lavish in presenting millions of money. Before he was sent to the asylum he had £1 in the savings bank, the interest of which had risen to 3*s.* 4*d.* He always kept this sum distinct from the immense sums which he believed he had in the Bank of Scotland, and would never part with a penny of it. Moreover, he calculated interest at twenty-five per cent. on his supposed wealth and made a muddle of it, but he calculated the interest on his actual property at five per cent. and correctly.

Outbreaks of acute maniacal excitement accompanied by violent resistance to control occur frequently during the progress of the disease, each of them being usually followed by a notable increase of the mental weakness; and it is not unusual for intervals of melancholic depression and gloomy irritability to interrupt from time to time the usual strain of exaltation. As the end approaches, the dementia is extreme; there is scarcely a sign of intelligence noticed, and the face is an expressionless mask across which flickers now and then the broken ripple of a smile, or it is fixed in a sardonic grin; but even in the last stage of mental disorganisation, when delusions are shattered, the few words which he mutters may bear witness to the wreck of his grand notions about carriages, diamonds, millions of pounds.

This is the form which general paralysis most commonly takes, and which is suggested when its name is mentioned, but there are considerable varieties in the mental symptoms in some cases. For example, in one form there is a steady decline of intelligence from the first without any marked delusions—in fact, a gradually increasing stupidity of a good-natured sort, although the prevailing good-humour is apt to be interrupted from time to time by periods of depression or by intervals of irritable and gloomy temper. In another variety painful delusions of an extreme character with corresponding depression prevail throughout the course of the disease: the patient protests that he is blind and cannot see, that he is completely deaf, that his throat is closed so that he cannot swallow any food, that he has no stomach, that his intestines have passed from him, that he is dying or is actually dead. I have observed in one instance the disease begin with all the characteristic symptoms of elation, so that no one who saw the patient had the least doubt of its nature, and after a time pass into the melancholic form, the exalted delusions being superseded by the sad delusions that he could not swallow and had no inside and by refusal of food in consequence. In this state the patient has remained for years, the disease making no progress. Whether the disease shall take the exalted or the depressed form in a particular case is probably in the main a question of original temperament: a person who is self-confident, boastful, proud of his

powers and possessions, prone to ambitious day-dreams, confident that his geese are all swans, is likely to become exalted, whereas a person of the opposite temperament will be more likely to fall melancholic. Dr. Clouston thinks he has noticed an intimate relationship between general paralysis with depression and tuberculosis, and believes that the melancholic variety will be found chiefly among those who are also phthisical.

The course of the disease is towards death, an end which it usually reaches within two or three years from its commencement. It is extremely doubtful whether an instance of real recovery has ever taken place, although such a one has been put on record from time to time. I have read in a medical journal the exultant report of the complete recovery, so-called, of a gentleman who however died not long afterwards with the usual symptoms of general paralysis. What happens in these cases is that when the patient is placed under proper treatment and taken away from occasions of excitement, the progress of the disease is arrested, the symptoms disappear almost completely, and it is hoped that he is recovered; but it is seldom, if ever, a real recovery, for after a time the symptoms come back—very soon probably if control has been removed—and the disease goes through its ordinary course. These symptomless intermissions are certainly so long in some few cases that the duration of it is prolonged much beyond the usual two years. The melancholic cases almost always last longer than the exalted, and the disease runs a slower and quieter course in women. In the more advanced stages, when its progress has made it plain what its early end will be, apoplectiform or epileptiform attacks with loss of consciousness, and with or without convulsions, occur from time to time; they soon pass off, leaving behind them probably more or less paralysis or convulsion of one side, which itself again after a few days disappears in great part or entirely; but after each of these attacks the general feebleness of mind and body is found to be increased. They are often preceded by symptoms of determination of blood to the head, and by more or less mental excitement, and during them there is great heat of body, the temperature of which may rise several degrees. Death may

take place in one of these attacks, or soon after one; or it is the result of gradual exhaustion, large bedsores forming notwithstanding the best care, and some such disease as diarrhœa, bronchitis, or pneumonia helping to make an end of the miserable spectacle. The evening temperature is usually higher than the morning temperature in general paralysis; a great rise thereof—as much perhaps as 5·8° sometimes—precedes and always accompanies the excited and epileptiform attacks, abating only gradually after them; and the occurrence of pulmonary complications or of hectic exhaustion is marked by an increased temperature.[1]

Such are the symptoms of a remarkably definite group of cases in which mental impairment and motor paralysis proceed together with pretty equal steps. As Bayle pointed out long ago, no one can fail to observe in them an interesting resemblance to those of drunkenness; the exaltation of ideas and the good humour at the outset, the incoherence of ideas and embarrassed speech later on, and finally the inability to walk properly, the loss of sensibility, and the increasing stupidity are common to both conditions and render it probable that alcohol produces a rapid sequence of temporary morbid changes in the nerve-centres very like that which is slowly wrought in general paralysis. Certainly there are some persons who when drunk present an exact miniature picture of the disease. Definite and characteristic as its symptoms mostly are, it ought not to be supposed that it is marked off from all other forms of mental disorder by a barrier which is never crossed. There are cases of syphilitic dementia which look so like it that one is decided what to call them by the result only. Again, some cases of the so-called circular insanity, where melancholic depression follows a period of mental excitement marked by extreme exaltation of feeling, ideas, and conduct, may be mistaken for it in the first instance; and it might perhaps be fairly argued that some of the supposed genuine cases of general paralysis in which melancholy has taken the place of mania, and the duration of the disease has been much prolonged, were really examples of

[1] *Journal of Mental Science*, April, 1868, Dr. Clouston. *Ibid.* 1872, Dr. Mickle.

circular insanity. Lastly, as I have pointed out already, all the motor symptoms of the disease may occur and go on to death, without any marked mental symptoms or with such symptoms noticeable only for a short time before the fatal end. Diseases are not morbid entities, but more or less definite deviations from healthy life; in a particular case, therefore, it may chance that the usual limits of deviation are not reached, or are exceeded, or are irregular in character, insomuch that two allied, or, as we might call them, adjacent diseases, have their symptoms intermingled and are no longer exactly distinguishable.

Epileptic Insanity.

The symptoms of the mental derangement which is met with in connection with epilepsy are those of mania, of monomania, and of dementia. Most marked are the symptoms of acute mania, which generally comes on after an epileptic fit or a succession of epileptic fits, and is of a very violent and destructive character, showing itself in a blind impulsive fury during which the patient is scarcely, if at all, conscious of his real surroundings and not in the least affected by any exhibition of restraining power. Most maniacs yield something to the show of authority when it is great enough, or evince a transient appreciation of what is said to them, but the epileptic maniac takes not the least notice of remonstrance, entreaty, or control; he yells and shrieks, knocks his body about violently, rushes furiously, strikes whatsoever or whomsoever is in his way, destroys blindly—is, in truth, sometimes a mere embodied fury; and when he comes to himself he is not conscious or has only the haziest memory of what he has done. Before the attack he is often extremely irritable, silent and surly, morosely suspicious, and is apt to strike suddenly or otherwise injure any unoffending person who comes near him—in a mood which impels him to an act of violence on the least occasion; and during it he makes the most desperate attacks without provocation and without warning. The storm is usually over in a few hours, but it may last a few days; when it is past the patient is left for a short time in a state of great mental confusion, a sort of

transitory dementia, and then comes to himself, remaining quite sane perhaps until the next epileptic attack.

In some cases of epileptic insanity the mental symptoms are those of monomania. The surly, irritable, suspicious mood gets expression in a delusion that is in keeping with it, as, for example, that some one threatens or attempts his life, and he is then a most dangerous person because very apt to defend or revenge himself in a violent way. Perhaps a vivid hallucination of sight or of hearing, in harmony with the suspicious mood or delusion, starts forth and determines or strengthens the impulse to retaliation. The morbid impulses may be either homicidal or suicidal, but are more often homicidal than suicidal, conformable to what we know of the great energy of epileptics. It is not always possible to connect the homicidal impulse or act with any definite delusion; it seems to be sometimes nothing more than a mere blind impulse to destroy; at the same time it is always difficult to be sure that there was not some obscure and vague suspicion or delusion at the time, of which the person can give no clear account afterwards, any more than the dreamer can of some of the strange impulses of his dream. The mental disorder is usually periodical at first, like the fits, coming on in connection with them, and the patient during the intervals between them is amiable, industrious, and fairly rational, although weakened in mind.

In other cases the disorder takes the form of good humour and exaltation and is then exhibited in an excessive vanity with corresponding exalted delusions, which are oftentimes of a religious character. It is worthy of notice, as Dr. Howden has pointed out, how much addicted at certain periods the epileptic lunatic in an asylum is to reading his Bible, and how frequently he evinces some such delusion as that he is actually God, Christ, or some great personage of Scripture, or that he has had revelations from one of these great personages. There is no doubt that immediately before an epileptic fit, or during the epileptic trance before normal consciousness is restored, these patients do sometimes see visions, having very vivid hallucinations, and that the remembrance of what they saw or heard may remain as positive delusion afterwards. It

is a fact of much interest in relation to the origin of certain religious creeds, the promulgators of which, being epileptic, had visions or revelations which they and their disciples deemed to be supernatural. Anne Lee, the founder of the so-called Shakers, an epileptic, had visions of the Saviour, who, she declared, "became one with her in body and spirit." Swedenborg, who professed to receive manifold holy revelations and to have habitual intercourse with the inhabitants of heaven and hell, suffered from seizures which were closely akin to, if they were not actually, epilepsy. Mahomet was epileptic, and it is not improbable that the ecstatic trances in which he saw the angel Gabriel, and, like Swedenborg, visited heaven, were of that nature: and it has been surmised that the trance which converted Saul the persecutor into Paul the Apostle of the Gentiles was of a similar character. At the present day the Siberian Schamans or medicine men, who pretend to intercourse with the invisible powers and with the spirits of the dead, and to other dealings with supernatural powers, working themselves, like the priests of the ancient Delphic oracle, into a state of frenzy in which they foam at the mouth and are convulsed, prefer always for pupils of their mysteries boys who are subject to epileptic attacks.[1] It cannot be disputed that some epileptics have that function of mind which we call imagination strongly developed in the lower walks of its exercise, and that in certain conditions of excitement it may reach an extraordinary activity of a quite involuntary kind. The interesting chapter of human history has yet to be written which shall set forth the relations between alleged supernatural experiences and the abnormal functions of the nervous system, and again between the divine fury or so-called inspired enthusiasm of the prophet (ὁ θεὸς ἐν ἡμῖν) and that extraordinary activity of its normal functions in which the whole affective and highest intellectual energies of the individual are united in some great achievement.

Hallucinations of all the senses are more frequent and more vivid in epileptic than in any other form of mental disorder. During a paroxysm of its blind fury all the senses are in turbulent commotion; there are roaring noises in the ears, bright

[1] Oscar Peschel, *Völkerkunde*, p. 275.

or crimson halos or black cloud-like spectra before the eyes, stinking or stifling sulphurous odours in the nostrils, fearfully poisonous tastes in the mouth. In the less acute and more partial forms of epileptic insanity there are commonly chronic hallucinations of the same sort; the person hears distinctly a voice which insults him or commands him peremptorily to do some deed, or sees actual figures which exhort or threaten him, or smells poisonous fumes; and these false perceptions of the senses may abide through the intervals between the fits, as well as occur immediately before them. One patient who consulted me used always to hear before a fit a noise in the ear which was just like the puffing of a locomotive engine when it starts; the noise lasted long enough to give him time to make preparations for the fit which it heralded—for example, to walk into a house, take off his collar, and lie down. Dr. Gregory has recorded the case of a gentleman in whom the paroxysm was preceded by the apparition of an old woman in a red cloak leaning on a crutch, who appeared to come close up to him and to strike him on the head with her crutch, when he instantly fell down unconscious. A few years ago a labourer in the Chatham dock-yard suddenly, without provocation, split the skull of a labourer near him with an adze; he had formerly been confined in an asylum on account of epilepsy and mental disorder; and it came out after his trial, when he had been placed in an asylum, that he believed he had received the Holy Ghost some time before the homicide, that it had come to him like a bright light, and that his own eyes had been taken out and balls of fire put in their places. In the well-known *aura epileptica*—the abnormal sensation which, appearing to spring from some internal or external spot of the body, so often precedes an epileptic fit—we have a striking example of the disturbance of general sensation and organic sensibility; and I have no doubt that a more general and violent disorder of these general functions of organic sense during a paroxysm of epileptic fury is a main condition of the person's loss of feeling of personal identity, and of the remarkable unconsciousness of what he has done during the attack. For the time being the intimate physiological sympathy and synergy of the organs of the body, by

virtue of which it is an organism, and which, as I have elsewhere argued, are the real foundation of the *ego*, are suspended; it is a chaos of abnormal sensations which are translated immediately in a chaos of irregular movements. Not unworthy of notice in this connection is it that loss of consciousness has been observed to occur soonest in those epilepsies in which the *aura* proceeds from the epigastrium, just as the most distressing paroxysms of helpless anguish and apprehension are witnessed in those cases of melancholia in which a morbid sensation appears to rise in the epigastrium and mount thence to the head.

Another form which epileptic insanity takes is dementia. It is the termination which it gradually reaches when it is not cured; as the paroxysms of derangement recur, the memory fails, the feelings are deadened and desires wane, the sensations are dull and slow, the intellect becomes weaker and weaker, and there ensues a condition of dementia which differs only from the dementia that follows other forms of insanity in the greater frequency of its hallucinations and of its outbursts of irrational and impulsive violence.

In all these forms of insanity the outlook is bad, and it is so because we cannot as a rule cure the epilepsy. Could we do that soon we might fairly expect a good result, for a considerable mental improvement has taken place in a person far gone in dementia, when by some happy chance or measure of treatment the fits have been stopped. Indeed, the mental derangement may be looked upon as the dark shadow of the epilepsy which will disappear usually when it disappears; a fact which puts it in a somewhat special clinical category, seeing that we could not justly look for recovery from a similar monomaniacal or demented form of insanity when there was no epilepsy to complicate matters. A few striking cases are recorded in which epilepsy, due to a depressed or damaged portion of the cranium by injury, was cured by the surgical removal of the injured piece of bone, and the accompanying insanity cured at the same time. The administration of large doses of bromide of potassium will suspend and sometimes cure the fits at an early stage, and will much lessen their frequency even in advanced cases; but I cannot say that I have observed permanent benefit from its

persevering use in cases of long standing epilepsy with mental disorder. Certainly the attacks may be suppressed for a time by it, but they seem to accumulate in the system until it is charged with explosive forces—very much as a Leyden jar is charged with electricity—and to burst out eventually in longer paroxysms of fearful excitement and violence, insomuch that it has seemed better on the whole to suffer them to have their natural course unchecked. Nor is the least good done in these cases by attempts to stifle or cut short the maniacal excitement by the use of large doses of chloral, opium, or any other narcotic drug. The patient may commonly be overpowered by the drug and thrown into a stuporous sleep of an hour or two if the doses given be large enough, but he will be likely to be in a worse state of excitement when he wakes, and the paroxysm will last longer in the end.

Insanity of Pubescence.

The great changes which take place in the nervous system at puberty coincidently with the development of the reproductive organs make themselves known by a complete revolution, or, more correctly speaking, evolution, of the mind. New ideas and feelings and impulses come to the individual, he knows not whence or how; there is a decided emotional ground tone of purely subjective origin, showing itself in vague longings and pleasing moods of melancholy, and craving for something objective to attach itself to. This strongly subjective mood necessarily implies a condition of somewhat unstable equilibrium of mind, which is not then in exact and adequate adjustment to its surroundings, and may well become critical. In some instances the physiological evolution of puberty passes into a pathological revolution. Moreover, as it is the unfailing tendency of the mind to project its affections outwards and to transfer them to objects as qualities—to exteriorise its states as qualities—a person at puberty who is possessed with a new feeling which craves for external attachment is apt to invest unfit objects with qualities which they are altogether destitute of, or even to create the object in

extreme cases. For these reasons it is that the development of puberty is now and then the occasion of an outbreak of mental disorder, especially where there is a strong predisposition to such disorder. Girls are more liable to suffer at this period, I think, than youths; and it is not difficult to understand why. In the first place, the affective life is more developed in proportion to the intellect in the female than in the male sex, and the influence of the reproductive organs upon mind more powerful; secondly, the range of activity of women is so limited, and their available paths of work in life so few, compared with those which men have in the present social arrangements, that they have not, like men, vicarious outlets for feeling in a variety of healthy aims and pursuits; in the third place, social feelings sanction tacitly for the one sex an illicit indulgence which is utterly forbidden to the other; and, lastly, the function of menstruation, which begins at puberty in women, brings with it periodical disturbances of the mental tone which border closely on disease in some cases, while the irregularities and suppressions to which it is liable from a variety of mental and bodily causes may affect the mind seriously at any time.

I know not that there is anything in the insanity which occurs at this period so characteristic as to enable me to give a special description of it. It may have the complexion of mania or of melancholia. In the former case, the mental excitement, which perhaps breaks out rather suddenly, is not of a very acute character, being shown rather in a ludicrous exaltation of the natural self-conceit of that age, in excitedly pert and extravagant talk, in the absence of all diffidence of thought, feeling, and of demeanour, and in restless, absurd, and mischievous acts which, having much the air of being wilful and capricious, are apt to be called hysterical. Nevertheless, when we proceed to observe them carefully, we perceive that they are too unreasoning and automatic to be entirely wilful. They illustrate that mixture of the voluntary and involuntary which is often observed at the beginning of mental disorder; which there would be no difficulty in recognising were it not for the metaphysical conception of will as an immaterial entity; and which I know not how better to describe than by such incongruous term as

"involuntarily wilful." The attacks of mental excitement may be paroxysmal, the person being apparently quite well in the intervals between them, and they are sometimes accompanied by movements which seem to be of a quasi-spasmodic or choreic nature, such as a continuous jerking of the body in a peculiar way, strange motions of the hands and arms, an extraordinary grimacing, fits of crawling on the floor, quasi-somnambulistic seizures, and the like.

In other cases the symptoms are those of melancholia: the person becomes dull and listless, is silent and moody, relinquishes occupations and pleasures, weeps perhaps without apparent reason, gets an unfounded notion that he or she is an object of dislike, or of suspicion, or of persecution, or has done something very wrong, tears clothing in a seemingly wilful and perverse way, and perhaps makes objectless starts away from home, or absurd and bungling attempts at suicide. Recovery usually takes place in these, as in the maniacal cases, when suitable treatment is put in force, but a similar attack is not unlikely to occur. Where hereditary predisposition is strong, and of a bad type, the disease may go on from year to year, the mind becoming gradually weaker, until it passes eventually into dementia; a dementia, however, which differs from ordinary dementia in the evidence which there is for a long time of clear understanding if the person can only be moved to exercise it, notwithstanding the extreme apathy of feeling, deadness of will, and insanity of conduct which are shown. It is, in fact, more a moral than an intellectual dementia.

In order to treat such patients successfully, it is necessary in most cases to remove them from home and the care of their parents, who, with the best intentions, either fail to manage them properly or positively mismanage them, and to put them under the care of some one with whom their morbid outbreaks make no commotion, and who will exercise systematically a kind and thoughtful but firm control. And that is a course which is seldom adopted as soon as it ought to be, if it is adopted at all; sympathetic parents of a like constitutional type are apt to declare earnestly that their son or daughter is peculiarly sensitive, and that they are sure it would have the

worst effect upon them to send them away from home, and so let the favourable opportunity of early cure go by. No marvel that it is so since those who instinctively keep them in the morbid train are those who bred in them the disposition to it.

The difficulty of giving an exact clinical picture of the symptoms of insanity of pubescence, of marking distinctly the territory which it occupies, so that all men may know it, is heightened by its frequent complication with self-abuse and the mental derangement which results therefrom. This vice is particularly apt to befall, and particularly injurious in, persons who have the neurotic temperament, for in them the sensibility is more acute and urgent, the power of control feeble and spasmodic in its exercise, and the consequence of the self-indulgence specially exhausting and harmful. In young women, again, the mental disturbance that occurs in connection with pubescence is often mixed up with that which is the effect of disordered and suppressed menstruation, so that it is not practicable to distinguish them. In the present state of knowledge it would perhaps be more satisfactory to make a large group of the cases of mental disorder which attest the operation of the reproductive organs upon mind, and to be then content to indicate varieties rather than to attempt to describe their features exactly. It should be clearly borne in mind with respect to these, as with respect to all other varieties of insanity, that the most important factor in the determination of their special features is not the supposed bodily cause nor the actual bodily condition, but the particular mental character of the individual, as built up by inheritance, education, and experience.

Insanity of Self-abuse.

The most striking features in this variety of mental derangement are the intense selfishness and self-conceit that are shown. The patient is completely wrapped up in self, egotistically insensible of the claims of others upon him and of his duties to them, hypochondriacally occupied with his sensations and his bodily functions, abandoned to indolent and solitary self-

brooding; he displays a vanity and self-sufficiency quite unbecoming his age and position; exacts the constant indulgence of others without the least thought of obligation or gratitude, and is apt, if he gets not the consideration which he claims, to declare that his family are unfeeling and do not understand him, or are actually hostile to him. They meanwhile urge him to apply himself to some work, seeing no reason why he should not, but in vain; he may talk largely of projects engendered of his conceit, but he is either too ill to attempt to work, he asserts, or the work which is recommended to him he rejects contemptuously as unsuitable and degrading. Without actual intellectual derangement, he presents a singular deadness of the moral sentiments and the coldest inertness of will; family and social feelings seem to be extinguished; there is no sensibility to altruistic stimuli, and no reaction therefore in answering feeling and will. Perhaps it may be looked upon as an instance of fitting retribution that the completest destruction of the moral sense should have its cause in the vicious abuse of that instinct in which it had its original root.

With the mental degradation there go in many cases, but not always, an averted eye, a dull expression, a sallow complexion, cold and clammy hands, and a languid circulation. As I have already said, a neurotic temperament is a powerful, if not an essential, co-operant in the production of the effect. The worst effects of the vice are not so much to be feared in the openly vicious as in youths who, having been brought up strictly at home, have not been exposed to other temptations, and who perhaps to all appearances have been most moral and exemplary in their conduct; insomuch that an indignant parent protests against the bare suggestion of such immorality, forgetting meanwhile in his haste that the sexual instinct has no need of instruction in order to manifest and gratify itself, and that the inclination to unnatural indulgence is not likely to be more urgent where there are frequent occasions of natural indulgence. On the other hand, schools are sometimes centres of infection.

Let it be noted with regard to these disagreeable cases of insanity that the symptoms differ somewhat according as the mental breakdown takes place very soon after puberty, that is

to say, before the sexual life has really entered into the mental life and there has been time for the character to exhibit its influence, or according as it takes place at a later period, when the ideas and feelings bear witness to the sexual evolution in mind, and the revolution of character has been carried through. In the former case we have degenerate beings who, as regards moral character, are very much what eunuchs are said to be—namely, selfish, cunning, deceitful, liars, destitute of moral sentiment, and who furthermore exhibit marked impairment of intellectual and bodily vigour; in the latter case there is not so marked and exclusive a moral perversion, but the mental derangement betrays more plainly the degradation of the sexual instinct. I propose to describe in greater detail these two classes of cases, in order to present a complete picture of the course of this variety of mental degeneracy.

Medical advice is sometimes sought concerning youths of eighteen or nineteen years of age who are causing no little anxiety to their parents. The story told is of this kind: they are not doing any good at the work to which they have been put, whether it be at school or in some business, and their masters complain that they can make nothing of them. It is not that they cannot do the work, if they really try, for they may have done it very well for a time, and can do it still when they are in the mood, but for the most part they are moody, careless, absent, forgetful, indolent, and apathetic, showing no interest and putting no energy in their task, wasting a great deal of time in doing badly very simple things, perhaps muttering or laughing to themselves, or doing silly acts in a way which makes everybody think that they do them wilfully while really knowing better. Their behaviour has all the look of bad disposition and wilful laziness, and at the outset is sure to be regarded in that light, but after persuasion, remonstrance, and severity have been tried in vain, and after the work or the master has been changed—perhaps more than once—the conviction is gradually brought home to those who have to do with them that they cannot be right in their minds. In their families they are selfish, exacting, deceitful, vain beyond measure, capricious, and passionate; entirely wanting in natural affection for

their parents, and in common consideration for others; and their pretensions and conceit are outrageous. They do not acknowledge that they are at all in fault, but make some excuse, no matter how poor, for their conduct by putting the blame of it upon others, whom they allege to be jealous of them or hostile to them, or to have injured their character by what they have said of them; or they persistently deny that they have done anything to warrant the least complaint against them; or they declare that the work to which they have been put is unworthy of their position and attainments, although they may have been put to it because they failed in higher work and the result is exactly the same whatever occupation be tried. They are much disposed to solitary ways, wandering about listlessly alone, or spending a great deal of time in their bedrooms, if permitted. The manner is usually downcast and suspicious, and it is not easy for them to look any one straight in the face; the dress may be untidy and slovenly, or foppish and expressive of the priggish conceit of their characters; the pupils are sometimes dilated, the hands often cold and clammy, the complexion is perhaps sallow, the breath bad, and the body rather thin.

Questioned about their vicious habits, they seldom confess them, and perhaps pretend not to understand what is meant. Some of them are too chaste for belief, for they will deny ever having had nocturnal emissions; others admit, when pressed hard, that they fell into the practice of self-abuse when they were at school, but will affirm positively that they have not continued it. Seldom can faith be put in their most positive asseverations touching that matter, or in their most solemn promises to relinquish the vice when they confess to it. If it be not checked, they get worse; the general suspicion of the ill-feeling or hostility of persons to them takes special forms, and they come to think that their relations or others attempt to poison them or otherwise injure them, that they are maliciously worked upon by galvanism or electricity, or that persons make offensive remarks or call out obscene or abusive words after them as they pass in the streets.[1]

[1] The extract which follows, from a letter by a father concerning a son, gives a fair notion of the early symptoms: "The case is this: the boy,

When the mental failure caused by self-abuse takes place at a later period, that is to say, after the sexual life has entered into the circle of the ideas and feelings and transformed them, the character of the symptoms evidences the transformation which has taken place. The patient is extremely shy of the society of women, and silent and constrained when in their company, but is apt to fall in love, or to think he does, with some woman with whom he may chance to be brought into occasional intercourse. If he becomes engaged to her, which is not the case often, since his so-called attachment is in the main a piece of self-flattery by which he strives to persuade himself that he is like other men, his unpleasantly close attentions betray a want of manliness of feeling and a nasty lewdness of ideas: in fact, his behaviour evinces a morbid sexual feeling, in the excitement of which he finds pleasure and to the subsequent solitary gratification of which he probably yields, and a lack of restraint or manliness which most likely means a real sexual impotence. Apprehensive of such impotence, or alarmed at the consequences of his vice, or otherwise troubled about his health, he consults medical men, whom he usually asks whether they would advise him to marry, and always wearies with stories of his dubitations respecting what he should do, and regrets about what he has not done, and with endless repetitions of his multitudinous vacillations; not in the least resolved when the matter has been well considered and apparently settled at last. He is fond of talking about getting married without having the serious intention of doing more than talk, and if he has got actually engaged he is likely enough to break off the engagement on

born in 1857, left school about three years ago, and he has been in my office and warehouse ever since, off and on. I have reluctantly come to the conclusion that his intellect is weak, perhaps from bodily weakness. He does not appear to be able to apply himself to business, is of a rather romantic turn of mind, fond of writing poetry, writes a diary, very egotistical, thinks himself far superior in mind to his brothers and sisters, has a long-continued habit of picking and gnawing his fingers, continually looks in the looking-glass, admires his face and figure, very gentlemanly if he chooses, very restless at his meals, good appetite, but bolts his food, rubs his face and hair with his hands, restless at night, sometimes crying, often laughs or rather grins at nothing, fond of the theatre, and, I suppose, thinks he could perform on the stage."

some pretext or another. Perhaps he withstands successfully for a time his vicious propensity, after the perils of indulgence have been pointed out forcibly to him, but before long he falls back into evil, and is afterwards depressed, gloomy, troubled with all sorts of anomalous sensations, and full of fancies and fears about his health. Does he get so far as to be engaged, it is when the wedding-day is to be fixed, or is fixed, that his doubts and agitations reach their height; he is anxious, full of hesitations and apprehensions respecting his fitness to marry, and puzzles and troubles his betrothed or his friends with his vacillations, his fears of incompatibility, and the like; in the end he probably breaks off the engagement, or runs away from marriage at the last moment, on some pretext of overstrained religious scruple, or because he is overwhelmed with the thought of the serious responsibility of bringing children into the world. Perhaps he discovers that the consummation of marriage is the degradation of love, and will none of it. Very remarkable is it what a strain of exalted sentiment and lofty idealism is professed in some of these cases: the world is too coarsely selfish and rudely practical for their fine sensibilities and nice aspirations, and notwithstanding that they are sunk in a degrading self-indulgence, and perhaps emasculated by it, they will pour out loftily pitched moral sentiments, and take it hotly to task in high conceited fashion for its low aims and gross ways. They may project some great mission of social reform without true practical resolve, as they have abundant self-conceit without self-knowledge, a spasmodic sort of self-will without true will, a thin intellectual eagerness without breadth and calmness of understanding, a morbid intensity of self-feeling which they mistake for altruistic feeling. It is a mistake which many medical men make to recommend marriage to these persons in the hope of curing them, for seldom does anything but sorrow and misery come of it. Marriage is by no means a certain cure; the confirmed sinner has little desire or power of natural intercourse, finding no pleasure in it; the indulgence of a depraved appetite has destroyed the natural appetite. Coldness and indifference to his wife, discord, quarrels and threats of violence, separation from bed or house, suicide, and even

madness are more probable results of such a marriage than domestic peace and happiness.

Up to this point one can hardly pronounce these persons to be actually insane, although they are far on the road to insanity. Some of them remain for several years in the state described —perhaps for the rest of their lives—without getting worse, improving even as age increases and passion wanes. When matters go on from bad to worse and actual derangement cannot be disputed, this is the state of things: the feelings and conduct are more deranged than the understanding; they exhibit an intense conceit of self in a quiet or in a priggish and offensive way; large discourse concerning their superior feelings and aims which other people are too gross-minded to appreciate; paralysis of moral feeling with, at the same time, excited enunciation of exalted sentiments that are the expression of their assumed superiority in noble feelings and aspirations; a disorder of intelligence not manifest in actual incoherence, save when they are in a passion, but in outrageously exaggerated notions of their own dignity and importance, and ultimately perhaps in positive delusions of persecution by reason of the envy and jealousy of their relations and others who are inferior to them. The patient has the insolent conceit to write to his mother perhaps as "madam," to declare that his brothers shall bow down to and honour him, and to lecture his father, whom he considers to be much his inferior in intellect and moral feeling, on the lowness of his aims and the insufficient respect which he shows him. Some of these patients betray by their gait, by a turkey-like strut, the vanity with which they are inflated; others shuffle about in an indolent and apathetic way, with slouching gait and slovenly look, and head bent towards the ground: the former evince, so to speak, the convulsion of conceit, the latter the paralysis of self-respect. When they are challenged with their vicious practices, or are rebuked for some impropriety of conduct, or hurt in their pride in any other way, they may, if not dead to any touch of feeling, explode in stormy outbursts of offended dignity and angry abuse, intermingling a great deal of religious rant with their abusive and incoherent raving. Hallucinations are common: they hear voices which

interfere with their thoughts, reply to or comment upon them, continually say ridiculous, abusive, or obscene things, and perhaps make offensive accusations against them; they see insults in innocent gestures, and imagine that people make grimaces at them in the streets; they have strange morbid bodily feelings which, caused really by their enervating vice, they ascribe to mesmeric, electric, or other mysterious agency; and some of them fall from time to time into a sort of trance or ecstasy, a quasi-cataleptic state in which they see visions that are perhaps of a religious character. Homicidal and suicidal impulses are not at all uncommon, and are the cause of much mental distress; for they arise in the patient's mind against his will, and although he is quite aware of their nature, he is terrified by them and fearful that he may some day succumb to them. It is seldom, however, that patients of this class do yield to such impulses; they are for the most part too fearful of pain to hurt themselves, and too wanting in resolution to hurt others.

When, degeneration going on, they reach the last and worst stage of degradation, they sink into an apathetic state of moody and morose self-absorption with extreme loss of mental power. They sit or lie all day, or saunter lazily about, muttering or smiling to themselves, lost to all healthy feeling and human interests, slovenly and dirty; if they enter into any conversation, they probably reveal delusions of a suspicious or obscene nature. They believe that they are subjected to strange influences which sap their vigour, especially during the night, and perhaps declare that persons get into their rooms while they are asleep, and indecently assault them or perpetrate unnatural offences upon them; their perverted sexual passion still gives the colour to their thoughts. So they linger on, pitiable wrecks of degradation, from year to year, becoming weaker in mind and body, until they die from complete nervous prostration or from some intercurrent disease to which they fall easy victims at last.

Such is the natural history of the physical and mental degeneracy which is produced in men of a certain neurotic temperament by solitary vice. Certainly it is a sad picture which I have painted, but the colours are not exaggerated. Let

it be noted once more that there must be the temperament as well as the vice in order to have this characteristic degeneracy produced. In another sort of temperament the vice is the exciting cause of an attack of ordinary acute mania or melancholia, and it is certainly sometimes practised for a long time without any mental ill effects. It must be confessed that there is little to be done for persons whose minds have once become seriously affected. If they can be constrained by any means to relinquish the vicious habit at the beginning of their troubles there is good hope for them ; but if not, they will not eschew it at a later period, for with the decay of mind they have less and less desire and power to overcome an ever-present temptation which has become stronger through habitual indulgence. Again and again I have known the best considered means, moral and mechanical, which anxious ingenuity could devise and the most patient care apply, to be brought to bear upon cases of this kind in order to rescue them from themselves, but seldom with a success that was worth the pains. Were it legitimate in any case to entertain or express the feeling that the sooner a degraded being becomes the nothing that he was the better for himself and for the world which is well rid of him, it would be so here. But the worst wrecks of humanity have these uses at any rate—that they teach a scientific lesson by their study, and nurture humane feeling by the care which they exact.

It is not certain that the vice in women produces a form of mental disorder so characteristically featured as in men, or that it is so injurious to them. But I cannot doubt the existence of a variety of mental disease in them, having some special features, which owes much of its origin to sexual causes and is usually accompanied by this vice. A young lady begins to lose her interest in her accustomed occupations and amusements, which she abandons; is depressed and weeps at times without apparent cause, and is uncertain and capricious in her behaviour; complains of strange and distressing bodily sensations; ceases to exhibit affection or consideration for her parents and others near and dear to her, whom she afflicts by her perverse moods, her capricious temper, and her self-will; perhaps she forsakes their society in order to spend a great deal of time in

her bedroom, where she occupies herself for long periods without weariness in doing nothing or in doing very trifling things; or she pertly insists upon pursuing an independent course of action which is not befitting her sex and position. The state of matters is oftentimes worse during the menstrual periods. Nothing more than this painful change of disposition and caprice of conduct may be noticed at the outset, but in the end morbid fancies of some kind are evinced: she imagines perhaps that her hands are soiled whenever she touches anything, and must be continually washing them, or has a tormenting fear that her clothes are infected with insects and must be all day inspecting and brushing them; she gets some peculiar word or ridiculous thought into her mind and is distressed because she cannot get rid of it, and fancies that it has some indecent hidden meaning; she declares that she cannot do some very simple thing, and that she suffers agonies in consequence of her inability; she believes that some gentleman whom she has met, but who has hardly even spoken to her, is in love with her, and has been hindered by her friends or others from proposing to her, and accordingly throws herself in his way or even writes him affectionate letters. Perhaps the morbid idea is that she is followed and watched by persons who say offensive things of her and call her improper names; and that they have contrived some extraordinary seeing or hearing apparatus by which they can watch or listen to all that goes on in her room. Patients of this class are apt to make unfounded charges of attempts upon their virtue, and have sometimes written secretly with diabolical cunning a series of letters containing the most abominable accusations against innocent persons. Sometimes the patient gets the delusion that her soul is lost because of her wickedness, and has paroxysms of weeping and seeming despair; but it is noticed that the misery is not of that deep, genuine, and continuous kind which usually accompanies that delusion it is inconstant and is mixed up with a great deal of hysterical caprice and waywardness of conduct, which perhaps also discovers an erotic flavour. In the midst of what would seem to be the most acute distress, when she is so prostrate with grief as to appear to notice nothing or is sobbing as if her heart must

break, she will take quick perception of the situation by a sharp glance or will look up quite calmly and make a suitable answer. She does no work, is extremely irritable and passionate, uses bad language, perhaps threatens her mother, and speaks of suicidal ideas. Anomalous sensations or actual pains in the head, side, or other parts of the body are complained of, and lead to all sorts of strange doings for their alleviation. Whilst her daily conduct is such that those who live with her and see her from hour to hour have not the least doubt that she is downright insane, persons who see her only for a short time or receive quite sensible letters from her may not notice anything wrong. As matters get worse, there are more paroxysms of greater excitement, which may be accompanied by much screaming, more wilful perversity of conduct, less and less evidence of natural feelings, increasing weakness of mind, and perhaps a delusion that she has had a baby or has been accused of having had one.

If these patients are taken in hand by suitable persons and firmly handled at the beginning of their illness, they may be restored to health of mind. But it is necessary to remove them without delay from among their relations, whom they can affect by their tears, distress by their caprices, frighten by their threats, master by their self-will, to the care of strangers who will exercise a watchful supervision and a firm control over them, strive with patient insistence to engage them in work of some kind and in interests outside themselves, and systematically oppose to their wayward moods and morbid caprices the surroundings of a healthy tone of thought and feeling and an orderly activity of life. If they are placed where they perceive that their peculiarities stir no commotion and are not permitted to disturb the quiet order of the household, and where there is everything about them to arouse and foster healthy feeling and activity, they are infected slowly by the surrounding tone, and the inclination to indulge their morbid feelings and whims decreases gradually until it becomes a greater pain than pleasure to do so. If, however, they are not taken firmly in hand, but, being thought to be only hysterical, are suffered to go on at home from week to week and month to month without proper control, as commonly

happens, they slide by an easy descent into incurable dementia; the real gravity and ominous import of the symptoms being out of all proportion to their seeming insignificance. Were mind-slaughter an indictable offence, many a too affectionate parent would have to stand his trial for an unwise indulgence of feeling against the stifled convictions of judgment.

Although I have described this form of mental derangement in women under the head of insanity of self-abuse, inasmuch as the vice certainly prevails in most cases, I should be loth to say that a similar mental breakdown does not happen sometimes when there is not sufficient reason to suspect its existence, as the effect of a developing and unfulfilled sexual life upon a certain nervous temperament whose stability it overthrows. These cases in women differ from the corresponding cases in men in this—that while the latter seem to care not for women and shyly avoid them, being satisfied with secret self-indulgence, the former evince often by their feelings and conduct a desire for men. But the difference is not so real as it appears on the surface. Sinners of the male sex shrink from female society not so much because they actually dislike it, as from an extreme shyness and self-distrust; they have not the courage to pay attentions to a woman whom in their hearts they would like to address; instinctively they feel themselves to be unmanned; their vicious indulgence has deprived them of the source of energy and manliness which emboldens the male to a confident address. On the other hand, female sinners who show an inclination towards men sometimes exhibit quite an opposite feeling when they have become engaged or have been married; they may break off the engagement or display an acute repugnance to sexual intercourse, which they refuse, or fall into melancholy or mania; and a marriage which was perhaps schemed and made with infinite cunning as a means of cure serves only to make plain their sad state.

Hysterical Insanity.

Without doubt hysterical symptoms sometimes run on by degrees into actual insanity, but considering how common a disease hysteria is, it must be confessed that this issue is rare.

More often certain forms of mania, especially those that occur in connection with sexual development, present what are called hysterical features. Mention has already been made of the strange and extreme moral perversion shown by such hysterical young women of a nervous temperament as imagine that their limbs are paralysed and lie in bed or on a couch day after day, pretend that they cannot speak at all or can speak only in feeble whispers, affirm that they never pass water and that they live without food, exhibit strange substances which they protest they have passed by the bowel or otherwise, fabricate so-called *stigmata* or singular diseases of some kind. It seems probable that their extremely perverted moral state has its principal or an actively co-operating cause in the effect of some condition of the reproductive organs on the brain, since it so frequently occurs in young unmarried women, presents erotic features, and is likely to be cured outright by marriage. What is the actual condition of things underlying the temperament which is designated *hysterical*, I know not, nor shall I venture to conjecture; it shall suffice here to direct and claim attention to the profound moral disturbance which it may undoubtedly occasion.

Hysterical mental disorder in other instances is of a much more active kind, taking the form of acute mania. Then we shall notice great excitement and restlessness of somewhat noisy and tumultuous kind, with laughing and constant chattering; the patient perhaps recognises those who address her and calls them correctly by their names, but instantly runs off into incoherent and voluble talk; if asked to show her tongue she thrusts it out and draws it back rapidly, hardly interrupting her turbulent flow of talk, or refuses pertly, perhaps bursting out into wild laughter, or saying or doing something of an indelicate character. In her best moods she is apt to be mischievous—will incontinently kick the washhand basin, bath or other utensil over out of a pure spirit of mischief; but her laughing and good-humoured jabbering are likely to alternate with periods of irritability, weeping, and ill humour, and with fits of screaming when her humours are opposed. And opposition cannot be avoided, since she may ring the bell continually if she can get at it, tear her clothes, expose herself indecently, attempt to run out

of the house and do similar illegitimate things. Perhaps she will suddenly throw herself back on her bed or on the floor and lie there motionless in a sort of quasi-cataleptic state in which she seems to be insensible to impressions; or she falls into paroxysms of violent shudderings in which all the voluntary muscles are spasmodically contracted, the contractions, which have the air of exaggerated voluntary action and of having been wilfully set a-going, being accompanied with consciousness. The habits are apt to become unclean. Sexual excitement reveals itself sometimes in her eyes, in her gestures, in her speech, even in the odour of her body, and she is apt to speak of persons being in love with her, of being married, of having babies and the like. Mixed up with the erotic features in some cases is no little religious exaltation, and the incoherent talk shows that those passages in the Bible which bear on the secret relations of the sexes have not been overlooked.

Recovery takes place in the greater number of cases of this form of acute mania when it is taken vigorously in hand at the commencement, and then usually within three months of its outbreak. The prognosis becomes unfavourable when it subsides into a subacute phase and goes on from month to month with alternating periods of excitement and moody apathetic depression; it is unfavourable also when the mania is recurrent, as it is somewhat apt to become. When the disease is going the wrong way the mind is gradually weakened and the decline is into dementia.

The late Dr. Skae proposed to class a group of cases of mental derangement under the designation of Amenorrhœal Insanity, meaning thereby to bring together those in which the suppression of the menses was the immediate and essential cause of the disease. He did no more, however, than sketch vaguely the outlines of the symptoms of this proposed clinical variety, and I have failed to perceive that his outlines are in the least characteristic. Without doubt an outbreak of insanity may follow a suppression of the menses and be directly due to it, disappearing with the return of them, but I know nothing in the symptoms of the derangement so caused to distinguish it from mania or melancholia otherwise caused. The features, so

far as they are special, are determined by the temperament of the individual and by the state of his mind and body at the time, rather than by the exciting cause of the outbreak. It is common enough for the menses to be irregular or suppressed in acute insanity, the derangement of the function being an effect, or a concomitant, or one among other co-operating conditions of the insanity; but he must be an acute observer who can detect the difference between the effect produced upon the features of the mental disease by the suppressed function when it is looked upon as concomitant rather than cause, accidental rather than essential, and the effect produced by it when it is thought to be the immediate and essential cause. Certainly we cannot venture to classify the varieties of insanity by their supposed causes. The characteristic features of the clinical varieties which have been just described as occurring in connection with sexual development bear witness in the main to two predominant bodily states rather than to a special cause in each case—namely, first, to the youth of the patient, whence the liveliness, the wilfulness, the laughing incoherence, the tumultuous energy when the disease is maniacal, and the conceit, the ignorant pretensions, and the moral perversion and caprice when it has a melancholic form; and, secondly, to the irruption and activity of the sexual system, whence the erotic features.

Puerperal Insanity.

This might be described as prepuerperal and post-puerperal. A woman sometimes falls insane during pregnancy, and although it is probable that she who does so has inherited a strong predisposition to the derangement, one naturally looks upon the bodily condition as the exciting cause. Proof of the remarkable effects which pregnancy can exert upon the mind is afforded by the strange cravings and longings for particular articles of food and by the morbid fears which pregnant women not unfrequently display during its earlier months. On the other hand, I have met with three instances in which women who were melancholic when not pregnant became cheerful and apparently well when they fell into that condition. The form which the

mental derangement of pregnancy most often takes is melancholia, and those women are most likely to suffer from it who have married late in life, and whose system, having lost much of its suppleness, is less able to accommodate itself to the new conditions. Its features do not differ specially from those of melancholia otherwise caused: there are often vague apprehensions and fears, despairs and suicidal feelings. Recovery takes place in the greater proportion of cases; some, however, decline into dementia; and in a few cases the morbid depression, having continued up to parturition, has been then followed by an outbreak of acute insanity, commonly acute mania. One cannot justly look forward to that event with the sanguine hopes that are commonly entertained in such case; a gradual recovery during pregnancy is worth more than the most confident anticipations of a sudden recovery at its termination.

Puerperal insanity is the name properly given to that form of mental disorder which comes on within a month or two after childbirth. When it comes on within a fortnight of delivery the symptoms are usually maniacal; when after the lapse of a fortnight they are most often melancholic. The mania is of an acute, turbulent, and incoherent kind; the patient being noisy, restless, sleepless, and evincing very little method in what she does, and very little coherence in what she says; she snatches at anything near her, tosses the bedclothes off, starts up and will not remain in bed, catches up in a quick but utterly meaningless way a word or two of what is said to her or in her hearing, whirling it into the chaotic turmoil of her speech, and not unfrequently exhibits some lasciviousness of thought and behaviour. Hallucinations of vision are betrayed by the way in which she stares at imaginary objects or speaks to imaginary persons, and by the gross mistakes which she makes respecting the identities of persons about her, whom she calls by wrong names and perhaps addresses in familiar or even endearing terms, although they are strangers to her. The bodily symptoms accord not usually with the violence of the mental disorder, the pulse being often quick, small, and irritable, the face pale, drawn, and pinched, and the general condition feeble. Suicide may be done in a purposeless way; it is then rather an incident in the

unreasoning fury of her behaviour than a designed or even clearly conscious act. If her child, incautiously left in her charge, falls a victim to her frenzy, the homicide is an act of much the same character. One lady whom I saw was not aware, after her recovery from an attack of acute puerperal mania, that she had borne a child; and another lady could not be persuaded, when she had recovered, that the child which she had had was hers, and although she suffered it to be brought up with her other children, and afterwards bore a child which she made not the least doubt to be hers, she held to her opinion with respect to it and never showed it a mother's affection.

Puerperal mania furnishes a large percentage of recoveries, generally within from three to six months from the outbreak of the malady; where it lasts some months longer the outlook is unfavourable. As the excitement subsides it sometimes leaves behind a good deal of confusion and apparent feebleness of mind—a hazy, dreamlike, or demented-looking state—from which the patient awakens by degrees to restored reason. Complete recovery coincides oftentimes with the normal return of the menstrual function.

I have nothing special to say concerning the features of the melancholia that occurs soon after parturition. The depression, which begins with dislike or suspicion of husband, nurse, and those about her, is generally accompanied with suicidal impulse, and in not a few cases there starts up out of the morbid gloom a strong impulse to kill her child—an impulse which, notwithstanding the horror which it causes her in the first instance, is not unlikely to be carried into effect if the child be not taken from her care. Nor is there anything special to be said of the melancholia which, occurring at a later period after parturition, has been described as the *Insanity of Lactation*. It is preceded by symptoms of cerebral exhaustion and general prostration—headache, ringing in the ears, dimness of vision, flashes of light before the eyes, and a general feeling of weariness and debility; and it appears mostly to be due to the bodily exhaustion produced by suckling, in conjunction often with depressing moral influences. In most cases there is good reason to anticipate a timely recovery if suitable measures be taken to restore the

bodily strength by putting a stop to the debilitating drain and by giving good nourishment, and to revive the mental tone by removing the patient from depressing influences and giving her the benefit of rest of brain and change of scene.

Climacteric Insanity.

This is the name given to the mental disorder which befalls in women at the so-called change of life. During this crisis of their lives they commonly suffer more or less from various anomalous feelings of bodily distress, and from some depression or discomfort of mind—symptoms that bear witness to the disturbance of the circulation and of the nerve functions; and some of them go through much suffering before their constitutions are adjusted to the new conditions of life. It is the time too when the age of pleasing is past, the desire of man being no longer to them; wherefore if the life has been one of empty vanity and habitual self-indulgence, and the wish to be an object of desire and flattering attention remains, the unwelcome proof of their decline is a trial which they do not bear well. Thus mental and bodily causes may work together to produce a morbid depression of mind. An insane jealousy, having its root in the apprehension of the extinction of the power to provoke desire, sometimes shows itself in an extremely exacting form, in unfounded suspicions of a husband, in gross accusations of unchastity, in much violence of passion and conduct; and a habitually indulged propensity to alcoholic stimulants, which may have been taken in the first instance to relieve the feelings of mental depression and bodily sinking, makes more frantic the paroxysms of jealous fury. This sort of insane jealousy is certainly not special to the climacteric period; it may be met with before that change in women who have lived the sort of life of self-indulgence to evoke and foster it; but it is most likely to break out or to be greatly exaggerated then. The gratification of a selfish passion is like the gratification of a liking for stimulants; the appetite grows by what it feeds on, and the doses necessary to produce the pleasing effects must be progressively increased, until in the end such a state of moral and physical deterioration is

produced that the largest doses only avail to palliate a distress which is declared to be unendurable without them.

When the mental disturbance incident to the climacteric change goes on to unquestionable insanity—and there is almost always a hereditary predisposition when it does—the disease has the melancholic form. In many cases a vast and overwhelming apprehension of some great but undefined impending calamity is exhibited in a terror-stricken countenance, in constant agitation of behaviour, in frequent ejaculations of distress; the patient is sure that something dreadful is going to happen, but cannot in the least explain what it is she fears. Or there may be such vague delusions as that the whole world is in flames or is turned upside down, that everything in it is changed, neither person nor thing remaining the same, that her memory and other faculties are gone, that her soul is doomed to everlasting torment in hell. She is many times curiously conscious of her state, so much so that while holding firmly to her delusions she perhaps admits herself to be a proper subject of medical care, and declares that she ought to be sent to an asylum in order to prevent her from doing harm to herself or to others, at the same time that she expresses a great horror of such a procedure, and protests that it will drive her out of her mind entirely and that she never can be restored to her former state of comfort whatever be done. "It is all in vain; you don't believe what I tell you; but I know something unspeakably dreadful will happen to me—oh dear, oh dear!" is the wearisome burden of her exclamations. Suicidal feelings are sometimes very strong, and persistent refusal of food may necessitate forcible feeding. As many as half of these cases may be expected to get well if properly treated, but not always quickly; the disease is apt to last for a considerable time in some of them before recovery takes place.

Some authors suppose that there is a critical period in men between fifty and sixty years of age, corresponding to the climacteric change in women, and that they also suffer sometimes from a climacteric insanity. It is certain that there is no such abrupt and marked physiological change in men as is natural to women, but it is not improbable that a similar constitutional change takes

place in a more gradual way and is spread over a longer period. When a man has made self-gratification the sole or main interest of his life, and in pursuit thereof has indulged the sexual passion to excess, and when he finds his interests gone by the extinction of desire, he is without aim or pleasure in his self-indulgent life, and may well fall, if he is of a decided nervous temperament and has a predisposition to mental disease, into a morbid melancholy. In such event the melancholy is sometimes of an extremely hypochondriacal nature: he complains of anomalous pains in all parts of the body which he describes as causing him the greatest agony; of the absence of all appetite for food, although he eats very well; of habitual sleeplessness, which others do not observe; of inability to exert himself to take exercise, and of the frightful suffering which he endures afterwards if he forces himself to do so, notwithstanding that he may plainly enjoy the exercise at the time, always however without admitting that he does so; he protests that he cannot remember, cannot read, cannot employ his mind in any way, although his faculties show themselves as acute as ever they were when he can be lured to exercise them, or when he exercises them on his own account, as he does more frequently than he pretends; and he is continually uttering his fears that he will go out of his mind, and begging to be told candidly whether he will or not. Whatever be the subject of conversation started he brings it round to himself, and is never wearied of relating the story of his torturing sensations and assuring his listener what agony he endures every moment of his life. Call his attention to an ache or a pain which he has not, and next day he will have it. Although he may be gifted with a mind of superior powers in some respects, and is clearly conscious of his state and earnestly anxious to be delivered from it, he cannot get out of himself and interest himself in anything but his sufferings: his morbid self is the one thing alone which he cares to talk about. When, after the long detail of them, he has received all the encouragement and assurance that can be given him, he begins again telling the same story and asking the same questions, just as if nothing had been said. His afflictions are assuredly genuine, however much they

may have the air of being magnified and systematically nursed; they are so unceasing that he oftentimes thinks and speaks of suicide, and so insupportable sometimes that he makes a desperate attempt at suicide in one of his paroxysms of distress. I knew one gentleman suffering in this way who on one occasion threw himself over the bannisters of the stairs from the second floor of his house into the hall, injuring himself seriously, and on another occasion thrust into his abdomen a knife which he had concealed. Both attempts were unsuccessful.

I do not wish to describe this sort of extreme hypochondriacal melancholia as exclusively climacteric, since it may certainly occur at an earlier period of life, especially where sexual pleasure and power have been exhausted prematurely by excesses, but it is perhaps most often met with in connection with that constitutional change. I am apt to think that in many cases of the kind there is a commencing degeneration of the coats of the arteries, of an atheromatous nature, whereby the proper nutrition of the brain is hindered, and that this degeneration is a more potent cause of the mental depression than the sexual change. As the sufferer pours out his tale of woe, one notices perhaps a twisted artery with rigid coats winding over one or the other of his temples, and feels that if that outward and visible sign of decay of structure is a mark of the state of the small arteries within the brain, there is little hope that he will be delivered from the gloom which envelopes him. However, the arterial degeneration is certainly not observed in all cases.

Senile Insanity.

It is in this form of insanity that we are most likely to find atheromatous cerebral arteries, which, if they are not directly the cause, are at any rate the mark, of a real decay of brain. Miliary aneurisms, which have been described in at least one case, are strong proof of arterial degeneration. Shrunken convolutions, and serous effusion under the arachnoid to fill up the void made by the decay and absorption of nerve-elements, result from, and bear witness to, the defective nutrition. With

the decay of brain goes a corresponding decay of mind, the symptoms of which are characteristic. They may be described as the exaggeration of the natural decline of mental faculties which often accompanies the bodily decline of old age.

The symptom which attracts first and most notice is an impairment of memory, particularly in respect of recent events; these are perceived correctly at the time, but are not retained; although they may have appeared to arouse proper interest when they happened, they are clean gone from the mind in a day or two, or in an hour or two, or in extreme cases the moment afterwards, while long-past incidents are talked of as if they were affairs of yesterday. The memory is long-sighted, so to speak, seeing not what is close at hand, but seeing fairly well what is distant. This persistence of past memories with the loss of recent ones is the cause of a striking want of congruity between the habitual thoughts and the actual circumstances of daily life, and gives to the patient's conduct an air of greater imbecility than it actually warrants. If his attention be actively roused by some stimulus and the facts be put quietly and clearly before him he may apprehend them correctly and even pass a sound judgment upon them, notwithstanding that he may not, if questioned a few days or some hours afterwards, be able to give a good account of what he said or did, and may incontinently babble of something which took place twenty years before. The next step in the course of his brain-decay is an impairment of the power of perception, in consequence of which he fails to apprehend correctly what occurs and to recognise familiar persons and places: he mistakes trains of ideas belonging to the past for present perceptions, talks as if he were now in a place where he has not been for years, and supposes a person whom he sees for the first time to be some one whom he knew years ago. Not recognising one whom he had formerly known quite well, he will inquire of him after his own health as if he were making the inquiry of another person; he will express his surprise that somebody who has been dead for a long time does not come to see him; will ask the same question over and over again within a few minutes, forgetting instantly on each occasion that it has been asked and answered. There are considerable variations in

his mental capacity at different times according to variations in his bodily health; he may remember an incident one day which he had clean forgotten the day before, or mistake the identity of a person to-day whom he will perhaps recognise to-morrow.

As decay proceeds it effaces more and more the lines of mental function; memory and perception are nearly extinct; the patient knows not those who are constantly about him, and forgets instantly whatever happens. His brain can neither receive nor register impressions. Its past registrations, which persist after recent ones have been effaced, are disorganised, so that he jumbles together persons and events in the most confused way, his talk is fragmentary and incoherent rambling, and his conduct has no relation to his external conditions. He gets up in the middle of the night, insisting that it is day, or goes to bed at midday believing that it is night; imagines that he is occupied in work which he has not touched for many years, or wonders why he is not so occupied, and blames angrily those whom he supposes to be hindering him from setting to work; seems perhaps to understand a very simple question when it is slowly and plainly put to him, so as to give time for the sound of each word to reach his apprehension, and begins a reply which, his attention breaking down after the first word or so, becomes utterly confused and meaningless; or he cannot comprehend in the least what is said to him, and says something that is altogether irrelevant and incoherent. In many cases there are morbid suspicions or actual delusions that he is being robbed or maltreated, or that some great injury is to be done to him, and the paroxysms of noisy excitement which occur in consequence are a great trouble to those who have the care of him. His social feelings are involved with his intelligence in the common "ruin of oblivion;" all the feeling which he shows being anger at the supposed injuries done him, or an outburst of the tears of dotage from time to time. Oftentimes his habits are uncleanly. At last he dies, the machinery of his organism completely worn out.

It is interesting to compare these symptoms of mental decay with the symptoms of failing mind that are natural to the decline of old age. Then the sharpness of the senses is blunted,

especially those of sight and hearing, and when the old person appears to hear what is said it sometimes takes an appreciable interval of time before the sensation of sound reaches the chamber of apprehension. Responsive vibrations are less easily excited and more slowly conducted. The energy and suppleness of mind and body are likewise lessened; he is more circumspect and cautious, more dull in apprehension, more slow in ideas, more measured in his language and in his movements; his memory fails him and his judgment is impaired, being slow and hesitating. Hence there is an appearance of greater prudence and wisdom than are really possessed, since people are apt to mistake the slowness of judgment and gravity of manner for sagacious deliberation. However good in counsel, the old man is bad in execution where decision and vigour are required. His interest in current events wanes, he cannot assimilate new experience, which therefore makes only a fleeting impression upon him, and he shrinks from new enterprises; being truly in a state of gradual dissolution, it is natural that he does not take an active part in a process of evolution; he lauds the past, concerning which he has the memories of interest and policies and achievements, finds no such giants living nowadays as when he was in his prime, and wonders what the world is coming to with its revolutionary changes. Moreover there is the beginning of that decline of the moral faculties which reaches extinction in senile dementia; peevishness and quarrelsomeness, avarice, excessive vanity, obstinate self-opinion, dictatorial self-will, loss of moral enthusiasm and moral courage, cynicism and misanthropy are modes in which the moral decline shows itself. When one contemplates the daily suffering which the old man lagging superfluous on the stage inflicts sometimes upon those who are under his sway and forecasts the amount of good which his obstructive self-opinion prevents being done, it needs a moment's reflection to check the upspringing regret that his disappearance from the scene must be left to the slow operation of natural decay. How often does the vain and suspicious victim of senility take up an unreasoning prejudice or dislike, rising perhaps to an insane animosity, against some honest relative or former friend, or an excessive and not less unreasoning liking, amounting to

infatuation, for some adventurer, relative or not, who flatters his foibles! Here then we have the initial stages of the lines of mental degeneracy which end in the phenomena of senile dementia—failure of memory ending in its extinction; dulness of apprehension ending in loss of power of perception; wane of interest in what is going on ending in incapacity to appreciate the surroundings; slowness of ideas and hesitation of judgment ending in incoherence and fatuity; decay of moral feeling ending in drivelling suspicions and tears of dotage.

Although senile dementia usually comes on by a gradual decay, as I have described it, in some cases it is ushered in by a period of mental excitement which gives the patient a transient and fictitious appearance of energy and capacity. He shows great mental exaltation and self-confidence, transacts business in a sanguine and reckless way that is quite the opposite of his ordinary sober and prudent ways, broaches projects or launches into speculations of a transparently foolish character which he cannot be persuaded are not excellent, indulges freely in alcohol, associates with low company, and visits or goes about openly with women of loose character, although hitherto a grave and reverend senior; impatient of advice or opposition, he repudiates social ties and resents all attempts at interference or control, is irritated and angry with his family who try to check his follies, and occasions them no little perplexity and distress by his doings. When the excitement expires, as it sometimes does suddenly, he falls into a state of dementia.

There is another form of senile insanity which I have observed particularly in old women, and which I take leave to describe as *senile melancholia*. They are acutely depressed and show extreme distress at whatever is proposed, wander up and down their room or the house in restless agitation, cannot be persuaded that they are not ruined and soon to be turned destitute into the streets, or that some other dreadful calamity is not impending over them and their relations, repeat the same exclamations of grief, or keep up a continual moaning, varied only by wild shrieks or yells of acuter anguish. Frequently they refuse food frantically, thinking it to be drugged or poisoned, or declaring it to be filth or carrion, or even the flesh

of their relations, or protesting that they cannot swallow it. They are remarkably quick in perception and exact in memory, notwithstanding their delirium, being much more conscious of what is going on about them than they seem to be; are extremely suspicious, passionate, and wilful withal, striking, scratching, or pinching their attendants, whose needful services they resist; use perhaps such bad language as it is a surprise they should ever have known—language which is sometimes very obscene, and accompanied with indecent, dirty, or grossly immodest acts. What one notices specially in these cases is the extraordinary moral perversion that is mixed up with the depression, giving the appearance of extreme wilfulness to their behaviour, the gross extravagance of the horrid ideas which come into their minds and force themselves out into their speech—surprising themselves suddenly perhaps in the first instance and causing them to shriek out in a panic of distress—the sexual excitement manifest in the ideas and acts, and withal the singular clearness of their understanding when the mind can be lifted for a moment out of its morbid groove. In some the excitement rises to such a height that they do not sleep, cannot be got to take necessary nourishment, and die at last from exhaustion; in others it subsides, and the disease continues in a more chronic form. In no case is the forecast favourable.

This concludes what I have to say concerning the features of the varieties of mental disorder that occur in connection with processes of bodily development and of bodily decline—Evolutional and Dissolutional forms of derangement, as any one may call them who thinks to throw light upon obscure phenomena by giving them big but undefined names written with initial capital letters.

Phthisical Insanity.

Under this name Dr. Clouston has proposed to group a class of cases in which insanity and phthisis make their appearance nearly at the same time in the patient, and the features of the former malady are somewhat modified in consequence. I question, however, whether the peculiar neurotic temperament which is so often met with in phthisical persons has not much more to

do with the features of the mental malady than any deposit of tubercle, especially as it is acknowledged that phthisical insanity, so called, may befall in persons of the phthisical diathesis who have no symptoms of local tubercular deposit.

Without doubt many phthisical persons exhibit features of character in some respects peculiar. They are quick, irritable, fanciful, and changeable, eager in project and impatient of opposing delays, very idealistic, but unstable of purpose, brilliant in flashes, but wanting in breadth and calm depth of thought, and in methodical and steady perseverance; quick in insight and intense in energy, they see the project of the hour and press for its realisation as the one important thing in the world, and in a short time perhaps are engaged with as eager interest and abandonment in some other project; there is something fitful in their projects, in their energy, in their moods, in their displays of imagination—a sort of hectic in their thoughts, feelings, and actions. As the end of life's fitful fever is neared, the whims and wanderings of the mind merge into a transitory delirium, and the fancies become almost delusions. Very notable too is the singular hopefulness which is shown in the disease even to the last, notwithstanding that the continuity of the sanguine feeling is often interrupted by passing intervals of despondency; day after day the patient speaks hopefully of himself as better, although he presents plainly every token of the steady progress of his disease, and when within the very shadow of death may discuss a change of life, and project what he will do in years that will never come to him.

The insanity which occurs in connection with phthisis cannot be said to have very distinctive symptoms. It may have the form of mania, of melancholia, or of monomania, and it is the general course of the disease rather than any special feature of it which has attracted notice. The acute stage, when there is one, whether it be maniacal or melancholic, is of very short duration, and does not run on into the ordinary chronic malady, nor into distinct dementia, but lapses quietly into an irritable, excitable, moody, and suspicious state without any fixed delusion, which is a sort of mixture of subacute mania and dementia. The suspiciousness is thought to be the feature which is most

constant, and the most characteristic by itself; indeed Dr. Clouston believes that nearly all cases of pure monomania of suspicion will be found to be phthisical. When there is no acute stage at the beginning, the derangement comes on in an insidious way, showing itself by irritability, waywardness, and caprice, with progressive weakening of intellect, but without any marked excitement or depression. Later on the increasing irritability may pass into brief attacks of excitement with impulsive acts that have a demented character, and later still the symptoms of dementia increase. But the appearance and conduct of these patients are calculated to suggest the notion of a greater dementia than actually exists; they will make from time to time fitful displays of intelligence of which they might well be thought incapable, and in them there happens more often than in other patients a momentary revival of intelligence before death. The oncoming of insanity seldom benefits the phthisis: in a few cases certainly it is followed by the arrest of the phthisis and the disappearance of its symptoms; in more cases the mania and the phthisis seem to take turn and turn about, the one being active while the other is in comparative abeyance; but in most cases the phthisical symptoms are only masked by the mental symptoms, the disease going steadily on the while. The prognosis is bad in phthisical insanity; in the few instances in which recovery takes place it is where there is no actual deposit of tubercle, or where the deposit has only just taken place.

It is beyond doubt that we do meet with cases of mental derangement presenting the features just described as phthisical, but I should be loath to affirm on the one hand that we do not meet with similar mental features where there is no suspicion of phthisis and no known predisposition to it, and on the other hand that they will be met with in all cases of insanity complicated with phthisis. It is probable that we have to do essentially with a peculiar neurotic temperament, which undergoes actual derangement in partial consequence of the enfeebled nutrition of tuberculosis, and I doubt not that if we had the same temperament acted upon by some other cause of deteriorated nutrition to produce mental derangement it would

present the same features; indeed we get something very like them sometimes in the insanity of the thin artistic temperament, and in the insanity caused by self-abuse in conjunction with a certain neurotic temperament. Still if the features described are most often observed in connection with phthisis, it will be convenient to gather the cases into a separate clinical group provisionally, and to call them by a name which marks their most constantly observed relation.

Syphilitic Insanity.

It is customary nowadays to speak of a group of cases by this name, the practical justification of the custom being that their pathology, their causation, and their proper treatment are at once indicated thereby. If what cures the syphilis will cure the insanity it would be a pedantic conceit to reject so useful a grouping simply because it was not scientific enough. Let it be admitted that there is no symptom which is characteristic of this sort of insanity, and will enable us to distinguish it on all occasions, as it must in candour be, it may still be maintained that when we look to the entire course of the disease, observing how the symptoms begin, their character, how they are associated with and succeed one another, and how they end, there is good reason to warrant an empirical grouping of the cases, apart from the help in diagnosis which we get from the history and from the old signs of syphilis.

The order of events in a case of syphilitic insanity I conceive to be of this kind: the patient has suffered from constitutional syphilis, and is much distressed by deep-seated headaches, which are increased by movement and are worse at night; the scalp is perhaps tender when pressed, and the headache even increased thereby. He is deeply dejected, destitute of energy, incapable of undertaking his work, in a state of great alarm about himself, and extremely sensitive to noises and to sudden impressions of any kind. The nights bring no refreshing rest, but rather an aggravation of his sufferings; he is sleepless, not from pain in the head only, but even when he has not pain enough to prevent sleep; or if he does sleep, it is in short snatches from which he

awakes sometimes in a state of trembling alarm, hardly knowing whether he has slept, or even where or what he is, so that he almost dreads to fall into such unconsciousness again. There is the greatest prostration without fever; loss of appetite, with vomiting sometimes but without gastric disorder, is marked; rapid emaciation takes place, and the pulse is irregular and often slow.

The eyes should now be examined by the opthalmoscope in order to see whether there be optic neuritis; if there is, then the presence of a syphilitic product in the brain is very probable; it is practically certain, according to Dr. H. Jackson, if the neuritis existed before the illness became acute. Next some signs of sensory or motor disorder are likely to show themselves —to wit, paralysis of sensation or of motion in eyelid, muscles of eye, face, or other part of the body—since the paralysis may implicate a single nerve, or be hemiplegic, or be more or less completely general—blindness, giddiness, and difficulty of muscular co-ordination, spasms, and even epileptiform convulsions eventually. Up to this point we may consider the disease to be in its first stage, and the sufferer may recover after a time without any further bad symptoms. But if he gets worse he begins to lose his memory, and the other faculties of his mind undergo serious impairment; there is an increasing stupidity, which passes soon into deep dementia. Outbursts of mania and of melancholia interrupt the steady mental decline in some instances, and it is not very uncommon for it to be accompanied by symptoms of progressive muscular paralysis so like those of general paralysis of the insane that the one disease may easily be mistaken for the other. The mistake is particularly likely to be made when besides the mental weakness there are delusions of grandeur, as is sometimes the case. Epileptiform and apoplectiform attacks usually occur in the later stages, and there is little hope of recovery when they do; there is barely a hope warranted when the patient has become profoundly demented. Still the exceptional occurrence of a quick and an unlooked-for recovery now and then in what seemed the worst condition of things may preclude absolute despair. The syphilitic product (*gumma*) in the brain to which the symptoms are due is more likely to be absorbed than a tumour of another kind.

We have no reason to suppose that the syphilitic gumma acts differently from what any other tumour or morbid deposit in its position, and increasing at the same rate, would do, and every reason to suppose that the symptoms which it causes, so far as they are special, are characteristic of cerebral tumour, not of syphilitic tumour in particular. It probably either acts as a centre of irritation, exciting the neighbouring parts of the brain to morbid activity—delirium and convulsions; or it encroaches steadily upon them, occasioning destruction of function—dementia, coma, and paralysis; or it appears sometimes to produce a thickening of the coats of the small cerebral arteries, by the deposit of plasma in them, and so to lead to the production of thrombosis, which will then act just as thrombosis in the same position but otherwise caused would do. In considering the pathological meaning of the symptoms it must of course be borne in mind that a destruction of a part of the brain may not only cause *directly* the positive symptoms due to loss of its function, but may be the *indirect* cause of abnormal activity in another part by withdrawing the controlling or inhibiting influence which one member of the intimate physiological union exercises upon another.

The diagnosis will rest mainly upon a previous history of syphilitic symptoms, and upon the marks they may have left behind them; upon the occurrence of the disease at an age when a similar nervous derangement from other causes is unusual; upon the absence of any other discoverable cause of disease; upon the irregular character and the disorderly association and sequence of the various symptoms, mental and bodily; and upon the successful results of specific treatment. Albeit then the syphilitic deposit produces no specific nervous symptoms, there is usually something in the general course of syphilitic insanity which is not quite what is observed in the cases of other cerebral tumours, and is calculated to raise a suspicion of its nature.

In one who has suffered from a previous attack of mental derangement, or who has inherited a strong predisposition thereto, it has happened that an outbreak of acute mania has taken place at the same time as the secondary symptoms of syphilis have made their appearance. But there is nothing special about

the mania in such event; it is merely that a brain strongly predisposed to derangement has been overthrown by a particular constitutional disturbance, as it might be overthrown by another disturbance. In like manner when mania occurs after syphilitic epilepsy, as it does sometimes, there is nothing special in its symptoms. It has been alleged that in such cases the mania most often follows those epileptic paroxysms in which loss of consciousness occurs not at the commencement of the attack, but as a later event—in which, therefore, the mischief presumably does not begin in the supreme cerebral centres.

Alcoholic Insanity.

It is a fixed popular opinion, but a popular error, that when a person's mind gives way in consequence of alcoholic intemperance he must have delirium tremens. Without doubt he may have delirium tremens, but on the other hand he may have a genuine acute mania that has no character of delirium tremens about it. Persons who have been previously insane, or who have suffered an injury to the head which produced severe symptoms at the time, or who have had a sunstroke, or who have inherited a strong predisposition to insanity, or who are epileptic—persons in fact who have a natural or acquired undue irritability and instability of brain—are liable to have their irritable and unstable brains upset by slight alcoholic excesses and to do very strange and eccentric things in consequence, or even to compromise themselves by some act of impulsive violence: perhaps they give themselves up to the police as the perpetrators of an undiscovered murder which has made a great sensation; or commit some indecent offence which brings them into a police court; or inflict serious injury upon some one against whom they have conceived an unfounded suspicion, only realising the gravity of what they have done when they come to themselves after the effects of the alcoholic disturbance have passed off. The little self-control which they have, owing to inherent weakness of brain, is easily abolished, the co-ordination of its functions overthrown, and with it that consciousness of personal identity and responsibility which is its highest expression.

After a prolonged alcoholic debauch the mental derangement may take the form of acute mania—the true *mania a potu* so-called—which is usually of a noisy and destructive character, but differs not in essential features from mania due to other causes. In some instances the derangement is melancholic, but I am inclined to think that *melancholia a potu*, as it might be called, is most likely to occur in persons whose health has been impaired by long continued excesses and insufficient nourishment, and who are obliged to forego their drinking without getting better nourishment.

The symptoms of *delirium tremens* are tolerably characteristic, and I need only recount them briefly here. Premonitory of its outbreak are feelings of lowness of spirits and debility, nausea and vomiting in the mornings, loss of appetite, little sleep, and that little disturbed by frightful dreams. The person dreads to face his work, is anxious about his affairs, agitated by the least unusual occurrence, oppressed by gloomy forebodings, and is described as excessively nervous; his hands shake on occasion of the least mental agitation, and his tongue is tremulous and coated with a soft whitish fur. Upon these symptoms follow mental excitement and delirium, the delirium being generally characterised by great agitation and alarm; there are hallucinations and illusions, the patient seeing rats and mice running about the room, snakes crawling over the bed, or having terror-striking visions of threatening objects. His restlessness is extreme and he gets no sleep. He talks almost incessantly, but says little that is sensible. His hands, which are in constant tremulous motion, he moves over the bed-clothes as if seeking for something, or thrusts out as if to push back the vermin that he sees invading his bed. The pulse, which is quickened, is small and compressible at the wrist, but full and throbbing in the carotid arteries, the heart's action violent, and the breathing panting and irregular. In general he is manageable, though restless, but sometimes he is violent and hard to be controlled; and he may even jump out of the window, if not prevented, either in pursuit of phantoms whom he imagines to threaten him or in his terrified efforts to escape from them. After three or four days of this delirious horror he falls into a sound sleep and

recovers, if the issue be favourable, or sinks into a low muttering delirium and dies, if the issue be unfavourable. When the attack is over there is great mental and bodily feebleness in all cases, and in a few cases the mind is found to be not quite clear; it is more or less confused, troubled with morbid suspicions, and perhaps with hallucinations of hearing, and prone to suicidal impulses. This occasional after-effect is most likely to be seen where there was a predisposition to mental derangement, and most likely to be got rid of by abundant exercise in the open air, entire change of scene, and variety of occupation and amusement. If the hallucinations of hearing persist notwithstanding these measures, doubts of complete mental restoration gather and thicken.

Delirium tremens might be described justly as an *acute alcoholism*, since there is also a *chronic alcoholism* which is characterised by the slow and gradual development of similar symptoms—in truth, a chronic delirium tremens which is called the insanity of alcoholism. Premonitory of it are the same sleeplessness, the same motor restlessness, the same nausea and want of appetite that go before delirium tremens. Instead, however, of the rapidly rising excitement, the changing hallucinations and delirious incoherence then following, there is great mental disquietude with morbid suspicions or actual delusions of wrongs intended or done against him, of wilful provocations and persecutions by neighbours, of thieves about his premises, of unfaithfulness on the part of his wife and the like; suspicions which are frequently attended with such hallucinations of hearing, of sight, of tactile sensation, as threatening voices heard, insulting gestures or mysterious signs seen, electric agencies felt. In this state a violent tempered man, resolved to be even with the scoundrels whom he declares to be persecuting him, sometimes does sad deeds of violence. Recovery usually takes place if the patient is resolutely prevented from getting alcohol. His hallucinations disappear first in the daytime, being as bad as ever perhaps during the night; then they are less vivid at night, being most marked in the stage between sleep and waking; next they are no more than bad dreams or nightmares, and at last they go entirely. The order of their

disappearance is the opposite of their order of occurrence. Unfortunately the recovery seldom lasts; inasmuch as the patient goes back to his indulgence as soon as he can, the chances are that he has other attacks, and that in the end his mind is permanently impaired. His memory is so damaged perhaps at last that it has no more hold of recent impressions than that of one who suffers from senile dementia; his understanding is enfeebled and even childish; his moral sense is blunted or destroyed, so that he loses all feeling of moral responsibility, and becomes cunning, cowardly, untruthful, and untrustworthy; and his will is so deteriorated that he has not the least control over himself in respect of indulgence in drink. Muscular unsteadiness and trembling go with these signs of increasing mental debility, and there is oftentimes sensory dulness or actual sensory and motor paralysis of the limbs; on which account he cannot hold firmly with them, perhaps dropping helplessly what he takes into his hand, or lies in bed because he cannot use his legs to walk. At the same time one cannot help feeling sometimes that he could grasp better and make more use of his legs if he would exercise more will. In some cases there are epileptiform convulsions from time to time—perhaps many in succession—which are accompanied with much albumen in the urine. This condition of mental impairment may be brought about gradually by a steadily continued course of excessive drinking in some persons, and especially in women, without any of the hallucinations and delusions of persecutions that go before it in other cases. At a later and worse stage the patient is completely demented, his mind being thoroughly disorganised; he utters the most incoherent nonsense in a whining tone, and has the most extravagant hallucinations and delusions —as, for example, that the most extraordinary scenes occur in his room, that knives and broken glass are coming out of his flesh, that insects are crawling between his flesh and skin, that people cut up his body, carry him away at night, and the like. The mental deterioration is so great that he resembles not a little in mental symptoms a person who is in the last stage of senile dementia.

The insanity produced by alcohol is instructive, for it exhibits

in more rapid sequence a train of symptoms very like those of ordinary idiopathic insanity, so-called, and exhibits them in a case where we can clearly trace the operation of a physical cause. We know of a certainty that the alcohol is absorbed into the blood, that it is carried by it to the brain, and that it acts there directly upon the nervous tissue, from which indeed it may be extracted again when it has been taken in quantity. Its first effect is to stimulate the tissue and cause increase of activity, but in the end it produces degeneration of tissue and destruction of function. Let it be noted too that it acts equally perniciously upon the different nervous centres, motor, vaso-motor, sensory, and ideational, the collective symptoms of this impartial action giving its peculiar physiognomy to alcoholic insanity.

Dipsomania is a well-marked form of mental degradation, if not of actual mental derangement, which shows itself in a fierce morbid craving for alcoholic stimulants and is greatly aggravated by indulgence. Had alcohol never been tasted by the individual the desire would probably have slumbered, but once indulgence has awakened the desire, it flames quickly into an uncontrollable craving. The outbreaks are commonly paroxysmal—at longer intervals of a year or so, or at shorter intervals of two or three months, or even more often still in bad cases. The victim of this drink-craving does not, like the ordinary drunkard, get drunk in company, and then become sober, remaining so until the next early and convenient opportunity of getting drunk again, but he goes on drinking recklessly day after day, often in secret, when he has broken out into a debauch, and does nothing else but drink until he can take no food, suffers from persistent vomiting, and is compelled to stop because his stomach rejects instantly whatever he swallows. One is forced to recognise disease rather than vice in the spectacle when one takes note of the many instances in which men and women of good means, in high social position, and having perhaps superior intellectual endowments, abandon themselves from time to time without restraint to orgies of pure drunkenness, notwithstanding the most solemn resolutions to abstain which they may have made when they were sober and in their right minds; reckless

of consequences, defiant of all social proprieties, to the ruin of themselves and their families, consorting during their paroxysms with the lowest of the low, and sinking to the meanest shifts and the basest degradation in order to obtain the means of gratifying the craving. When the paroxysm is over they are sad and penitent, dilapidated and wretched, bitterly self-reproachful and full of good resolves, and return to their social sphere to perform their duties with regularity and propriety until the next outburst takes place. In their sane intervals of sobriety these persons oftentimes evince no unusual inclination to stimulants, and are perhaps exceedingly moderate in what they take; yet when the craving comes upon them, as it seems to do with gathered force after a period of sobriety, they yield unrestrained submission to it, and go through the same miserable experience as before. Their moral nature is thoroughly perverted while the paroxysm is on them; they are given over to deceit and lying and cannot in the least be depended upon, and the wife may evince violent dislike of the husband, or the husband a hatred of his wife.

The malady calls to mind recurrent mania and epilepsy—first of all, by its common periodic character; secondly by the profound change of moral character with which it is accompanied; thirdly, by the exact repetition which one paroxysm is of another in its mode of onset, in its features and in its course; and lastly, by the permanent deterioration of mind which it produces in the end when it goes on unchecked. And it commonly does go on without effectual check, since the restraint necessary to do any good cannot be legally enforced. It is true that the persons may be persuaded sometimes to place themselves voluntarily under control, and that they will submit to it so long as they are in their sane moods and do not therefore need it, but the chances are that they evade or repudiate it when the craving comes upon them and restraint is truly needed. The condition is undoubtedly oftentimes hereditary, or the outcome of a neurotic temperament, some ancestors or relatives having suffered either in the same way or from some other nervous disorder.

CHAPTER X.

THE MORBID ANATOMY OF MENTAL DERANGEMENT.

BEFORE going on to describe the morbid cerebral changes which have been met with in mental disease some preliminary considerations of a general character will not be amiss, the less so as one is compelled to begin with the acknowledgment that there may be no morbid appearances at all. This absence of discoverable physical changes where marked mental disorder has existed necessarily renders a chapter on morbid anatomy the most barren chapter in a book on mental pathology. A patient dies raving mad, and yet the examination after death shall not perhaps disclose the reason why he was mad or even why he died. To conclude thence, however, that nerve element does not subserve mental function, or is not affected when function is affected, is to make a hasty and unwarranted inference. At present we know nothing whatever of the intimate molecular constitution of nerve element and of the mode of its functional action, and it is beyond doubt that important molecular and chemical changes may take place in those inner recesses to which our senses have not gained access. The cerebral nerve-cells are minute laboratories—chemical and physiological—in which not only are the most complex chemical processes in the world carried on unceasingly, but vital processes also which, materialising experiences in structure, condition or determine their intimate constitution. And yet all these processes are hidden from our present means of observation. Where the subtilty of nature so far exceeds the subtilty of human investigation, to conclude from the non-appearance of change to the non-existence thereof

would be just as if the blind man were to maintain that there were no colours, or the deaf man to assert that there was no sound. Justly then may we with Pinel rather doubt the sufficiency of our senses than believe that mental disorder can exist without any physical disorder in the brain, and rest in the certitude that in the fulness of time a means will be discovered to penetrate the yet inscrutable recesses of nerve life, and to make known the physical conditions of its functional manifestations. That it is now a region of uncertainties and obscurities may be taken as promise that it is the destined field of future discoveries.

There are many facts to prove that serious modifications in the constitution of nerve element take place without any other evidence of them than we infer from correlative changes of energy. After severe and prolonged mental exertion there ensues exhaustion, which may be so great that the brain is utterly incapacitated from further function; a large increase of phosphates in the urine bears witness to the disintegration of nerve; the individual is, so far as power of active life is concerned, almost a nonenity; and yet neither microscopist nor morbid anatomist would succeed in discovering any difference between the nerve substance of his brain and the nerve substance of the brain of one who, after due rest and nutrition, was prepared for a day of vigorous activity. The sudden shock of a powerful emotion has produced instantaneous death, just as a stroke of lightning has, and perhaps in the same way; but neither in the one case nor in the other may there be any detectable morbid change. If the electric fish is persistently irritated so as to be made to give forth shock after shock, the excessive expenditure of energy leaves it utterly exhausted, and it can give no more shocks until its powers have been restored by rest and nutrition; its nervous centres have plainly undergone a considerable modification, though we know not the nature of it. Instead of arterial blood send through the brain blood heavily charged with carbonic acid, and the victim of the experiment must inevitably die; but no one can describe the secret change that has been produced in the composition of the nerve element. Without killing a person outright, it is possible, by causing him to breathe a mixture of one part of air and three parts of

carbonic acid, to render him as insensible to pain as if he had inhaled chloroform; but it is the gross result only that is recognisable by our senses. In this regard, however, the experiments of Lister on the early stages of inflammation are of some interest; for he showed that carbonic acid produced a direct sedative effect upon the elements of the tissue, paralysing for the time their vital energies; the effect being transient, and the tissue recovering its energy after a considerable time. The experiment brings us to the individual elements of the tissue, but no farther; it tells us nothing of the more intimate changes that take place in them. It is obvious that the difference may be the difference between life and death, and yet there may be no appreciable physical or chemical change.

As regards morbid appearances in cases of insanity, there can be no question that the instances in which they are not found become less frequent as investigation becomes more searching and efficient; and those who are best capable of judging, and best fitted by acquirements to give an opinion, are those who are most certain of the invariable existence of organic change. When a morbid poison acts on the body with its greatest intensity there are fewer traces of organic alteration of structure met with than in cases where the poison has been milder and has acted more slowly; and so likewise organic change of nerve element in insanity, appreciable by the imperfect means of investigation which we yet possess, may justly be expected only when the degeneration has been going on for a long time. In truth I might not unfitly speak of the morbid changes as (*a*) *ascopic* or *intramolecular*, they being matters of faith, not of observation; (*b*) *microscopic*, that is, such as are disclosed by the microscope; and (*c*) *macroscopic*, or changes that are visible by the naked eye.

The many careful and important researches into the physiology of nerve which have now been carried on for several years have made it more easy to conceive the existence of undetectable organic changes, albeit they have not revealed their nature. They have been of real service, moreover, in freeing the consideration of the supreme nervous functions from those vague metaphysical conceptions which the notion of mind as an

exalted spiritual entity and of brain as its humble instrument have reflected upon them, and in making them fit subjects of scientific inquiry by bringing them into the category of organic processes. With the perfecting of present and the discovery of new means of minute investigation, it is probable we may have in time to come an evolution of knowledge of nerve-function not unlike that increased knowledge of the heavens which followed the invention of the telescope.

One of the first things that has been made clear thus far is that time is as essential an element in the intestine motions of nerves as it is in the motions of the heavenly bodies. A definite interval is necessary for the propagation of a stimulus from the peripheric ending of a nerve to its central ending in the brain; and when the stimulus has reached the brain, there is an appreciable interval, about one-tenth of a second, before the will can transmit the message to the nerves of the muscle so as to produce motion. This time-rate of conduction varies in different persons and at different periods in the same person, according to the degree of attention; if the attention be slight, the period is longer and less regular, but if the attention be active, then the period is very regular. But whether the attention be great or little, a certain time must elapse from the moment of irritation of a sensory nerve to the resulting contraction of muscle; and a message from the great toe to the brain will take an appreciably longer time than a message from the ear or face. There is a considerable delay in crossing the spinal cord by the stimulation in a simple reflex action; according to an experiment by Helmholtz, more than twelve times the time required for the transmission of a stimulation through the sensory and motor nerves is required to cross the spinal cord. The time-rate of propagation, again, is greatly dependent upon the temperature of a nerve; cold very much diminishes it, so that the speed may be ten times less in a cold than in a normal nerve; and in a cold-blooded animal, like the frog, the rate is only about 80 feet in a second, while in man it is about 180 feet in the second. Haller first proposed to measure this speed of nervous action, and made a calculation of it in man which was not very far from the truth; but after him no one seems to have attempted

the task, and Müller even pronounced it impossible, because the time seemed to him infinitely little and unmeasurable. In experiments on frogs poisoned with opium or nux vomica, he could not perceive the slightest interval of time between the stimulus applied and the resulting muscular contraction. However, the rate of conduction by nerve has now been found to be not only measurable, but comparatively moderate—not to be compared with the infinitely more rapid motion of electricity and light, less even than the rate at which sound travels, about the same as that of an eagle's flight, and only a little quicker than the speed of a racehorse or of a locomotive. Instead of nervous action being due to the instantaneous passage of some imponderable or psychical principle, conduction by a nerve depends upon a modification of its molecular constitution, for the production of which a certain time is essentially requisite.

The attempts which have been made to ascertain the time required by the brain for a volition have shown clearly that it also is a measurable period, and that it differs according as the person is prepared beforehand or not for what he has to voluntarily respond to: thus, for example, Jaager found that when he received an electric shock on one side, knowing beforehand that the shock was to be on that side, the interval between it and the answering signal given by him was about $\frac{20}{100}$th of a second; but if he did not know beforehand on which side the shock was to be, then the interval between shock and respondent signal was about $\frac{27}{100}$th of a second, that is to say, a difference of $\frac{7}{100}$th of a second. There can be no question that there is a considerable variation in the time in which the same mental functions are performed by different individuals, in consequence of original constitutional differences, and by the same individual at different times, owing to transitory conditions of the psychical centres. No one who has done intellectual work but knows the vast difference in the rapidity, ease, and success of it according to good or ill moods. "There is," says Locke, "a kind of restiveness in almost every one's mind. Sometimes, without perceiving the cause, it will boggle and stand still, and one cannot get it a step forward; and at another time it will press forward, and there is no holding it in." The oppression of mental

suffering is notably attended with great sluggishness of thought, the train of ideas seeming to stand still, and even perception being dull and imperfect. In some forms of mental disease this defective association is well marked, whilst in others a certain sort of association is wonderfully quickened, so that ideas follow one another with extraordinary rapidity, or like-sounding words are strung together in the most incoherent rhymes. In many cases of affection of the brain, as in recovery from apoplectic seizure and in senile decay, a considerable time must elapse between a question asked of the patient and his reply: there is, so to speak, a deafness of the mind, which both perceives and reacts more slowly than is natural.[1] The time-rate of the function is probably the measure of the molecular activity which is the condition of it.

But there are other physiological discoveries which may help eventually to build up some conception of the physical conditions of mental activity. The researches of Matteucci and Du Bois Reymond into the electrical relations of nerve have shown that there are currents of electricity engendered in nerve, as in other animal structures, which are constantly circulating in it. When the nerve going to a muscle is transmitting to it the stimulus to contract, there is a diminution of the nerve's proper current, and the needle of a galvanometer connected with it exhibits a negative variation. In like manner sensation has been proved to be accompanied by a negative variation of the nerve-current. Matteucci supposed that there was a rapid succession of electric discharges from nerve and muscle during activity, and although that supposition has not been confirmed, there can be no doubt that the negative variation of the needle of the

[1] "Every one must have noticed the slowness, as well as difficulty, with which the tongue is put out, the eyelids raised, or words uttered by patients in a semi-comatose state. It seems as if a certain time were needed, either for concentration or transmission of nervous power, before the intended action can be begun; while so much labour is necessary in pursuing it, that I have repeatedly observed perspiration breaking out from the continued effort to raise a palsied arm, and an exhaustion to follow, such as might ensue in health upon violent muscular exercise of the whole body. How striking the contrast here to that instant and free effort by which action is evolved almost simultaneously to all sense with the external impression producing it, though various mental and bodily operations actually intervene."—Sir H. Holland, *Chapters on Mental Physiology*.

galvanometer marks a decrease in the electromotive force of the nerve, and that this decrease is in some way "intimately related to that molecular change in the interior of the nerve which when it reaches the muscle will produce contraction, or when it reaches the brain will be received as sensation." It is to be borne in mind that every minute particle of nerve acts according to the same law as the whole nerve ; the current, therefore, which a piece of nerve produces in a circuit of which it forms part is to be considered only as a derived portion of incomparably more intense currents circulating in the interior of the nerve around its ultimate particles. There is thus certain evidence, not only of electro-motor properties of nerve, but of a modification of these during functional activity: such modification again testifying to an intimate change in the polar molecules of the nerve.

The results prove clearly enough that nervous functions are not to be embraced in any metaphysical conception, nor dismissed as inexplicable. Conduction by nerve is a measurable process of molecular movement; the proper electrical current of nerve is diminished during its excitation, and its intimate molecular constitution modified ; and there seem to be reasons to suppose that its excitation is in close relations with those chemical oxidation changes which are known to take place in it during activity, rendering its reaction acid, and giving rise to similar products of retrograde metamorphosis to those which are produced by muscular activity. A complete and adequate theory of nerve-function must take into account, and account for, all these phenomena. But it is difficult to see how any physico-chemical theory will ever embrace all the phenomena of nervous function. Certainly life is a great deal more than physics or chemistry, or than physics *and* chemistry, as physics and chemistry are known to us at present; in the functions of the nervous centres there are such vital acts of assimilation of experiences and their structuralisation by nutrition as no physics and chemistry that we yet know of can in the least approach unto. But while no person in his senses will pretend to set forth a physico-chemical theory of the mood of a lover, of the imagination of a philosopher, of the delusion of a monomaniac, it is not a whit less unwarrantable to fly incontinently to the conclusion that such

mental phenomena are independent of physical organisation; it does not follow that they have not a material basis because they are not physical and chemical; and it is beyond doubt that they are as essentially dependent upon nerve-structure as the movement of a limb is upon its muscles, whether any more spiritual than it or not. How is it that those persons who look down with scorn and contempt on the doctrine of materialism from their high intellectual and moral platform have not hitherto invented a spermatozoic soul to have and account for those wonderful latent potentialities which, albeit the spermatozoon plainly has them, they are unable in the least to detect in its material substance?

When we consider that one molecule of nerve-element is probably more complex in constitution than the entire solar system, and that we have not access to the observation of its intricate intestine movements, so far from its being surprising that there are no visible morbid appearances in some cases of insanity, the wonder is that they should have been expected. If a distinct sensation of smell is caused by $\frac{1}{1300000}$ gr. of oil of resin, as has been calculated, and even by a still smaller quantity of musk, it is surely no little inconsistent to look with the naked eye for the physical condition of psychical disorder and to talk of a pathological classification of mental disorders. The microscope must be used in order to observe the spermatozoon and ovum—minute and almost homogeneous substances to look at—which nevertheless contain in some mysterious fashion those multitudinous qualities of parents and ancestors that are subsequently developed in the mental and bodily characters of the offspring or, lying dormant in them, are transmitted through their spermatozoa or ova to another generation. Whosoever is clever enough to discover and describe the physical basis of the multitudinous qualities that are latent in the spermatozoon may perhaps succeed in discovering and describing the physical basis of a monomaniac's morbid suspicion, and of the warped thought of a person predisposed hereditarily to insanity.

The foregoing considerations explanatory of the absence of detectable morbid changes in some cases of insanity are entirely borne out by our experience of such severe nervous diseases as epilepsy, tetanus, hydrophobia, and neuralgia. Not the least

change after death in any one of these instances may be found to account for the furious storm of symptoms during life, not even when the disease has been the direct cause of death. And just as it is certain that epilepsy or tetanus or neuralgia may be caused by an eccentric irritation, and be therefore a reflex or sympathetic disorder, so it is certain that in some cases an attack of mental derangement, being provoked and kept up by disease elsewhere than in the brain, is also essentially reflex or sympathetic. When a deep melancholia disappears almost instantly after the putting right of a prolapsed uterus it is obviously right to look upon the mental disorder as reflex ; and in such case we certainly should not expect to find, had we the opportunity to examine, morbid appearances in the brain. But this sympathetic melancholia may be quite as severe in its symptoms as melancholia otherwise caused : why then think it strange if there are no morbid appearances in the latter case ?

In this connection it is important to bear in mind that the reflex transmission may take place along different channels—not from sensation to motion only, but also from sensation to sensation, from motion to sensation, from motion to motion, and from sensation or motion to nutrition. A molecular change in the interior of a nerve being set up by the primary irritation, whatever and wherever that be, is carried to any part with which it is in connection by continuity of nerve-structure; when the molecular agitation reaches a motor centre it is reflex movement or reflex paralysis ; when it reaches a sensory centre it is reflex or sympathetic sensation ; when it reaches the supreme ideational centres it may occasion reflex disorder of thought, feeling, and will; when it reaches the interior of a gland it may modify the intimate processes of secretion, and so cause a reflex derangement of secretion ; and when it reaches a part which is not sensitive, which does not contract, which does not think, feel, or will, which does not secrete, it may still give rise to a perversion of nutrition or a so-called trophic derangement. Let me give examples : When severe pain is felt along the spine after a fit of sudden and violent coughing, when the throat tickles after speaking for a long time, when facial neuralgia is increased by muscular exertion, the reflex is from motion to

sensation; when pain in the knee is felt in disease of the hip-joint, when facial neuralgia is caused by toothache, when the pain of a toothache is felt in the opposite tooth to that which is carious, the reflex is from sensation to sensation; when the muscles of a paralysed limb in a hemiplegic patient contract during some emotional or voluntary act in which the corresponding muscles of the opposite limb take part, it is from motion to motion; when the suppuration of a gland in the neck is kept up by a carious tooth, disappearing soon after the tooth is extracted, the reflex effect is shown in nutritive disorder. But in truth the various symptoms of the protæan disease, hysteria, furnish examples of all these varieties of reflex action, if we look upon them, as for the most part perhaps we may, as mainly the effects of the operation of the reproductive organs upon a somewhat unstable nervous system: we meet with deranged thought, moral perversion, impaired will, abnormal sensations of all sorts, spasms or convulsions, vaso-motor irregularities and disordered secretion and nutrition in different cases, and often enough in the same case. Let it be noted as probable that the reflex action may be both directly through nerve upon the elements of the tissue or indirectly through the vaso-motor system.

There remains yet another matter to be taken into account in explanation of the absence of discoverable morbid changes in insanity, before passing from the subject—namely, the local disturbances of circulation, which, present during life, may have disappeared after death. I am inclined to think that most writers on insanity have laid too great stress upon the vascular changes in the brain and its membranes which are undoubtedly frequently met with in connection with insanity, in so far as they have looked upon them as primary agents in initiating and keeping up mental disorder; in most cases they might more justly have set them down as effects of prolonged mental disturbance.

The truth is that the first step in insanity probably is, as it is in inflammation, a direct change in the individual elements of the tissue, the change in the blood-vessels being secondary. Take, for illustration, the early steps of inflammation: by the observations of Professor Lister it has been made evident that in the

case of mechanical or chemical injury to some part the elements of the tissue are directly injured; they are brought to a lower state of life, and their functional activity is impaired; as a consequence of the injury the elements are brought nearer to the condition of ordinary non-living matter, the blood-vessels dilate, and the corpuscles of the blood exhibit a tendency to stick together in the neighbourhood of the damaged part, just as they do when brought into contact with ordinary matter after being withdrawn from the body. The dilatation of the vessels is produced indirectly through the nervous system. Observation of the effects of irritants upon the pigment-cells of the frog's skin confirmed these views in an instructive way: Mr. Lister found that when irritants were applied in such a mild form as to cause little or no derangement of the blood, they did nevertheless produce a certain degree of loss of power in the elements of the part to which they were applied; for there took place a diffusion of the pigment in the cells, which he declares to be "the visible evidence of diminished functional activity accompanying, if not preceding, the earliest approaches to inflammatory congestion," and corresponding with arterial dilatation. Experiments with carbonic acid proved that it had a powerful sedative effect upon the tissues themselves, paralysing their vital energies so as to give rise to intense inflammatory congestion, which, however, was transient; even in amputated limbs, in which there was of course no circulation, the tissues recovered after its action, so that, as the restoration of the action of cilia separated from the body might indicate, the "tissues possess, independently of the central organ of the nervous system or of the circulation, or even of the presence of blood within the vessels, an intrinsic power of recovery from irritation, when it has not been carried beyond a certain point."[1] From which researches it appears that the earliest condition of inflammation is some damage to the elements of the tissues and a more or less complete suspension of their functional activity, whatever be the cause; and it is evident also that the walls of the blood-vessels are more or less deprived of their vital endowments when inflammation is set

[1] "On the Early Stages of Inflammation," by J. Lister, F.R.S. *Philosophical Transactions*, vol. xxxi. 1858.

up, as they then allow fibrine to pass readily through, though they repel it in health. These experimental results have confirmed the opinions of those philosophical pathologists who gave due weight to such phenomena as the immediate effects of mechanical and chemical injury of a part, the growth of blood-vessels in the primordial development of parts, and the increased action of one kidney and the sequent increased afflux of blood when the other is destroyed or rendered incompetent.[1]

Bearing well in mind these observations respecting the intrinsic action of the tissues, it is not difficult to perceive how damage to the nerve elements of the brain, however caused—whether from overwork or emotional anxiety, or some poison in the blood, or sympathetic irritation, or direct injury—may immediately manifest itself in disordered function: the nerve element is brought to a lower state of life, and exhibits its deviation from the normal state by a disturbance of function. And as in inflammation a dilatation of the blood-vessels, a determination of blood, and an adhesion of its corpuscles follow the local mischief, so here a disturbance of the circulation follows, and in its turn becomes the cause of further mischief. One may perceive also how it is that, when there is an innate feebleness of nerve element in consequence of hereditary taint, insanity is produced by causes that would have no such baneful effect upon a soundly constituted brain; for the weak element is more easily brought to a lower state of life, and is then of course less able to contend with the vascular troubles that gather round it and overwhelm it.

When a dog is poisoned with strychnia, there are perhaps no appreciable morbid appearances in the animal's body; but if any are found they are congestion of the spinal cord, aneurismal dilatation of the capillaries, and perhaps small effusions of blood in the grey matter. Now the congestion or effusion of blood in such case is plainly a secondary result of the intensely morbid activity of the nerve elements upon which the strychnia directly acts. Here, in fact, is the abstract and brief chronicle of what may be presumed to happen in some cases of insanity. Transfer the convulsive action from the spinal nerve-cells to

[1] *General Pathology*, by J. Simon, F.R.S.

the cortical cells of the hemispheres, the result is an acute and violent mania, in which the furious morbid action of the directly poisoned nervous centres initiates an acute determination of blood. Let the disease become chronic, the congestion of the blood-vessels will become chronic also. The common practice has been to discover the pathological cause of the insanity in the congestion, in spite of the patent observation that it was not the way of congestion, otherwise caused, to give rise to insanity. In what is described as *Mania transitoria*, an individual falls with great suddenness perhaps into a violent fury, in which he evinces dangerous, destructive, and even homicidal tendencies: his face is flushed, his head hot, and there is plainly an active determination of blood to the brain. After a short time the attack subsides, and the man is himself again, scarcely conscious of what has happened to him. There is not good reason to look upon the rush of blood as the active agent in the production of the fury; but there is good reason to look upon it as secondary to the violent and degenerate action of the nerve-centres; in truth, the attack is a sort of epilepsy of the cerebral centres, and the congestion presumably takes place much as it takes place in the spinal cord poisoned by strychnia. To the formation of correct views of the pathology of insanity it is very necessary that this possible order of events should be distinctly realised.

At the same time it is important not to overlook or underrate the fact that extraneous disturbances of the circulation, quantitative or qualitative, may be the direct cause of disorder of the cerebral centres. Whatever interferes with the regular supply of the proper material to be assimilated by them, and the regular removal of the waste products of function—whether a disturbed blood supply or a vitiated blood—so far predisposes to disease, and will do so especially where there is any innate disposition to morbid action or any prostration, otherwise caused, of nerve element. In his Lumleian Lectures the late Dr. Todd insisted much upon what Andral had pointed out—namely, that an anæmic condition is favourable to the production of delirium and of coma.

That congestion or inflammation of the brain will produce

serious disturbance of its functions is known to every one; but it is well worth considering how rarely congestion of the brain originating in causes outside itself gives rise to delirium or insanity, and how often congestion of the brain has been found after death in cases where there was no symptom of mental derangement during life. It is because of a diminution in the functional power of the nerve element itself, because this has been brought to a stage nearer to the condition of non-living matter, that the adherence of the blood-corpuscles and the stagnation of the blood take place. In such circumstances we may understand how little fitted the nervous element is to contend with the difficulties that are gathered around it: it is weak, and it is consequently miserable; evils cluster around it, and threaten to quench its life; it has more difficult work to do, and yet it is less able to do it; it responds, therefore, as weakness always does, with a convulsive or delirious energy, and, if circumstances continue unfavourable, its activity is extinguished. May we not, then, perceive how it is that the abstraction of blood by some means from the labouring part has been beneficial in certain cases? The aim is to put the suffering part as nearly as possible in that condition in which it is during natural sleep—in a condition of rest; and the recovering power which, as we have seen, is inherent in the elements of living tissue, is then under the most propitious conditions for restoring the natural state of things.[1]

Morbid Appearances in the Brain and Membranes.—The morbid changes in the brain that are discovered by the microscope or otherwise certainly do not admit of being described so definitely as to throw any light upon the pathology of the different forms of mental derangement; they do not in the

[1] Morel mentions the case of a man, aged fifty-five, who was hemiplegic after cerebral hæmorrhage. His intelligence was sound, but he was morose and irritable, and weary of life. Periodically, however, he was subject to attacks in which he complained of *blood rising to the head;* his heart beat violently; the fingers of the paralysed side contracted; he was unspeakably dejected at first, saying that he was lost; then became furious, threw himself on his wife or children, and several times attempted suicide. Blood-letting and cold to the head produced immediate calm.—*Traité des Maladies Mentales* p. 138.

least tell us, for example, why the disease is melancholic in one case, maniacal in another, monomaniacal in a third. Some writers deny that the post-mortem appearances in the insane throw any light on the nature of the disease; and the belief affords a comfortable excuse for shirking laborious and tedious investigation. Schroeder van der Kolk, however, held a different opinion:—"More than thirty years' experience," he says, "has led me to an entirely opposite opinion, and I do not remember to have performed, during the last twenty-five years, the dissection of an insane person who did not afford a satisfactory explanation of the phenomena observed during life. On many occasions, I was able accurately to foretell what we should find."[1] It must be confessed that no other person of authority has expressed or felt a like certitude.

The broad result of pathological observation is, that the morbid changes that are most constantly met with after insanity are such as affect the surface of the brain and the membranes immediately covering it. Of these changes certainly those in the layers of the cortical substance are the essential. The evidence of more or less inflammation of the membranes, and especially a milky opacity of the arachnoid, common in the insane, is also common enough in the bodies of those who have not died insane. Certain observations of Schroeder van der Kolk enable us to perceive how this may happen. In the first place, he has remarked that adjacent parts which are of different structure are not readily attacked by inflammation in equal degree—it does not spread from like to unlike tissue by any easy infection or sympathy as it does from element to element of the same *kind* of tissue: the intercostal muscles, for example, are almost unaffected when acute costal pleurisy exists; the muscular wall of the intestine is scarcely affected in peritonitis; and the heart substance remains sound, in spite of acute pericarditis and effusion into the pericardium. So is it with the pia mater and the brain substance which it closely envelopes: congestion, inflammation, and effusion may take place in it while the brain itself is not implicated, and exudation between the

[1] *On the Minute Structure and Functions of the Medulla Oblongata*, p. 231.

arachnoid and pia mater will accordingly be found after death when there has been not the least mental derangement during life. In the second place, he directs particular attention to the distribution of vessels in the pia mater: while most of the arteries pass down from it into the substance of the brain and are there distributed to the grey matter in a most plenteous network, the blood being brought back to the membrane by a corresponding series of veins, there are in addition direct channels of communication between the arteries and veins in the pia mater itself.[1] In that anatomical arrangement there is obviously a provision by which temporary disturbance of the circulation may leave the cortical layers of the brain unaffected, the storm passing over them; the direct communications are overflow channels, as it were, for the surplus blood. But for such provision it would be a wonder that any one escaped serious mental disturbance, considering the frequent changes in the cerebral circulation to which every one is subject and the extreme delicacy of nerve element. As it is, vascular disturbance seldom remains entirely without effect; although the hemispheres are not themselves sensitive to pain, they manifest their sensibility to the abnormal blood-supply by a feeling of unusual irritability and a proneness to excitement and passion; and this is a condition of things which, as every one's experience teaches, is not so uncommon, but which usually soon passes away with the physical cause of it.

There is no question that the mind suffers when the inflammatory action in the membranes does seriously implicate the adjacent cortical layers; for, without claiming the delirium of acute meningitis in proof, the morbid appearances sometimes found after acute insanity afford sufficient evidence. As might be expected, the appearances of acute hyperæmia are most marked after death from acute delirious mania. In the case mentioned in a former chapter,[2] the pia mater was strongly injected, the arachnoid was clouded like glass that has been breathed upon, and streaked with a delicate milky opacity along the lines of the vessels, there was a bulging at the sulci by a

[1] *Die Pathologie und Therapie der psychischen Krankheiten.*
[2] Page 406.

clear serous fluid beneath it, and numerous red spots were visible in the white substance of the brain when it was cut into. In France much attention has been given to the morbid conditions of acute maniacal excitement or maniacal delirium; they are described as those of acute hyperæmia—namely, great injection of the pia mater with spots of ecchymosis, more or less discoloration and softening of the cortical layers—the discoloration being in red streaks or stains with spots of extravasated blood, and the softening being of a violet or pink hue—and increase of the puncta vasculosa of the white substance. Dr. Ringrose Atkins has recently described the morbid appearances observed by him in a case of acute insanity which ended fatally within a week, both lungs of the patient being found studded with miliary tubercles throughout their entire substance. The pia mater was much injected and there were numerous minute extravasations of blood, some globular and others stratiform in appearance, between the pia mater and brain substance both on the surface of the convolutions and between them where the pia mater dipped down into the sulci; some of the extravasations were visible with the naked eye, others with a low power of the microscope. There were none in the brain substance itself.[1] Here then the weakened walls of the overfull vessels had given way and the blood had escaped in numerous minute extravasations. As patients do not often die suddenly in the acute stage of insanity, opportunities are not given to examine whether this pathological condition is often met with; but it is certainly not invariably met with when they do die in the acute stage, and is more likely to be found after death during the delirium of fever than in ordinary systematised mania. If we call to mind what has already been said of the relation of nerve element to the blood-supply, it will be easy to understand how this may happen, as also how, when hyperæmia is met with, it ought perhaps to be regarded, not as direct cause of the mental disorder, but, if not as effect of it, in the light of a concomitant effect of a common cause. With due regard to this possible relation, it may be justly said that the *visible* morbid appearances of acute insanity are those of

[1] *Journal of Mental Science*, 1875.

acute hyperæmia of the brain. There are no appreciable differences between the morbid conditions of acute mania and acute melancholia: in the latter it more frequently happens that anatomical lesions are absent; and when they are present, they have been said to mark less hyperæmia than exists in acute mania, and to be attended with more or less serous exudation.

The cases of chronic insanity in which all anatomical lesions are wanting are rare, albeit they do occur: the longer the insanity has lasted, the more evident they usually are. In most instances there is a thickening and milky opacity of the arachnoid; and many of the more advanced cases exhibit a degree of atrophy of the brain, especially of the convolutions, effusion of serum into the sub-arachnoid space to fill the void made by the shrunken brain, discoloration of the cortical substance, and some hardening of the white substance. The pia mater is oftentimes more or less firmly and generally adherent to the surface of the brain, so that it cannot be stripped off without tearing the latter; and a finely granular condition of the ependyma of the ventricles, with its frequent adherence to the parts beneath, would seem to bear witness to a previous sub-inflammatory condition: granulations of the arachnoid, carefully described by Meyer, have probably a like interpretation. Of the granulations of the ependyma of the ventricles, which were noticed by Bayle in general paralysis, but are certainly not peculiar to it, as they have been asserted to be, Dr. Lockhart Clarke says: "They consist of globular aggregations of the ordinary epithelial cells, which, in a natural or healthy state, are arranged side by side, and form a smooth or level surface on the floor of the ventricle. The tissue immediately subjacent, and which consists of exceedingly fine fibres proceeding from the tapering ends of the epithelial cells, and running in various directions, was more abundant than usual; and—as might be expected from the homologous relation of this part to that which surrounds the spinal canal—it was interspersed with *corpora amylacea*, but certainly not to a corresponding extent."[1] Although the adhesion of the pia mater to the surface of the brain is most frequent in general paralysis, it is met with in

[1] Beale's *Archives of Medicine*, vol. iii.

other forms of chronic insanity, particularly in dementia following epilepsy and alcoholism.

General paralysis is the one form of mental disease in which, if death has not taken place early in its course, we may be sure of finding morbid changes. These are great œdema of the membranes, opacity and thickening of arachnoid in various degrees, adhesion of the pia mater to the surface of the brain, larger or smaller portions of which are torn away with it when it is removed, greyish-red local softening or discoloration of the cortical layers, and superficial induration thereof, owing to an increase of the connective tissue and a destruction of the proper nervous elements. More or less atrophy of the whole brain, and particularly of the convolutions, is common, and is accompanied with greater firmness of its substance, enlargement of the ventricles, and serous effusion into them. Diffuse pachymeningitis and considerable effusions of blood into the membranes or into the new formed layers of exudations, as described by Virchow and Rokitansky, are not unfrequent; these effusions being no doubt the cause of the apoplectiform attacks which occur in the later stages of the disease. The degeneration of the nerve-substance from the increase of connective tissue has been observed by Rokitansky and others to extend sometimes even to the spinal cord; but Westphal has more recently expressed a doubt whether an increase of connective tissue has been satisfactorily demonstrated in the grey and white substance of the brain, although he has no doubt of its occurrence in the posterior columns of the spinal cord. The morbid changes described are certainly more evident in general paralysis than in any other form of insanity, but they do not occur with uniform constancy, nor are they of uniform character; in some cases the meningitis being most marked, in others the atrophy of the brain, and in others the induration thereof. Dr. Sankey has made a careful comparison of the morbid appearances observed by him in fifteen cases of general paralysis with those observed in fifteen cases of chronic insanity of other forms. The greatest difference was in the frequency of effusion beneath the arachnoid, which was found in eleven of the fifteen cases of general paralysis, and in only three of the other cases. Adhesion of

the pia mater to the grey matter occurred in eight of the general paralytics, and in only one of the others. The convolutions were abnormally open and wide apart in nine of the cases of general paralysis, and in three of the other cases; in eight of the former, again, there was a dark discoloration of the grey matter, which was met with in only three of the latter; the layers of the grey matter were indistinctly marked in ten cases of general paralysis, and in six of the other cases.[1] Plainly there are no morbid appearances characteristic of general paralysis, although morbid changes are more marked and more constant in it. Dr. Mickle has recently attempted to group cases of general paralysis into varieties according to the differences in the character and situation of the morbid changes which he has found in the brain, and to indicate the clinical features which he has observed to belong to these pathological varieties. In this way he has provisionally sketched the pathological and clinical characters of five special groups.[2]

Schroeder van der Kolk has given a detailed description of several cases of what is commonly considered a very rare affection, but which he thought by no means so uncommon—namely, a diffuse inflammation of the dura mater or an idiopathic pachymeningitis. It was, he thought, often overlooked, and considered to be rheumatic headache. The symptoms were intolerable headache, delirium, sometimes calmer delusion, and coma; and after death the dura mater was found to be extensively inflamed, and more or less adherent to one or both hemispheres; the inflammation had in some cases extended to the brain, which was found to be softened. According to his experience, this affection, where neither syphilis nor injury could be assumed as cause, was not rare. A remarkable circumstance in regard to it which he took notice of was, that regular intermissions occurred in its course, the patient having considerable intervals of apparent health.

On the authority of so eminent an observer this idiopathic

[1] "On the Pathology of General Paresis," *Journal of Mental Science*, 1864.

[2] "Varieties of General Paralysis of the Insane." *Journal of Mental Science*, April, 1878.

inflammation of the membranes may be admitted, but it must be confessed that the morbid appearances described by him are very like those which have since been described as almost pathognomonic of syphilis. A diffuse fibrinous exudation of low form, gluing the membranes to the brain substance beneath, has been held to be a characteristic feature of syphilitic dementia. Instead of being diffused the exudation is sometimes circumscribed, so as to have the form of a tumour; and it may then press into the brain-substance, causing softening immediately around it. Or, again, the gum-like exudation, or *syphiloma*, as it is called, may take place as a diffuse infiltration or as a tumour within the substance of the brain, the membranes being unaffected. Such is the morbid product which recent researches have assigned to syphilis; and, according to Virchow, it consists at the outset, like the substance of granulations, of an exuberant growth of connective tissue, its further development taking place in two directions: (1) either the formation of cells predominates, and then the intercellular substance is soft, jelly-like, mucous, or fluid, the whole mass remaining jelly-like and coherent, or undergoing purulent degeneration; (2) or the formation of cells is less prolific, and the intercellular substance increases, so that the fibres preponderate; the cells are spindle-shaped or stellate, like the cells of connective tissue, or round like granulation cells. Ultimately yellow patches of fatty degeneration appear in it. There certainly is no character whereby this exudation can be distinguished as a specific product, and every pathologist admits the difficulty of distinguishing it from tubercle. In some instances the arteries of the brain are surrounded and infiltrated with this gummatous deposit, their walls being much thickened and their channels narrowed, or actually closed in the smaller vessels.[1] The starting-point of its formation has been supposed by Virchow to be the nuclei of the connective tissue and its equivalents; the proper elements of the organ undergoing atrophy as the result of the hypertrophy of the connective

[1] Cases are described in *Journal of Mental Science*, vol. xx. p. 352; also vol. xxii. p 615.

tissue.[1] The form of mental disorder with which this syphiloma is associated in its extreme stage is, as might be expected, an extreme paralytic dementia.

Such are the morbid appearances that have been seen by the naked eye in cases of mental derangement. Obviously those that are found in acute disease indicate a process which is of the nature of acute hyperæmia or actual inflammation, and their effect will be to interfere seriously with the nutrition and function of the nerve-elements of the brain. Whether they and the maniacal symptoms stand to one another in the direct relation of cause and effect or not—and their non-essential concomitance in mania weighs heavily against the theory of such a precise relationship—they both witness to the loss of the natural vital equilibrium and to the display of degenerate vital activity: in the one case we have the marks of that resolution of higher into lower vitality which we agree to call inflammation, in the other we have the symptoms of that resolution of higher into lower mind which we agree to call mania. Let the disorder be much prolonged and become chronic and irreparable, the observed morbid changes still tell the same tale: a thickening of the walls of the blood-vessels, an increase of the connective tissue, and an atrophy of the proper nerve-elements bear witness to vital degeneration as emphatically as does the mental incoherence. In the difference of histological dignity between a nerve-cell and a connective tissue corpuscle is there not a gap as great as that between sound mental activity and dementia?

Microscopic examinations of the brain after insanity have added something to our knowledge of its pathology by disclosing morbid changes in the blood-vessels, in the neuroglia or so-called connective tissue, and in the nerve elements themselves. Still there is far from being agreement among different observers concerning what they find; moreover there is no little reason to think that in many instances the appearances which have been described as morbid were produced artificially

[1] Virchow's *Archiv*, vol. xv. p. 217. "Das Syphilom, oder die constitutionell-syphilitische Neubildung," von E. Wagner. *Archiv der Heilkunde*, 1863.

by the treatment to which the brain-substance had been subjected in order to fit it for minute examination. Most pains have been given to the microscopic examination of the brain in general paralysis, and it is in it that the most definite morbid changes have been met with. Recent observers have described masses of cells adhering to the vascular walls and more or less filling the perivascular spaces. They resemble, and appear to be, colourless blood-corpuscles, single red blood-corpuscles being seen here and there among them; and at a later period there are regular small extravasations in all stages of pigmentary degeneration. The vessels themselves are filled and crowded with blood-corpuscles. A pretty constant result has been to discover an exuberant production of connective tissue in long-standing insanity, and especially in general paralysis. The homogeneous matrix of what is supposed to be connective tissue lying between and supporting the nerve elements of the brain, and continuous with the ependyma of the ventricles, appears to be prone, in certain circumstances, to undergo an undue increase, to the detriment of the higher elements of the part. The researches of Rokitansky and Wedl into the morbid changes in general paralysis have also made known a more or less diseased state of the capillaries of the cortical substance of the brain. There is a certain tortuosity of the capillaries apparent in almost every case, this being in some cases only a simple curve or twist, in others amounting to a more complex twisting, and even to little knots of varicose vessels. Round the capillaries and small arteries and veins there is often a hyaline deposit of what is supposed to be embryonic connective tissue, beset with oblong nuclei; this afterwards becomes more and more fibrous, so that the vessel may look like a piece of connective tissue in which granules of fat or calcareous matter are occasionally seen. It is thought that this growth of connective tissue may have its starting-point, not only from the nuclei of the walls of the blood-vessels, but also from the proper nuclei of the brain-substance. As a consequence of its exuberant increase, the nerve elements as well as the delicate capillaries are injured or destroyed; "in the grey substance the ganglionic cells appear inflated, their continuations are undoubtedly torn, and the nerve-tubes pene-

trating the grey substance are destroyed." Rokitansky believes that it is not to be looked upon as an inflammatory process, and it certainly is not so in the common acceptation of the meaning of inflammation, albeit it plainly bears witness to a deterioration of nutrition very like that which accompanies and marks a chronic sub-inflammatory derangement.

In respect of this sheath round the small arteries and capillaries it must be borne in mind that, as Lockhart Clarke and Mr. Robin have pointed out, in every healthy brain a great number of the capillaries and small arteries are surrounded by secondary sheaths precisely similar in all essential particulars to those which have been considered as morbid products in general paralysis.[1] The difference is that the sheaths are often less delicate in general paralysis, thicker, more conspicuous, and frequently darker than in the healthy brain; sometimes, especially when the vessels are convoluted, they appear as fusiform dilatations along their course. Moreover, while in the healthy brain granules of hæmatoidin are commonly scanty, and frequently absent altogether, they often abound in general paralysis, scattered in some places, collected into groups in others. In connection with the hypertrophied tissue are amyloid corpuscles, colloid corpuscles, calcareous and fatty granules—all being products of a retrograde metamorphosis, if the colloid and amyloid bodies be not, as some suppose, fragments of broken-up nerve. There are, as I apprehend the matter, two ways in which retrograde products are formed: first, there is a mal-nutrition, or a retrograde nutritive process, whereby the vitality not being at the height necessary to the production of the proper elements, there are engendered from the germinal nuclei elements of a lower kind —connective tissue instead of nerve; and, secondly, there is a retrograde-metamorphosis of the formed elements of the parts.

An elaborate examination by Dr. E. Rindfleisch of the morbid changes in the brain and spinal cord of a patient who died from *tabes dorsalis*, and in different parts of whose brain there were numerous patches exhibiting different degrees of grey degenera-

[1] "On the Morbid Anatomy of the Nervous Centres in General Paralysis of the Insane," by J. Lockhart Clarke, F.R.S. *Lancet*, September 1st, 1866

tion from a greyish pulp to sclerosis has in the main confirmed Rokitansky's observations. His results are of special interest here in relation to those varieties of general paralysis which begin with or are associated with symptoms of *tabes dorsalis*. The process of degeneration seemed to begin in the vessels, as their walls were enormously thickened by a number of cells and nuclei, and their diameter was increased. This first stage he considered to be the result of long-enduring hyperæmia. The neuroglia or hyaline connective tissue next undergoes change, fibres being formed in the amorphous basis substance; the nerve fibres then suffer atrophy, lose their medulla, and appear to consist of axis cylinder and sheath, or of axis cylinder only. As they disappear, the connective tissue increases; numerous single nuclei appear in it, as also groups of nuclei, which seem to proceed from the division of a single nucleus. Round these groups a certain quantity of finely granular substance collects, so that cell-like bodies are formed, resembling the four-nucleated bodies described in marrow by Kolliker and Robin. The fibres of the connective tissue are formed out of the basis substance, Rindfleisch believes, but are probably developed in organic relation to the nuclei. At a still later stage retrogressive metamorphosis sets in: molecules of fat appear in the ganglionic cells, according to Virchow, and as they increase form granular bodies; Rokitansky, however, thinks these bodies proceed from the fragments of the medulla of the nerve fibres. So also is it in Rindfleisch's opinion with the amyloid corpuscles that are found: the nucleated cells of the connective tissue go through the amyloid degeneration; and he has watched every stage of the transition from the normal cell to the amyloid corpuscle. When by fatty degeneration the greater number of nerve-cells have been converted into a detritus capable of being absorbed, the fine elastic fibres contract, get closer and closer together, and remain as the constituent tissue of the cicatrix, which sometimes causes considerable deformity; whole sections of nerve substance having been replaced by a relatively small quantity of an unyielding, compact, dry tissue. There are then three principal stages in this degenerative process:—(1) a change in the vessels, whereby there must be a great hindrance

to regular nutrition; (2) atrophy of nerve element, either in consequence of the interference with its nutrition (Rindfleisch), or from the growth of connective tissue (Rokitansky); and (3) the subsequent metamorphosis of the connective tissue.[1]

Wassilief has described the results of a microscopical examination of the brain of a young woman who died from hydrophobia.[2] Some of the nerve-cells of the medulla appeared muddy, their contours dimmed, and their nuclei obscured. In the interstitial tissue of the brain were a number of round bodies of the size of the white blood corpuscles, and supposed to be exudated white blood corpuscles which were most numerous in the vicinity of the perivascular spaces. The blood-vessels were strongly dilated and were filled with blood corpuscles. In the perivascular spaces, especially in the cortex of the hemispheres, was a slightly shining, strongly refracting hyaloid substance, which was very striking; it was sometimes collected round the vessel so as to form an irregular ring and perceptibly to narrow it. In other parts of the brain the perivascular spaces were more or less dilated.

A careful microscopical examination of the brains of three idiots has been made by Wedl. The changes which he observed were such as are usually met with in atrophy of the cortical layers. In the pia mater and the convolutions there was local obliteration of capillaries, these sometimes having the appearance of a dirty yellowish band of connective tissue which, like other connective tissue, swelled up and lost its wavy lines in acetic acid. Other thickenings in the capillaries of the cortical layers he described as *colloid:* these were knotty swellings in their course that were unaffected by acetic acid. Atheromatous degeneration of arteries, veins, and capillaries was more or less marked in all the cases. In one instance the small arteries and veins and the capillaries exhibited funnel-like dilatations, owing to a proliferation of nuclei that lay nestled in them; and a transparent basis substance containing many oval nuclei surrounded the capillaries for some distance. In all three cases there was

[1] "Histologisches Detail zu der grauen Degeneration von Gehirn u. Rückenmark," von Dr. E. Rindfleisch. Virchow's *Archiv*, B. vi.

[2] *Centralblatt f. d. med. Wissensch.* No. 36, September, 1876.

a metamorphosis of the contents of the ganglionic nerve-cells, the noticeable change being a condensation of the contents with disappearance of the nuclei—a condition which called to mind the colloid degeneration of the ganglionic cells of the retina.[1] It has been recently stated that the commissural fibres which should unite neighbouring convolutions have been found absent in the brains of some idiots, the "fibres of association" (Meynert) which unite distant convolutions being present only; and this defect has been supposed to be the reason of the defective intelligence.[2]

It appears, then, that the vital degeneration which shows itself in an increase of connective tissue, with atrophy and destruction of nerve element, so far from being peculiar to general paralysis, is of common occurrence in insanity of long standing. There can be little doubt that the morbid product which is thought to be the result of syphilitic disease is of like nature; and Billroth found a peculiar gelatinous degeneration of the cortex of the cerebellum, which he met with in one insane person, to consist of soft connective tissue. This proliferation of connective tissue with destruction of the nerve elements has at any rate been now observed and described in dementia following continued insanity, in general paralysis, in syphilitic dementia, in tabes dorsalis, and in congenital idiocy. No wonder, then, that the clinical features of paralytic dementia, general paralysis, syphilitic dementia, and alcoholic dementia are sometimes so very like that they cannot be distinguished symptomatically. The so-called hypertrophy of the brain which is met with sometimes in large-headed imbeciles, and especially in epileptic imbeciles, and which is apt to be hastily mistaken for hydrocephalus, is really due to an increase of the connective tissue, and not of the nerve-cells and fibres, since they, with the capillaries, undergo atrophy. The convolutions of the brain are flattened, and its substance is hardened, and, when cut into, presents a clean, pale, glistening, and elastic surface. A similar

[1] "Histologische Untersuchungen über Hirntheile drier Salzburger Idioten," von Dr. C. Wedl. *Zeitschrift der K. K. Gesellschaft der Aerzte in Wien*, 1863.

[2] *Researches on Idiocy.* Dr. Mierzejewski, *Journal of Mental Science*, January, 1879.

induration may occur without any hypertrophy; it is said to be a distinct result of long-continued lead-poisoning; and M. Brunet has described a hypertrophy of the brain without induration, but due to an increase of the connective tissue.[1]

Dr. Howden has recently described the morbid changes which he found in a case of senile dementia in which death took place from coma. The brain was wasted, much serous fluid effused into the meshes of the pia mater, the ventricles were distended with fluid, and the vessels at the base of the brain atheromatous. The brain-cells of the grey matter were clouded with fuscous granules which almost always obscured the nucleus, but the granular deposit was evidently outside the cell-wall. Many of the cells had a shrunken and misshapen appearance; there were many amyloid and hyaline bodies in the outer layers of the cortex; and the minute vessels in the grey matter were almost universally coated with granular matter. There were also twistings and well-marked aneurismal dilatations of the vessels of the pia mater, in all parts of which were found miliary aneurisms, such as have been observed in the neighbourhood of a cerebral clot, varying in form from a slight bulging to a round swelling, and the walls of the vessels had a granular look. The aneurisms were most numerous near a thin layer of semi-fluid blood and a small dark clot.[2]

We have no definite and complete descriptions—nothing more than vague intimations—of the morbid changes that take place in the cells of the convolutions, albeit we feel sure that important changes do take place in them, and have the testimony of many observers as to their shrunken, misshapen, and abnormal look in such states of extreme mental disorganisation as dementia following long-continued derangement, senile dementia, and congenital idiocy. Some years ago a German observer, Dr. Tigges, described an increase of nuclei in the ganglionic cells in

[1] *Annales Médico-Psychologiques*, 1874. He gives many references to French papers treating of hypertrophy of the brain. In the *Journal of Anatomy and Physiology* for May, 1873, is a description of the brain of a hydrocephalic epileptic idiot, the right lobe of whose brain was several ounces heavier than the left; its greater weight being due to an increase of the neuroglia.

[2] *Journal of Mental Science*, vol. xx. p. 587.

acute insanity, and declared that the numerous scattered nuclei, usually thought to belong to the connective tissue, had really escaped from the cells through rupture of their walls at a later stage of their inflammatory degeneration; but I am not aware that these observations have been confirmed.[1] Dr. Meschede has described the morbid changes of the first stage of general paralysis as being inflammatory in character, and the later changes as those of fatty and pigmentary degeneration of the ganglionic cells.[2]

Pigmentary degeneration has been met with in the ganglionic cells of the brain in senile atrophy, in dementia, and in advanced general paralysis. Schroeder van der Kolk found the cells of the medulla spinalis and oblongata to be darker and more opaque in old age; and in one case of dementia after mania, where there was partial paralysis of the tongue, the ganglionic cells forming the nuclei of the hypoglossal nerves were in a state of blackish-brown degeneration, so that he at first mistook them for little points of blood. On more careful examination, however, they were seen to be degenerated ganglionic cells, filled with granular dark brown pigment. Dr. Lockhart Clarke has observed similar structural changes in general paralysis. "These changes," he says, "consist of an increase in the number of the contained pigment-granules, which in some instances completely fill the cell. In other instances, the cell loses its sharp contour and looks like an irregular heap of particles ready to fall asunder." In regard to this form of degeneration, certain pigmentary changes that have been described in the retina are not without interest. In what is called *Retinitis pigmentosa* there are found scattered over the fundus oculi irregular figures of deep black colour, consisting of pigment apparently in the substance of the retina. A point of interest with regard to these cases is, that they occur in the same family and are accompanied by general imperfection of development. Gräfe observed this degeneration to be oftentimes of hereditary occurrence, and Liebreich has pointed out that many subjects of the defect are the offspring of marriages of consanguinity. More or less imperfection of the mental

[1] *Zeitschrift für Psychiatrie*, B. xx. [2] Virchow's *Archiv*, 1865.

faculties and arrested development of the sexual organs usually co-exist; and the concurrence of mutism and cretinism with *Retinitis pigmentosa* is occasional. Pigmentary degeneration may be regarded as a no less certain retrograde morbid change in the brain than it is in the retina.

Granules of earthy matter are common enough in connection with the hypertrophied connective tissue of long-continued and extreme insanity. But a few cases have also been mentioned in which a so-called calcification of some of the ganglionic cells of the brain has been met with. Erlenmeyer found the commissure of the optic nerves hardened by a deposit of calcareous matter in the brain of a monomaniac who had died with epileptiform convulsions. It had been first deposited about the small arteries and in the connective tissue; and the cells had afterwards been occupied and made opaque by fine granules of what appeared to be phosphate of lime. Förster, in his Atlas of Pathological Anatomy, describes calcified cells found in the grey substance of the lumbar enlargement of the spinal cord of a boy whose lower extremities were paralysed. Heschl met with what he calls an ossification of cells in the brain of a patient, aged twenty-six, who had died melancholic: they were in the compact substance surrounding a small hæmorrhaghic cavity in the cortical part of the right cerebral hemisphere. Hydrochloric acid dissolved the granular contents, and left the cells with a pale outline in view.[1] Dr. Wilks believes certain bodies which he found in the brain of a general paralytic, in whom the small arteries were calcified, to have been ganglionic cells that had undergone calcareous degeneration.[2] Some persons may find an interest in reflecting that a similar degeneration takes place on a microscopic scale to that which the whole organism must undergo at last: as the body is formed out of the dust of the earth by an upward transformation of matter and force, so by a retrograde metamorphosis of matter and correlative resolution of force does it, in parts and as a whole, return to the earth whereof it is made.

Such, then, are the morbid changes which have been observed

[1] Schmidt's *Jarbüch*, 1863.
[2] *Journal of Mental Science*, 1864.

and described in the bodies of insane persons. Obviously those which have been made known by the microscope—the changes in the blood-vessels, the increase of connective tissue, the degeneration of nerve-cells—are entirely consistent with those which are visible to the naked eye, in setting forth a story of vital degeneration that is of degradation from a higher to a lower life. And notwithstanding the admission that morbid changes cannot be detected in every case of insanity, and all that such an admission implies, still the lesson to be derived from the study of the changes which are seen is a certitude of the essential dependence of mental function on physical structure and a strong faith in the existence of unseen changes where none can yet be seen. As by the invention of a suitable sense-sharpening instrument we have gone below macroscopic into microscopic anatomy, so may we hope that the time will come when those who come after us shall by the invention of new instruments of research go yet deeper into the discovery of the hidden changes which I have called ascopic.

Morbid Conditions of other Organs.—Perhaps the most frequent local diseases met with in the insane, and the most frequently fatal, are diseases of the respiratory organs. Many who are in a low, deteriorated constitutional state, especially the demented paralytics, succumb to a diffuse pneumonia of low type. The usual symptoms of the disease, however, are rarely marked, being masked by the madness; there is seldom any cough, expectoration, or pain; no complaint is made; there may be little or no dyspnœa; and the only ground of diagnosis lies in the physical signs. *Gangrene of the lung* was observed by Guislain almost exclusively amongst the melancholics who had refused nourishment and died of exhaustion, and in as many as nine such cases out of thirteen; but it has been found since his time that the disease is not limited to those who refuse food, although most frequent amongst them. In the Vienna Asylum there were, out of 602 post-mortem examinations made in three years, fifteen cases of gangrene of the lung. Pain, cough, dyspnœa, and fever are often entirely absent; there is prostration, and the extremities are cold; the complexion is dusky red or cyanotic; the odour of the sputa and breath becomes intolerably offensive; extreme

weakness is increased by diarrhœa, and death follows within a period varying from ten days to three weeks.

Almost every writer on insanity has called attention to the frequency of *phthisis pulmonalis* among the insane, although there is far from being agreement as to the proportion of cases in which it occurs. A careful comparison of the statistics of several asylums by Von Hagen showed that on an average about one-fourth of the deaths were attributed to phthisis; but this proportion is really about the same as that for the sane population above fourteen years of age. Out of 1,082 deaths which occurred in the Royal Edinburgh Asylum from the year 1842 to 1861, phthisis was the assigned cause of death in 315, or in nearly one-third (Dr. Clouston). In eight of the American asylums the deaths from consumption were, according to Dr. Workman, 27 per cent. of the whole number of deaths. Dr. Clouston has however proved by the examination of a series of carefully made post-mortem examinations that phthisis was the *assigned cause of death* in only 73 of 136 men, and in 97 of 146 women, in whose bodies tubercular deposit was actually found—that is, in little more than half of those in whom tubercle really existed. His conclusion is, that not only is phthisis a more frequently assigned cause of death amongst the insane than amongst the sane, but that tubercular deposition is about twice as frequent in the bodies of the former as in those of the latter. But there is reason to think that the association of the diseases is not essential, but accidental; that it is due to the conditions in which the insane, congregated in great numbers in large asylums, live, not to any special power which insanity has to provoke phthisis, or phthisis to provoke insanity.

Observers, agreed as to the frequency of the occurrence of disease of heart in the insane, differ much as to the proportion of cases in which they are found: Esquirol found them in one-fifteenth of his melancholic patients, Webster in one-eighth, Bayle in one-sixth, Calmeil and Thore in nearly one-third. The observations of late years tend to lessen the exaggerated proportion commonly assumed; out of 602 post-mortem examinations in the Vienna Asylum, affections of the heart were met with in about one-eighth of the cases; and in some of these the disease

was very slight. All such statistics are of small value. Until we have a more accurate comparison with the statistics of heart disease in the sane population than has yet been made, it must remain a conjecture whether it is even more common in insane than in sane people.

There is nothing special to be said concerning *diseases of the abdominal organs* in the insane. A more or less *inflammatory* state of the *intestinal mucous membrane* is at the bottom of that colliquative diarrhœa which at last carries off many feeble patients, mostly those suffering from paralytic dementia, but now and then even some who are maniacal or melancholic. A changed position of the colon, the transverse portion of it lying in the hypogastric region or in the pelvis, was taken particular notice of by Esquirol, but is not now thought to be of any real importance or to have any special significance.

All sorts of disorders of one or more of the abdominal organs have been met with in particular cases, but not one in any constant relation to a particular form of insanity. Rokitansky noticed a considerable increase and induration of the cœliac axis in a case of hypochondriasis with great wasting. Cancer of the stomach, liver, or of some other part has been discovered in cases where there existed during life a delusion with regard to some animal or man being present in the belly; in one notable case, described by Esquirol, where delusions of this sort were most extravagant, there was chronic peritonitis which had glued together the intestines. Diseases of the sexual organs are, as already pointed out, of some importance in the causation of insanity. In the female, prolapsus of the uterus, fibrous tumour of the uterus, ovarian cyst, &c., may in some few cases impart to the insanity a sexual character, or become the occasions of special delusions; but in other cases of like disease there is no sort of connection traceable between the character of the insanity and the particular disease. However, if there be no such special relation, we shall do well to remember that, by reason of the *consensus* of parts, the intimate connection and interaction between one organ and another as parts of an organic whole, disorder of any organ—dissentient where all should be consentient—may still conspire with other predisposing or exciting causes to provoke an attack of mental derangement.

CHAPTER XI.

THE TREATMENT OF MENTAL DISORDERS.

In no other disease are the difficulties of treatment so great as they are in mental disease. The intrinsic difficulties appertaining to the nature of obscure disease are increased and multiplied by the social prejudices concerning it; by the frequent concealments and misrepresentations on the part of friends, who may often be reckoned on to mislead rather than enlighten the physician; by the necessity of removing the patient—probably against his will—from the care of his relations to other care more suited to his malady; by the unsatisfactory character and position of the institutions for the reception of insane persons; and, in some measure also, by the necessary stringency of lunacy legislation. In face of such difficulties one may sympathise with Casaubon when he says, "Let others admire witches and magicians as much as they will, who by their art can bring them their lost precious things and jewels: I honour and admire a good physician much more who can (as God's instrument), by the knowledge of nature, bring a man to his right wits again when he has lost them."[1]

The cruelties formerly inflicted upon insane persons no doubt originated partly in the distrust and fear which their disease occasioned and were kept alive, after they were quite out of harmony with the moral feeling of the day, by a neglect springing from the desire to hide madness as a disgrace; but they were in part legacies from the superstition which looked upon the

[1] *On Enthusiasm.*

insane as possessed by evil spirits which it was necessary to expel by the severest penal discipline when prayers had proved unavailing. The ancient Egyptians and Greeks used humane and rational methods of treatment; it was only after the Christian doctrine of possession by devils had taken hold of the minds of men that the worst sort of treatment of which history gives account came into force. However it came about, the end was that to be the victim of the most pitiable of diseases became a reason not for undergoing the most patient and considerate medical treatment, but for being subjected to the harshest measures and to an imprisonment which was too often lifelong. To shut the madman from gaze, and, if possible, from memory—to be rid of his offending presence at any cost—that was the one thing to be done, and fit implements were not wanting, as they never have been when wrong was to be done, to execute what was wished.

The great and beneficent reform which was conceived and initiated by Pinel in France and carried out in this country by Conolly and others, had to encounter a strong phalanx of obstructive prejudices, selfish indifference, and interested opposition. But it triumphed, and for many years the revolution in the treatment of the insane has been quoted as one of the proud reforms of the century. Still there lingers a deep distrust of lunatic asylums in the public mind, and it gets angry expression from time to time in vague accusations. The distrust is partly a relic of the memory of their past evil management; it is partly the result of the clamour of insane persons at large who have been at one time in confinement, as they believe, unjustly; it arises in greater degree out of a vigilant and active jealousy of any interference with personal liberty; and it is most of all due to the fact that many asylums belong to private proprietors whose interest may be supposed to be to get and to keep as many patients as they can, rather than to cure and discharge them. Granting full weight to these suspicions, there is still reason for congratulating ourselves on the vast reform which has been accomplished, when we contrast the worst complaints made now with the accusations that were justly made some years ago. A Committee of the House of Commons was lately appointed at the instigation of

those who were dissatisfied with the state of the Lunacy Laws, in order to examine whether the facilities were unduly great for consigning people to asylums, and not duly great for obtaining their discharge from them. The Committee made a painstaking inquiry which extended over several months, taking a great deal of evidence, including the evidence of those who believed that they had been improperly confined as lunatics; the result being that they did not discover a single instance of a sane person having been confined as insane, and made a report which contained only a few not very important recommendations. When this report is compared with reports made by two former Committees of the House of Commons it plainly shows how great is the progress which has been made.

So long as insane persons cannot themselves perceive that they are out of their minds, there will be some who, having improved so far as to be discharged from confinement in asylums, without being quite recovered, will make loud complaints against the injustice of laws of which they consider themselves to have been victims. Nothing short of the abolition of restraint of every kind in insanity could prevent the recurrence from time to time of outcries of that sort. And that is a freedom which the most thoroughgoing advocate of the liberty of the subject would not claim for them. In the interests of society antisocial beings must be so guarded as to prevent them from doing serious harm to others who may be brought in contact with them or may be dependent upon them. In their own true interests, too, as well as in the interests of their families and of society, it would seem right that morbid varieties of the race should be brought back, if possible, to healthy minds. They are placed in confinement therefore not only because they are dangerous to themselves or to others, but in order that they may have the medical treatment which, not recking themselves that they are ill, they will not seek or will not accept—in fact, as the statutory terms express it, as "fit and proper persons to be detained under care and treatment."

The grave and anxious question in a particular case is whether an asylum is necessary or not. The accepted notions regarding insanity not many years ago were—first, that the

best means to promote the recovery of a person who was labouring under it was to send him to an asylum; and, secondly, that so long as he was insane there was no better place for him than the asylum. These opinions had been urged so persistently, and held so long, that they had become a habit of thought which was deemed by some to have the authority of a law of nature. Opinion has now, however, changed so much that the question which first occurs to the mind is whether it is possible to treat the patient successfully out of an asylum. The decision as to what should be done is often most difficult, since social, pecuniary, and legal considerations come in to complicate the medical question, and most medical men would willingly be rid of the responsibility which it entails. At one time, perhaps, they find the friends absolutely refuse to adopt asylum-treatment when, in their judgment, it is desirable or urgently necessary; at another time they find them urgent to have the patient removed to an asylum, and as eager, if he leaves it with bitter feelings of resentment after his recovery, to disclaim all responsibility for what was done, and to throw the blame of it on the medical adviser. A prudent man, having eased his conscience by the candid expression of his opinion, will scrupulously avoid officious pressure, and decline all responsibility which is not a just part of his medical function. In a great many cases the question is settled at once by the pecuniary means of the person: if it is necessary to remove him from home, he must go to an asylum, because he cannot afford the heavy cost of treatment in a private house. The expenses of a suitable house or lodgings, of skilled attendance, and of medical treatment, amount to a sum which those only who are well off pecuniarily would be justified in incurring for the length of time that might be necessary; and these may be obtained in an asylum at one-third the cost of providing them specially for himself. Then again some cases are manifestly unsuited for private treatment. If the patient is in a state of furious mania, if he is desperately suicidal, or dangerous to others by reason of delusions which are likely to lead him into acts of violence, if he persistently refuses food and requires to be fed by force, if he is impatient of restraint and violently

rebels against it or shows a persistent resolve to elude it, an asylum is the fittest place for him. When the mental derangement is caused by epilepsy, the sullen suspicions and blind fury which are common features of the disease render it unsafe to keep the patient at home. On the other hand, it is not well to send a young person who is suffering from mental disorder which is of a hysterical character, or occurs in connection with puberty, or is the result of self-abuse, to an asylum; he is likely to be injured by the surroundings and to sink to their level.

In choosing an asylum it will be a question for those who are able to pay for suitable care whether it should be a public or a private asylum. Many persons entertain an easily occurring and deeply rooted suspicion that it is not the interest of a proprietor of a private asylum to cure his patients, and that, therefore, he will not adopt the best measures to cure them. But that is obviously a kind of suspicion which might reach very far indeed: it might be suspected that it is not the interest of any medical man to cure his patient quickly; not the interest of a lawyer to expedite his client's business; not the interest of any one to do with good speed what will bring him a greater immediate profit if he makes it a long business. The asylum-proprietor, like other people, will find his true interest in the long run to be in doing best the service which he professes to do. It is a better founded objection to private lunatic asylums that it is not right that a private speculator should have the power which he has to detain in confinement persons who are deprived of their liberty against their wills, albeit for their good. The principle of the objection is thoroughly sound and cannot be gainsaid, but the answer to the particular objection is that practically the proprietor has not anything like the power which those who make it think he has. The stringent legislative enactments under which he conducts his business, the numerous official returns which he is compelled to make, the minute regulations which he must submit to on pain of losing his licence, and the jealous inspection from time to time of his house by the Commissioners in Lunacy and by the magistrates, to whom each patient has the right and the opportunity to appeal, reduces an authority which looks despotic to a mockery

of power that is essentially more like slavery. He is rather in the position of a person who has unlimited responsibility with very limited power.

The force of these objections put aside, it may be admitted that a sensible advantage accrues from the strong personal interest which the proprietor of an asylum has in its good management and success: when his livelihood or his profit depends upon the reputation which it has he is not likely to neglect it. His business is to please his patrons, and if he fails to do that his establishment will suffer. A well-managed private asylum is sometimes a more comfortable residence than a public asylum for the same reason that a well-conducted proprietary hotel is more comfortable than a large joint-stock hotel conducted by a paid manager—that is because of the strong personal interest which the proprietor has in it. In a public asylum everything depends upon the character, the zeal, and the skill of the superintendent. If he has the requisite qualities for his post, if he has genuine interest in his work and is content to devote himself to it with single-minded energy, and if he is well supported by a body of intelligent governors, then there will be good management and efficient treatment; but if he is indifferent or negligent, or has other interests to engage him, or is not well qualified by character and attainments for his onerous and anxious post, or is not in harmony with his governing body, then abuses soon creep in; and they cause a vast amount of suffering in a large establishment before they grow to such a pitch as to attract proper notice from a body of governors who, having only a corporate responsibility, have only a corporate anxiety, and know little about the real working of the establishment. A public asylum must have fallen into a very bad state of disorder before a superintendent is actually dismissed for incompetence, and during the course of its decline, while servants are negligent and needful supervision wanting where it should be present at every turn, the patients may suffer much neglect and ill treatment.

The discipline of a large asylum certainly counts for a great deal in some cases, but it has this great disadvantage—that the patient's individuality is little thought of; he becomes one of a

crowd, the majority of whom are not expected to recover, and his moral treatment is little more than the routine of the establishment and the despotism of an attendant. In pursuing a proper individual treatment of insanity it is necessary to penetrate the individual character, in order to influence it beneficially by moral means, and to investigate carefully the concurrence of conditions which have issued in disease, in order to obviate them. But in a large asylum containing two or three hundred patients or more, where there are two medical men who go round the establishment once or twice a day, inspecting the patients generally as they inspect the baths and the beds and exchanging a few words with one and another of them, they are not so many *individuals*, each having a particular character and a particular bodily disposition with which the medical officer is intimately acquainted, but so many residents who might almost be called, as the residents in a large hotel are, by numbers instead of names. For this reason it is sometimes the best treatment to remove a patient from an asylum to the care of some private person who will devote himself to his care with a strong personal interest; he may then recover, perhaps, notwithstanding that there seemed no likelihood of his recovery in the asylum.

One advantage, however, a public asylum has, which is undoubtedly a very great one: it is that the patient cannot assert, nor his friends suspect, that the authorities have a pecuniary interest in detaining him. That puts him at once in a frame of mind more favourable to treatment, and gives the physician a vantage ground of independence which the proprietor of the private asylum cannot have. Moreover, the feeling extends through the whole of the establishment and affects its general tone; attendants experience it and are not so much tempted to intrigue with the patient or meddlesome friends against the wishes of its head, or—what is a greater danger in private asylums—conspire with the proprietor to conceal any wrong-doing, and to hoodwink the friends of patients and the inspecting authorities. Some patients certainly are influenced beneficially by the spirit of a public asylum and conform to its rules who would resent bitterly or actively rebel

against the orders of a private proprietor, whom they considered to keep them in confinement for their own profit. No one who knows the difference between the tone of feeling in a public and in a private school will have any difficulty in appreciating what I mean.

The consequences of the difficult and harassing position which the proprietor of a private asylum occupies are not beneficial to his character: the suspicions to which he is liable from his patients and their friends, the jealous inspection to which he is subject, the rooted popular distrust of his functions, the dreary and thankless nature of his duties, and the ever urgent sense of responsibility without a corresponding sense of power, have a demoralising effect upon him; and he runs no small danger of sinking into a state of mind in which his sole aim is to make large profits, looking to them as the one compensation for all the humiliations and anxieties which he has to undergo. When the treatment of an insane person is thus considered merely as an object of commercial profit, it is clear that matters are very wrong and that grave evils must ensue. Moreover, medical men of the best type will certainly not be found to take or to keep such a position: a fact which goes far to be a practical condemnation of private asylums, seeing that where the dangers of the position are such as to require the highest qualities of mind, these will never be obtained.

It is hopeless to expect such perfection of arrangements either in public or private asylums as will get rid of all complaints, since mental disease is so exceptional in the trouble and anxiety which it occasions, in the danger which it sometimes involves, and in the conditions of treatment which it requires; but one may probably look forward to an extension of the system of public asylums and to a contraction of the system of private asylums according as social feeling with respect to it becomes healthier. The entire abolition of the latter by legislation would not be a wise measure now, nor perhaps at any time. Certainly it will not put an end to recurring outbursts of clamour in newspapers, since these have been louder in America, where the public asylum system is in vogue, than in this country. There will always be some patients moreover who are

extremely ill fitted to face the life of a public asylum, and upon whom the associations and the system would have an injurious effect; and great abuses would be sure to ensue if there were no way of placing any recent cases of mental disorder under proper care and treatment except by sending the sufferer at once into a public asylum, or placing him, as a single patient, in a private house under the care of attendants and unskilled supervisors. Meanwhile, in making choice of an asylum in the present state of things, the two principal considerations to be had in mind and duly weighed are—first, the character of the patient and the form which his malady takes; and secondly, the reputation and character of the asylum. It would be foolish to carry a prejudice for or against a particular system so far as to reject what was the best measure in the particular circumstances. If the friends of a patient have known some one who has been treated kindly and successfully in a particular private asylum, they will do well to act upon that recommendation; if they have a particular public asylum strongly recommended to them by some one who is qualified to speak confidently, then they will do well to be guided by the experienced advice.

When it is not actually necessary to send the patient to an asylum, it is still often necessary to remove him from his own home, where he has been accustomed to exercise authority and to exact attention, and where, in his much changed state, there are necessarily ever-recurring occasions of irritation and contention. It is impossible to allow a madman to do everything he wishes, by yielding submission to all his changing fancies, delusive projects, and perverted feelings, and the least opposition from those whose compliance he looks for as a matter of course, is likely to produce an outbreak of excitement. If he is melancholic, and mistrusts those whom he most loved when he was himself, or grieves that he has lost all his affection for them, their presence is a constant irritation of his mental sore; if he exacts their sympathy by continually talking about his sufferings, and they yield it in full measure, his disease is really fostered thereby; if he has delusions that he is ruined, he is driven frantic by the sight of the necessary expenditure. An entire change of surroundings will sometimes of itself

initiate recovery; it takes him from the midst of the circumstances in which his derangement has been developed and gets rid of a thousand occasions of irritation and of aggravation. Relatives endowed with a similar neurotic temperament usually constitute the worst surroundings. If the separation from them and the experience of his new surroundings produces a mental shock and is a real grief, that will be no great harm; it is better that he should sorrow with a real cause of sorrow than brood continually over an imaginary grief; and his genuine affliction may haply become the initiation of another than the train of fixed morbid thought. It is common enough to hear the friends of a person whose mind is showing plain signs of disorder declare earnestly that they are sure it would drive him quite mad, so sensitive as he is, to send him from home and to place him under the control of strangers, and that they cannot consent to it. They are mistaken for the most part; and the result of their over-anxious apprehensions and their reluctance to do what is right, but painful to their feelings, is to let pass the important opportunity of proper treatment at that early period of the disease when there is always the best hope, and sometimes the only hope, of effecting a cure. It is not in the least an exaggeration to say that many insane persons have owed their life-long affliction to the jealous sympathies, without knowledge, of those to whom they were most dear.

Travelling from place to place with a suitable companion and attendant may be justly recommended in the early stages of melancholic derangement, but not at the beginning of an attack of acute mania. Moreover, the travelling should certainly not be out of the country at the outset of any form of decided mental derangement; for until the physician can form a forecast of the course which the disease is likely to take—can satisfy himself, at any rate, that it is not likely to become acute—he should not permit the patient to go out of reach of the measures that may be required urgently for his safety or his proper care. Great and grievous mistakes are sometimes made in this respect by those who ought to know better than advise a person to be sent abroad to travel who is sickening for an

acute attack of insanity, or who, not knowing better, ought certainly to know better than advise at all concerning what they do not understand. The results of such ignorant mistakes are sometimes calamitous—an attack of acute mania perhaps in a foreign city, where those in charge, ignorant of the laws, customs, and perhaps language of the country, know not what to do or where to turn for help, and are put to the greatest straits and to the most cruel anxieties; or perhaps an act of suicide on the Alps, which appears in the newspapers as an accidental death from a perilous attempt to gather the Alpine flower *edelweiss*. When an attack of acute insanity has passed off and the mental atmosphere does not clear, but there remains some disorder of feeling and thought which raises an apprehension that the disease will become chronic, then an opportune change of scene may be of vital importance and make all the difference between a final recovery and permanent illness. This is the critical time when removal from an asylum is sometimes the salvation of reason. Nay, removal only from one asylum to another, when the patient makes no progress, but appears to be sinking into a chronic groove, has sometimes a singularly beneficial effect. It is not of course necessary that the person who leaves an asylum be sent abroad; he may go to the seaside, or take a walking tour through Scotland or Wales, or tramp from the Land's End to Edinburgh and back. Should his means allow it he may go with a suitable companion and efficient attendant to Norway, or to America, or even make a voyage to Australia. I have seen good results from all these measures in different instances. Where the patient is not fit to go to Australia in a passenger-ship, or it is not desirable for other reasons he should do so, I have sent him, accompanied by a medical man and an attendant, in a sailing barque which took no other passengers. Although there is no accommodation for passengers in such a vessel, good arrangements may be made by appropriating the captain's cabin, which he will give up for a suitable consideration.

There are some cases of commencing mental derangement which do well by being sent to a hydropathic establishment; for they get thus entire change of scene, rest from work which they are unfit to do, some kind of society, regulated diet and

exercise under medical supervision, and, if needful, the benefit or the distraction of going through a series of baths daily. Others who are too unwell for that treatment may be sent to reside in the houses of medical men, many of whom now in different parts of the country are willing to receive single patients into their houses; there, however, they must be properly certified as persons of unsound mind, and all the statutory regulations concerning them strictly complied with, since it is an offence against the lunacy laws for any one to take charge of an insane person for profit without complying with those regulations. Care must be used in the selection of a proper dwelling, since there are unfortunately not a few persons anxious to have a resident patient whose minds are more set upon the payment which they desire to get than upon the responsibility which they incur to give habitual attention to their charge and to endure patiently the burden or the annoyance which he is apt to be to the family. If he is banished to a room of his own and left all day to the company of an attendant, he would be better off in a well-conducted asylum. It is indeed a great difficulty to ensure suitable provision and skilful treatment in a private house, and the physician is sometimes driven in despair of having things done properly to recommend the patient's removal to an asylum, when it would not have been necessary otherwise. With the proper persons about the patient there is hardly a case of insanity which might not be treated successfully in a private house; with unfit persons about him the simplest case becomes worse and worse. An asylum is proper if the malady is of such a character as to render it difficult to let him go out into the streets and roads and so have the regular exercise which ought to be enforced. There are some patients again who do not do well in private houses because they make themselves too much felt, and themselves feel that they are the main object of concern in all the arrangements; their perverted morbid feelings experience gratification—unconsciously to themselves—in the commotion which they raise, and are fostered thereby, and they wilfully display caprices that gratify their morbid self-feeling rather than desire or attempt to restrain them; they are likely to do far better in an asylum where they are units in a number

and parts of a system, where their morbid moods and perverse doings excite not much notice nor any alarm, and where they feel the steadily pressing discipline of the establishment as a restraint which there is neither gain nor gratification in rebelling against, as there is against the control of individuals.

The practice which was so common at one time of placing insane patients in cottages under the control of attendants is to be condemned except as a temporary expedient: persons of the class of attendants in the charge of a patient should be under the supervision of some one of higher social position who may also be a fit companion for him. Some asylum-keepers, quick to make profit out of the weaknesses of the friends of patients who evince a natural anxiety to avoid the stigma of an asylum, take cottages in the neighbourhood of their asylum or on the edge of its grounds, and persuade the friends that the patient will have in one of them the advantage of their constant supervision without being in the asylum. The truth is in such cases that the proprietor sees the patient once or twice a-day at times when the attendants know well to expect the visit, and that for the rest of the day he may be grossly neglected or ill used, or if not ill used actually, he is left to an enforced and unfit association with vulgar-minded persons who talk for the most part of betting, horse-racing, their low debaucheries, and the like, and who in the worst cases convert the place into a brothel. No friends should consent to have their relative placed in a cottage of this sort who is not so well as to be able to take care of and amuse himself, unless there is a lady or gentleman living in the house whose duty it is to superintend the attendants and to associate with the patient. And it would not be amiss if the Commissioners in Lunacy were to bestow some pains to inquire closely into the particulars of the actual life from morning to night of the patient who is placed in a cottage of this kind and, if need be, to make strong representations to the friends, who are perhaps being grossly duped by the advantage taken of an amiable sentiment.

It is unquestionably of the first importance that early treatment should be adopted in any case of insanity, as the probability of recovery is immensely increased thereby. The

statistics of all asylums are at one in proving that the more recent the outbreak the better is the chance of recovery; the expectation whereof indeed is about four to one when efficient treatment has been put in force within three months from the commencement of the disease, but hardly as much as one to four when it has lasted twelve months. Were the first obscure threatenings of mental disease duly appreciated and right action promptly taken, there is reason to think that many cases might be cut short at the outset; but the difficulty is to bring the patient and his friends to recognise the gravity of the crisis, or, if they are brought to see it, to induce him to submit to what is necessary. The consequence is that the disease goes on until the habit of a definite morbid action is fixed in the mental organisation, which cannot then be eradicated quickly by vigorous and energetic measures of any kind, but must be undermined slowly by a patient course of systematic treatment. And this also should be borne in mind, in order to check feelings of undue impatience, that the natural duration of mental disease is much longer than that of most other diseases: where in them time is counted by hours and days, it must be counted in it by weeks and months.

Furthermore it must be confessed that recovery after mental disease is not worth so much as recovery after some other diseases, since there is considerable risk of a relapse at some time or other. On this subject we can have no more weighty authority than the late Dr. Thurnam, who came to the broad conclusion that while a proportion of 40 per cent. of recoveries, calculated on the yearly admissions into asylums, was to be regarded as low, and a proportion exceeding 45 per cent. as high, the liability to a recurrence of the disease after recovery from a first attack could not be estimated at less than 50 per cent., or as one in two cases discharged recovered. On the whole then it may be said that of ten persons who fall insane five recover, and five die sooner or later without recovering. Of the five who recover not more than two remain well for the rest of their lives; the others have subsequent attacks, after long intervals of sanity it may be, during which at least two of them die. The apprehension then which is commonly shown of persons who have once been insane, as if they might

at any moment relapse into their malady, is in some measure just. In the first place, the susceptibilities and peculiarities of character which issued in the first attack remain the same—the personality is unchanged; and, in the second place, there is in addition the acquired aptitude which has been left behind by the previous derangement.

When putting in force measures to place an insane person under restraint it is desirable to avoid practising deception, if it be possible: what is done should be done openly, and explained and enforced as necessary and unavoidable. It is certainly most objectionable to entrap him into an asylum on some pretext which he discovers to be false so soon as he gets there; but it is still worse to employ fraud to get the medical certificates, as asylum-keepers often did in times past and some do still, and then to leave him to be removed to the asylum by attendants without ever explaining to him what his position is and what is to be done with him. Insane persons frequently turn out to be much more amenable to reason than might be expected when they are approached openly and dealt with frankly and in a straightforward manner. But when they are grossly deceived the natural suspicion of the disease is strengthened; they cannot have that confidence in those who have been parties to the fraud which they ought to have if a good moral influence is to be exercised upon them, and they are likely to cherish a bitter feeling of resentment afterwards.

Suitable conditions of treatment having been arranged, the aim must be to turn the patient from the absorption of his self-brooding or his self-exaltation to wholesome relations with matters outside himself—to engage him by degrees in some work or interest, it matters not however trivial at first, which shall take his attention from his morbid self. If he is induced to do like other people, he will be helped in the best way to feel and think like them. The great principle to be acted upon in order to recover from insanity is that which should be acted upon by a person in order to prevent himself from becoming insane—namely, not to distinguish himself from other persons as in any respect extraordinary nor to dissociate himself from their interests and doings. Now it is really more easy for an insane

person to do some simple work or to foster some simple interest when the surroundings have been entirely changed than when he is solicited to do so in the midst of the surroundings and interests of his former life, since it seems to him almost a mockery to press him to do trifles when he is in face of real duties to which he is unequal, and when perhaps a great part of his avowed distress is because he cannot perform them. The success of attempts to engage his attention on matters outside himself will depend greatly upon the knowledge, tact, and patience of those who make them. Good and kindly feeling and natural tact require to be supplemented by some special experience. Those who in an eager anxiety to encourage the patient make much of his initiatory and perhaps half-ashamed attempts and call attention to them ostentatiously, instead of accepting them tacitly and making them the steps of a further advance, drive him back into his morbid self and cause him to abandon them. If it can be brought about, steady employment will do more than anything else to promote recovery: for the insane, as for the sane, action is the best cure of suffering. The natural apprehensions of harm to the patient from the depressing influences of association in an asylum with other persons similarly afflicted are generally exaggerated; in his changed state he will more easily begin to do something among those whose condition he recognises as no better or as worse than his own than among those whom he has been accustomed to meet when he was so different from what he now feels himself to be. When he can be brought to take some intelligent notice of them, if it be only to combat the opinions of another patient, and to think less of himself, he has made the first step towards recovery. Strange as it may seem, insane surroundings are sometimes a positive relief and benefit to the deranged mind.

When there is a fixed delusion in the mind it is not of the least use to argue against it, for it will not be uprooted by the most logical reasoning; on the contrary, it will be likely to hold the firmer the more it is directly combatted. By engaging the mind in other thoughts as much as possible, and so substituting a healthy energy for the morbid energy, the force of the delusion will abate by degrees and finally die out. Besides, by denying

bluntly the reality of what seems so very real to the patient, one hurts his self-love and angers him, and he loses that confidence in one's good feeling which it is most important he should have. For this reason also it is a mistake to treat his delusions with contemptuous ridicule. But, although it is vain to argue against a delusion, it is proper to avoid assent to it: by a calm expression of dissent, or by a quiet show of incredulity, or by a little good-tempered banter, the patient should be left under no mistake as to the opinion which other people have of it. A word of contradiction in season will sometimes have a good effect of shaking his confidence in his delusion, or at any rate of making him ashamed to talk of it, which is the first step towards feeling a doubt of it. Baillarger tells a story which shows well how little force proof has against an insane delusion. When M. Trélat was intrusted provisionally with the management of the Bicêtre, he had under his charge a patient who believed that he had discovered perpetual motion. After having argued vainly against the delusion, the idea occurred to Trélat that perhaps the great authority of Arago would have the good effect of convincing the patient of his error. Arago, after having had the assurance given him that insanity was not a contagious malady, consented to combat the delusion of the lunatic, who was accordingly introduced into his study when Humboldt happened to be paying him a visit. Hardly had the patient heard from Arago the firm and convincing disproof of his error than he was confounded and shed tears, deploring the loss of his illusion. The desired end seemed to be attained, but they had not gone more than twenty paces from the observatory on their return when the patient, addressing Trélat, said, "It is all one; M. Arago deceives himself; I am in the right." It is common enough for the friends of an insane patient who labours under the delusion that he is doomed to eternal damnation to employ the services of a clergyman in order to dissipate it by argument, and in one case which came under my care the aid of an eminent bishop had been invoked in vain. Those who fondly hope to overthrow an insane delusion by argument would do well to consider how little the most illogical convictions of sane persons are touched by the plainest demonstration of their

unsoundness, and how easy some of them find it to hold contentedly side by side in their minds two logically incompatible opinions. They do not sincerely believe that Jonah was swallowed by a whale and lived three days and nights in its inside, but they would be dreadfully shocked if they were charged with doubting the truth of the miracle. They admit, when pressed with quiet argument, that the leaders of their political party have done everything which they should not have done and left undone everything which they should have done in a great crisis, and at the same time when they get amongst their kind they shout and yell in sincere and exulting admiration of the profound statesmanship shown on that and all occasions by these same leaders.

Beliefs rest for the most part on foundations which arguments cannot reach—on feelings, habits, prejudices, the bias of interests and of wishes and of fears, and they change without reason when the substratum of feeling in which they are rooted changes. All history shows that revolutions of popular belief have not taken place gradually in consequence of the assaults of reason, but suddenly from no immediate help of reason, in consequence of a certain change of sentiment that has been insensibly brought about: the multitude which is shouting acclammations at its hero one day is howling execrations at him on another day, and could give no intelligent reason either for its adoration or its hatred, or for the change from the one to the other. The effect of mental infection, when enthusiasm is inflamed, is to cause multitudes to think and howl together, as jackals hunt, in packs. It is as with the spread of a conflagration; the heat of the burning part raises the adjacent parts to a temperature at which they easily catch fire, and so one earnest fool makes many fools.

The way to get rid of an insane delusion is to change the feeling in which it is rooted—to disarm his suspicion if the patient is suspicious, to raise his spirits if he is depressed, to appease his anger if he is offended, to abate his conceit if he is proudly exalted; in that way the particular delusion is deprived of the sap which nourishes it. It is of the greatest importance, therefore, to have about him persons whose dispositions and

dealings with him are adapted to attract his confidence, and to avoid the irritation, the collisions, and the aggravation of the disease which are produced by uncongenial attendance. A female nurse will sometimes do more with a male patient than the best male attendant; he will not resist her violently as he would a man, and will perhaps yield to her persuasion more readily and with less feeling of humiliation. Certainly a good deal more use might be discreetly made of women as nurses of male insane patients than is done at present. As regards attendants generally it is certain that a patient will sometimes begin to improve immediately under the care of one person when he or she has been getting worse and worse under the care of another. Here, indeed, lies the real difficulty in the treatment of insanity—namely, to obtain as attendants persons who are fitted for so anxious, trying, and responsible an employment. It is not a question of money only, for money cannot buy the gentleness, the firmness, the patience under infinite irritation, the willingness to do without sign of reluctance or disgust the most disagreeable offices, the self-restraint that is almost more than human, which are the ideal qualities of a good attendant. The easy recommendation to obtain for the work the services of persons of a superior class to that from which attendants are usually procured, by making higher payments, is liable to the objection that superior persons who have not failed in more congenial positions from faults of character will not undertake the anxious, dreary, and disagreeable work. Still it is probable that great improvement might be made in the management of asylums by appointing several persons of a higher class as superintendents over the ordinary attendants, whose duty it would be to live amongst the patients as attendants do. Meanwhile there is clearly a great work for brethren of the cross and sisters of mercy who wish to live lives of the most self-sacrificing devotion. If there be a danger of these people showing an indiscreet religious zeal and doing harm thereby, let those who are fired by the enthusiasm of humanity institute a brotherhood of humanity which shall show to the world of what self-sacrifice men are capable who are inspired only by a simple love of their kind and a desire to do it good. They

may expect to do more in that practical way to propagate the religion of humanity which they profess than by any number of meetings together to worship the Great Being of Humanity, or by multitudes of impassioned articles in magazines.

Medical Treatment.

The special medical treatment of mental disease lies within a small compass. No physic in the world can touch an insane vanity or suspicion, or pluck from the memory a rooted sorrow, or raze out the written troubles of the brain. If that is to be done, it must be done by the gradual operation of sound moral hygiene and the healing effects of time. We must be content to recognise the fact that in a great many cases it will not be done; and *that* we may do without feeling that medical art is thereby reproached with a culpable incompetence. There are some persons who have been begotten and conceived in an insane spirit, bred in an insane moral atmosphere, and have thought, felt, and acted in an insane way all their lives; these people will remain lunatics as long as they live, will die lunatics, and, unless they have been made new creatures meanwhile, will rise lunatic spirits at the day of judgment.

In determining what medical treatment to use in a particular case the important thing is to look to the general bodily condition of the patient, and to treat that, if it needs treatment—to do in fact exactly what would be done were there no mental malady. If the person be gross and overfed, the physician must prescribe active exercise and moderate and clean living; if he be of a gouty diathesis, he must attack the latent gout; if epileptic, the epilepsy; if phthisical, the phthisis; if syphilitic, the syphilis; if anæmic, the iron-wanting blood. There will be a better hope of doing good to the mental disorder when he can lay hold of some positive constitutional disorder to work upon, than when he finds no fault in the bodily health. Let him first take heed then to the removal of those bodily conditions which appear to have acted as causes, partial or entire, of the mental derangement, and to the general improvement of nutrition. That being his first duty, it is plain that no one is

fitted to practise as a specialist in mental diseases who has not a sound knowledge of disease generally.

It will be proper next to inquire closely concerning any morbid sensations which may be felt in one part or another of the body; oftentimes these spring from some real bodily disorder and help to sustain the delusion or other derangement of mind; wherefore the removal of their cause may do good to the mind. Bodily disease is not easily detected, and is apt to be overlooked in the insane, since they, like animals, make no complaint in many instances, and the usual symptoms are masked by the mental malady; wherefore it is necessary to pay particular attention to all physical signs of disease. Phthisis, for example, will probably be discovered in that way only, since there may be no cough, no expectoration, even when it is far advanced; and there is no doubt that many cases of unrecognised phthisis are received into asylums. If we bear well in mind the various modes of the pathological causation of insanity which were previously set forth, we shall perceive the necessity of making a careful and exact examination of the entire bodily functions in every case, and of applying our medical measures to put right what is wrong in them. To go through an examination of the possible bodily derangements would be to recapitulate what has been already said.

Going on then to the discussion of particular means of treatment, I shall say a few words about general blood-letting, which was at one time a fashionable measure in the treatment of mental as of other disease. It is not used now even in the most acute and seemingly sthenic forms of insanity. The conviction is that it is not merely useless, but positively pernicious: convulsion of mind is not strength of mind, and is not to be radically benefited by draining off the life that is in the blood; for although violent symptoms may be lessened temporarily by blood-letting, they soon return and call as loudly again for blood-letting, and with each loss of blood the risk is increased of the disease becoming chronic and ending in permanent dementia. A local abstraction of blood by means of leeches to the temples or of cupping on the back of the neck is not open to the same objection; it should not be done, if it is done, with

the object of abating the excitement by lowering the general strength, but in order to withdraw blood from the overfull vessels, and of so yielding relief and rest to the suffering nerve-element. If that can be accomplished one may consider that it is to follow in the path of nature, which lessens the quantity of the blood in the brain during sleep. Practically, however, local blood-letting in insanity is but little more used nowadays than general blood-letting.

Baths of different kinds have been more largely used abroad in the treatment of insanity than in this country, where, on the whole, their value is not sufficiently appreciated. A prolonged warm bath will sometimes do more to allay excitement and to procure beneficial sleep in acute insanity than any narcotic; and its good effect will be increased by the application of cold to the head while the patient lies in it, either by means of a douche-pipe, or by watering the head from a hand shower-bath or a common garden watering-can, or by sponging the head and face with cold water. There can be no doubt of the good effects of a tepid bath to allay cerebral excitement. Our knowledge of the sympathy of organs has taught us how we can produce indirectly a change in the state of one organ which is directly inaccessible to us by producing an appropriate change in another which is directly accessible to us; and we may operate in this way upon the brain by means of baths, either to exalt indirectly its activity, as when we stimulate the peripheral nerves by cold baths and vigorous friction of the skin, or to lessen irritation of it, by the soothing and relaxing application of tepid baths to the consensual skin. Such a simple measure as sponging the forehead and face with cold water, especially if it be accompanied by the soothing words of a congenial attendant, will sometimes produce an effect which seems out of all proportion to its simplicity. The warm bath may be continued for half an hour, or even longer, but its effect should be watched; and its prolonged use is to be avoided where the pulse is very feeble and where there is anything like commencing paralysis. In France it has been used for eight or ten hours at a time, and, it is said, with good results; and Leidesdorf, of Vienna, has used for three or four hours at a time, with marked tranquil-

lising effect, a bath, constructed by Hebra, in which patients can be kept night and day at a definite temperature. The cold bath has also been used abroad for long periods at a time. Professor Albers published the notes of some cases of excited melancholia, with dirty habits, destructive tendencies, and sleeplessness, in which much good was done by a prolonged use of the cold bath. The patients were placed for one or two hours, according to circumstances, in water of the temperature of 54° Fahr.; the effect was to lower the temperature of the body several degrees, to bring down the pulse until it was scarcely perceptible, to subdue excitement, and to procure some hours of sleep when they were afterwards put to bed. This is a dangerous practice, which cannot be recommended; the risks of it are out of all proportion to the good which is ever obtained; and some cases have been recorded in which such a prolonged use of the cold bath undoubtedly produced the tranquillity of death.

The regular use of the cold shower-bath for half a minute or a minute at a time, with subsequent brisk rubbing of the skin, is to be commended in the melancholia of young and vigorous subjects, in whom reaction takes place fully afterwards, but it should be avoided in aged persons and in those who have a feeble circulation or show any symptoms of paralysis. In acute mania, where there is a great deal of noisy excitement and turbulent energy, the shower-bath is sometimes used systematically with advantage; and in these cases it may be given for a longer period than in melancholia—that is to say, for one or two minutes, but never for more than three minutes at a time. Some writers recommend its employment as decidedly beneficial in cases in which, after the acute symptoms of mental disease have subsided, the patient seems to be about to lapse into depression or dementia instead of going on gradually to recovery. It is a remedy which is always more fitted for use in young persons than in those who are advancing in age or are aged.

The Turkish bath has been extravagantly praised by some of those who have employed it in the treatment of mental disease. It is affirmed to be particularly useful in cases of melancholia.

I am unable to speak of its merits from personal experience, but can well believe that the occasional but not too frequent use of it, with its elaborate shampooing of the body, might be of service in some cases of mania and melancholia in which the skin is dry and harsh and its secretion disordered.

Packing in the wet sheet after the hydropathic fashion was strongly recommended, and largely employed, by Dr. Lockhart Robertson, formerly superintendent of the Sussex County Asylum. Without doubt it is a valuable measure in some cases of acute excitement. The wet sheet has an indirect soothing action upon the brain by its direct soothing action upon the skin, so that the patient goes to sleep in it sometimes when nothing more is done; moreover, by keeping a restless and excited person perforce quiet, it assists a sedative draught to take effect which would have been useless had he been running about the room. On one occasion I was called in haste to see a young woman who had been attacked suddenly with acute hysterical mania, to the great consternation of the household and to the despair of her medical attendant, who could not induce her to swallow anything. She had torn her nightdress into shreds, was quite incoherent, and was tossing about on her bed ceaselessly. She was immediately packed in the wet sheet, her face bathed with cold water, and a cloth dipped in cold water applied to the head; when this had been done she swallowed without difficulty a drachm of the tincture of henbane, and soon went to sleep. In the morning she was free from excitement but confused in mind, and in a few days had quite recovered. On another occasion I was summoned into the country to see a lady who was labouring under acute puerperal mania. The excitement had steadily increased for some days, and she had not slept despite many sedative doses. I found her in bed, excited and utterly incoherent, with one leg tied to each bedpost, and with her body also tied down to the bed. Her lips and tongue were dry, her voice was hoarse with shouting, and she refused all food and drink which was put to her lips. She was straightway released from her bonds and packed in the wet sheet, her face and forehead and mouth being sponged gently with cold water. After a while a mixture of milk and soda-water was put to her lips, which she drank rather greedily,

and then a dose of the tincture of henbane was given. She fell asleep, began to mend from that time, and in three weeks was restored to health. These examples of exceptionally successful results serve to show the value of the wet-pack, for there is no doubt that the good was done by it and not by the henbane. Had that drug been given without the patient having been previously packed and put in the attitude of repose, it would most probably have been without effect. The wet sheet should not be used for more than three hours at a time, and should be changed at the end of an hour and a half: its true purpose is medical treatment, not mechanical restraint.

Counter-irritation applied to the shaven scalp or to the back of the neck was much used formerly, but has now tacitly fallen out of use. Schroeder van der Kolk, however, had considerable faith in it, believing that he got good results from the application of strong tartar emetic ointment or of a blister to the shaven scalp; and Dr. Bucknill has thought it useful to rub croton oil into the scalp at the critical stage when acute is passing into chronic insanity, and also in chronic melancholy with delusion. In one case I witnessed a remarkable temporary effect follow the application of a blister to the nape of the neck. A young lady who had been for several months in a state of melancholic stupor or of silent dementia, never having spoken a word, woke up from her stupor the day after the blister had been applied and talked quite rationally; on the following day, however, she was much excited, and inclined to be violent, and then subsided again into her mute stupor. The experiment was repeated on another occasion with a similar result, save that her excitement and violence were much greater than on the first occasion. The sudden effect in this case might seem to indicate a powerful therapeutic agent, but I cannot say that I have seen any positive lasting benefit from the use of blisters or setons in the treatment of mental disease. It is a question, perhaps, whether a greater effect might not be produced if the counter-irritation were applied in a stronger and more active fashion than is ever done in this country. One knows how the convulsions of epilepsy may be inhibited in even long-standing cases of the disease by the suppurating effects of severe local injury: a

completely demented epileptic, who had two or three fits regularly every day, fell on the fire in one of them and burnt the back of his hand and forearm severely; extensive sloughing and suppuration followed; while this was going on he never had a fit, and his mind even grew much brighter; but as soon as healing of the suppurating surface began the fits came back and eventually were as strong and frequent as ever. Another epileptic of the same class suffered a rupture of the urethra behind a stricture which had been overlooked; in consequence of the extravasation of urine which took place there was extensive sloughing of the cellular tissue and skin of the perinæum and of the lower part of the abdomen; during this time there were no fits, but they returned when the wounds healed. Placing these facts side by side with what we know of the inhibitory effects of certain local and general diseases upon mental disorder, we may perhaps entertain a hope that in time to come more may be done than is done in the way of treatment, by the invention of some means of prolonged and active counter-irritation or inhibition.[1]

After derangements of digestion and secretion have been duly attended to and put right, the *diet* of the insane should be good —plain, but abundant. In melancholia and in asthenic mania the symptoms plainly call for as much nourishment as can be taken and digested; and even in so-called sthenic mania, where there is much noisy excitement and turbulent conduct, there is enough present strain upon the vital powers, and enough risk of vital depression after the fury of the storm is overpast, to make it unwise to withhold liberal nourishment. The good or bad issue of an attack of the most acute mania will depend sometimes on whether sufficient food has been taken or not during its course: if it has, the excitement may continue for a long

[1] Several cases have been placed on record in which epilepsy following injury to the head has been ameliorated, or cured—even when complicated with mental derangement—by trephining the skull at the seat of injury. When the injury to the head has not caused a fracture of the skull, or even a wound of the scalp, it has sometimes caused inflammation or thickening of the bone and epilepsy. In these cases also the removal of the bone by the trephine has sometimes cured the epilepsy. *De la Trépanation dans l'Épilepsie par Traumatismes der Crâne*, par le Dr. M. G. Echeverria, 1878. See also case described at page 227.

time, and when it is over the patient still recover favourably; if not, he may sink from exhaustion in the midst of unabated excitement, or lapse into dementia when it subsides. It is necessary to bear in mind, both in acute insanity and in chronic melancholia, that the digestive powers are likely to be weakened—in the one case by the withdrawal of power from them by the maniacal expenditure of vital energy, and in the other by the general depression of the vital energies—and to take care therefore that the food which is given is suitable, and is given in such form as is most easy of digestion. There is no wisdom in giving quantities of solid and ill-cooked food two or three times a day to a patient who, if he takes it, perhaps swallows it hurriedly without masticating it properly: it should be given at more frequent intervals, in smaller quantities, and in the most nutritious forms. Let the melancholic, for example, have a diet of this sort—a tumbler full of milk early in the morning, a not too heavy breakfast in due course, a cup full of beef tea or soup about eleven o'clock, oysters or a small quantity of meat at luncheon between one and two in the day, a dinner of not more than two courses about six o'clock, and a little milk or arrow-root or beef-tea before going to bed. If he goes to sleep for the first part of the night and wakes about two or three in the morning, unable to go to sleep again, as some melancholics do, a tea-cupful of beef-tea or milk, or a small quantity of other light nourishment taken then, will often enable him to get some more sleep.

Stimulants, if necessary, should always be given in moderation. If a patient is taking food well and his pulse is fairly good they are not necessary at all; but if he has been accustomed to take wine or beer, he may usually take two or three glasses of wine or beer in the day with his meals. The acute maniac, however, who is taking food well is in most cases better without any stimulant, and if he wants to drink he can drink nothing better than a mixture of soda or seltzer water and milk. In some cases of melancholia and of mania which has passed its meridian a glass of stout or a little mulled claret or a little sherry and water just before going to bed is found very useful. If adequate nourishment be not taken, and if

the pulse begins to flutter and flag, then stimulants may be more largely used, their use being regulated by careful observation of their effects: to "pour in wine and brandy" indiscriminately, as is sometimes done, is to my mind no better than the conduct of the man who, affecting to imitate the example of the Good Samaritan, poured oil into his enemy's wounds—but it was *oil of vitriol*. A judicious use of wine or other stimulant when an attack of insanity is threatening will sometimes do a great deal to help to ward it off: at that period when a person becomes unduly anxious, irritable, apprehensive, and loses his sleep night after night under the pressure of family-troubles or business-worries, he may be much benefited by taking some stimulant with his food; but it must be combined with other measures of relief, for if he relies upon it alone he will be tempted to increase the quantity taken, and his last state will be worse than the first.

Active *purgation*, once so much favoured, is now quite eschewed, in the treatment of insanity. The ancients used hellebore largely for the purpose, in order to purge away the black bile which they supposed to cause the malady; whence the recommendation to a person whose wits were astray—*Naviget Anticyram*, that being the place where the hellebore flourished. Still one finds a much too active inclination in some instances to make the bowels act by means of purgatives: doses of calomel or cathartic pills are given every two or three days to stimulate the depressed abdominal energies of the melancholic; and even the patient who is taking little or no food will run the risk of getting his purge if his bowels, which have nothing in them to act upon, do not act. It is a pity that those who run in this groove of irrational treatment do not try the effect of a strong mercurial purge upon themselves from time to time, and take notice how many days are required after it for the bowels to recover from the irritation which they have had and to act naturally. Active exercise, abundance of suitable food, and perhaps cod-liver oil are the best means of obtaining a regular action of the bowels in some cases of melancholia. When a purgative is needed, as it certainly may be at the commencement of treatment and from time to time in melancholia, the

most simple is the least harmful and therefore the best. Two or three grains of the extract of aloes, combined or not with small doses of the extracts of belladonna and of nux vomica, or a compound rhubarb pill, or a little castor oil, will usually answer the purpose; indeed a moderate dose of the last will often succeed when stronger purgatives fail, and it has the advantage that it is not necessary to increase the dose when it has to be given again. A wine-glassful of the Hungarian aperient water (Hunyadi Janos) taken the first thing in the morning seldom fails to operate satisfactorily, and is perhaps the most useful laxative in melancholia. A tumblerful of simple cold water early in the morning sometimes answers the purpose. Nothing is said in medical books of what may be done mechanically by a person to provoke or assist an action of his bowels; but there is no doubt that by rubbing and kneading the abdomen and loins, alternately with three or four blows on them, and by a few sharp taps over the coccyx, repeated now and then at the time of the usual action of the bowels, they can, either by direct shock or in a reflex way, be stimulated to act when they would not otherwise do so.

I come now to the consideration of the propriety of the free use of so-called *sedatives* in insanity. It is a practice which is almost universal among medical men, when they have to do with a case of mental disease, to prescribe sedatives in order to subdue excitement and to procure sleep, and the consulting physician meets in consequence from time to time with disastrous effects from the reckless use of large and often-repeated doses of chloral hydrate. Opinion is yet divided as to the value of this and other sedatives, and while one physician at the head of a large asylum denounces them earnestly, another who has had as large a field of practice cannot speak too well of them.

Some years ago I took occasion to put the question plainly whether it was a rational and proper thing to stifle mental excitement by means of sedatives,[1] and to suggest that it should be considered seriously whether the putting the nerve-cells of

[1] In a presidential address on *Insanity and its Treatment* to the Medico Psychological Association. *Journal of Mental Science*, October, 1871.

the patient's brain into chemical restraint, so to speak, did really benefit them. The answer to this sceptical inquiry, on the part of the advocates of sedatives, has been more confident, I think, than well considered. It amounts really to this—that it must be a benefit to get sleep where there is sleeplessness, and that it is certainly proper to extinguish a fire which is burning down a house. But it is not considered, not even suspected apparently, that natural sleep and narcotic-enforced sleep may be two different conditions and ought not perhaps to be spoken of, without more discrimination, by the common name of sleep. A patient can be made unconscious by chloral hydrate undoubtedly, just as he can by the administration of chloroform, but what is wanting is the knowledge that in either of these or similar artificial states the same sort of repair and restoration of nerve-element takes place which takes place in natural sleep. Exact information with respect to that point may be set down as entirely wanting: the chloral-produced state looks like sleep, and all the rest has been assumed. The second reason, if reason it can be called which is an analogical will-o'-the-wisp, namely, that it is proper to put out a fire, might be fairly met by the question whether it is clear that the sedative, albeit it dulls the flame in the first instance, is not in the end fuel to it. Does the patient wake up any better from his enforced sleep, or is he not usually wound up thereby to a greater excitement when he comes out of it? Moreover, is the period of excitement really shortened in the long run and recovery promoted, or is it lengthened and the lapse into chronic insanity favoured by the frequent use of the sleep-compelling drug? These are the weighty questions which require to be considered and answered by more numerous and careful observations than have yet been made.

There is yet another argument in favour of the use of sedatives which, as it has something of a scientific semblance, it will be proper to mention. It is based upon our knowledge of the physiological antidotal effect which one poison has to another—belladonna to opium, for example, chloral hydrate to strychnia Seeing that a poisonous dose of strychnia, which, given by itself, would of a certainty quickly kill an animal in tetanic

convulsions, may be given to it without fatal results when a full dose of chloral hydrate is given at the same time, is it not probable that chloral hydrate has a like good effect in suppressing the convulsive fury of a deranged mind? Here, again, it is to be feared that the analogy goes on one foot. Any animal will recover from a dose of strychnia if it can be kept alive until the poison is excreted from the body, which begins to happen soon after it is taken: if the spinal cord, therefore, upon which the poison acts, can be rendered less sensible to its action while it is in the body, there is nothing more to be feared when the poison has been eliminated. But that is not so in mania. The cases are few, if any, in which we have reason to suppose that the excitement is owing to the direct action of a poison introduced from without or bred in the body, which the body is hastening to get rid of by its excretions, and the physiological action of which the sedative counteracts whilst it is in it. Moreover, such a largely used sedative as opium positively hinders excretion by its secretion-checking action.

The truth is that the only valid appeal in this matter is to experience. If that has proved the benefit of sedatives in the treatment of mania we must accept the fact, although we cannot yet discover the theory of their action, just as we are compelled for the present to be content to know that quinine cures ague without knowing how it cures it. Unhappily experience speaks with directly contradictory voices: one physician of an asylum, after full trial of the hydrate of chloral, endorses the description of it as "crystallised hell;" another considers it the most useful drug we have in the treatment of insanity: one physician declares most confidently that the one form of insanity in which opium or chloral is unquestionably pernicious is acute delirious mania; another physician boasts that he has never lost a case of acute delirious mania since he has freely used chloral hydrate in the treatment of it. Such are the contradictory voices of experience. / One requires to know the character of the experimenter in order to decide which voice to trust; albeit one may feel pretty sure in a question of the action of a medical drug, that he who is least heroic in his use of it, and least confident in his opinion of its powers, will be most likely, in virtue of his

mental temperament, to have observed accurately and to have inferred soundly.

Perhaps some confusion and contradiction have been caused by the failure to keep in mind the different aims with which sedatives are used. A large and ordinary use of them in some asylums is for the purpose of stifling excitement and producing quiet, the nurses being supplied night after night, and in the day also sometimes, with draughts of chloral hydrate or of other sedatives, to be administered to certain patients who are excited, noisy, or sleepless. They are used, in fact, as mechanical restraints have been unwisely used—namely, to keep a turbulent patient quiet. But it does not follow, if they fulfil that aim, that they at the same time fulfil the aim of promoting recovery; on the contrary, it is conceivable that they may have the quieting effect wished for and yet not really promote recovery. *That* may well require another treatment. And yet so little is this considered that one frequently hears the long-continued use of some sedative lauded with *naïve* exultation, and without a word being said, or apparently without a thought being given, as to whether patients recovered better, or recovered at all, by taking it. "Where the methodical use of morphia injections is practised," says an enthusiastic writer in a recent number of a German periodical, "the restraints and costly divisions of asylums for violent cases, with their cells, may be banished."[1] That is to say, chemical restraint of the cells of the sick brain may be made to supersede entirely the mechanical restraint of the body. The successful argument against mechanical restraint was, that although it kept the patient's body quiet, it really aggravated his malady: the question now which should be considered is, whether chemical restraint does permanent good, or whether by diminishing excitement at the ultimate cost of mental power it "makes a solitude and calls it peace."

Undoubtedly the great majority of the inmates of every large asylum are persons who never will recover, be the medical treatment what it may. Those who drug the troublesome ones into stupor cannot therefore be justly charged with jeopardising their

[1] Dr. Wolf, *Archiv für Psychiatrie u. Nervenkrankheiten*, B. ii. § 601.

recovery; but it is not so clear that they are free from the charge of practising recklessly a system of treatment which the experience of the best-conducted asylums proves to be unnecessary, if not actually pernicious. There cannot be such differences between asylums as to make invaluable in one what is baneful in another. Dr. Clouston was at the pains to conduct a series of researches into the effects of the continued use of frequent doses of opium upon patients in the Cumberland Asylum, and he found the result to be—that the opium soon lost its effect; that all the patients lost weight while taking it; that their average temperature fell; that the pulse was lowered; and that in all cases, to use his words, "it interfered with the proper nutrition of the body and pushed it one step further downhill in the direction of death." If such be the effects of opium, what may be expected of the long continued use of chloral, seeing that it is certainly more injurious to the nutrition of the body, and particularly of the brain, than opium? The habitually chloral-dosed patients in an asylum may be recognised for the most part, I believe, by their miserable appearance. Be that as it may, the regular use of chloral, or any other sedative, in order to produce a stuporous quiet, is not yet proved to be any more scientific than it would be to place the patients in suitably constructed chambers and to render them insensible, as might be done, by supplying the chambers with a calculated mixture of air and carbonic acid.

As regards the use of sedatives for the purpose of aiding to bring about recovery in acute insanity, my experience is that while their occasional use may be necessary and beneficial, their repeated use day after day and night after night is unquestionably injurious—promoting death or dementia. And I am not sure whether they ever produce a beneficial sleep except in cases in which, with a little patience, sleep would have been obtained without them. Certainly in any case they should be looked upon as adjuncts of treatment, not as the backbone of it. *Opium*, which was formerly much used, has been ousted from its place by the hydrate of chloral; nevertheless I believe it to be a more useful and less dangerous drug. I have found it of more service when an attack of insanity from moral causes

seems to threaten than when it has burst out: at the beginning of the mental depression and apprehension, when the patient is nervous, depressed, fearful, and cannot sleep, a dose of opium each night for two or three nights will procure sleep and sometimes do great good; and in other cases small stimulant doses of morphia two or three times a-day appear to be of real use. I certainly think that I have seen an imminent attack of insanity warded off and tranquillity of mind restored by this sort of treatment. But there are two things to be borne in mind with regard to opium: first, that there are some persons whom it does not suit at all, and it is impossible to say, before trying it, whether it will suit or not; and, secondly, that it is always far more useful in old than in young persons. In acute mania and in melancholia agitans, I have never seen the least good, and I have often seen the greatest harm, done by the frequent use of opium. It is possible to get a fitful sleep of an hour or two, in most cases, if large enough doses be given, but the patient wakes up more excited and incoherent, and if the medicine be continued he is far more likely to sink from exhaustion during the storm, or into dementia after it. The important point is to take care that he gets sufficient food during the paroxysm; but the effect of the opium is to check his secretions, to lessen any appetite he may have for food, and to produce a dry, brown tongue, which goes before a fatal collapse. If there be any kidney disease the use of opium is still more prejudicial. It is always more likely to do good in the forms of sub-acute and asthenic mania in elderly persons than in any form of acute and sthenic mania; and it is not of the least use in acute delirious mania, in recurrent mania, in epileptic mania, and in the attacks of mania that occur in the course of general paralysis. In any case in which it is given I should be disposed to lay down the practical rule that if one or two full doses do not procure sleep and manifest relief, its use should not be continued.

The effects of steadily increased doses of opium two or three times a day have been much praised in melancholia. Certainly it does not appear ever to do the harm in melancholia which it does in mania, but it is obvious that a careful discrimination should be made of the cases in which this free use of it is

adopted. If there were a gross habit of body with defective secretion and excretion, or if the melancholia owned a gouty origin, it would not be a rational treatment, whereas it might be of service in the melancholia which was produced by poor nutrition and depressing moral causes, and especially in the melancholia of advanced age. The wise physician will treat his patient, not an abstract melancholic entity. My experience of this heroic opium-treatment does not warrant me to speak confidently in its favour; and my preference is for the use of small and repeated doses of morphia in those cases of melancholia in asthenic and aged persons in which alone I am tempted to continue the use of the drug.

The hypodermic injection of morphia may be had recourse to when there is a refusal to take medicine, and the drug operates in this way more certainly, quickly, and effectually than when taken by the mouth. Not more than one-fourth of a grain should be injected in the first instance, the quantity being increased afterwards, if necessary. I have not seen more positive good done by hypodermic injections than when the drug was taken by the mouth; certainly it will not quench the fury of acute mania, or of acute melancholia, nor does it seem to be a desirable practice to commence in chronic insanity; and I have more than once seen successive injections of morphia, administered for the purpose of subduing excitement, followed suddenly by fatal collapse or coma.

Of *chloral hydrate*, as frequently used, I entertain a bad opinion, and I much fear that its discovery has been thus far, not a good, but an evil, to the human race. A single dose, or an occasional dose from time to time, at the commencement or in the course of mental disorder, as a palliative, may certainly be useful, but its habitual use is pernicious. This is a case which is not very uncommon: a person finds himself becoming nervous, apprehensive, sleepless, and unable to face the cares and responsibilities of his business; he nerves himself for his work by taking some stimulant from time to time in the day, and he evades the horrors of a sleepless night by taking a dose of chloral when he goes to bed; this practice is continued from day to day and week to week with no other effect than to make

matters gradually worse; and the end perhaps is, if better counsels prevail not, that he commits suicide or breaks down into actual insanity. When that which may be used fitly as a temporary help—whether it be stimulant or narcotic—is resorted to as an abiding stay, the result cannot fail to be disastrous. When chloral is given in acute insanity in order to enforce sleep it succeeds in most cases, if the dose given be large enough, but I have never observed that the patient was any better for the sleep so obtained; on the contrary, my experience is that he is oftentimes more excited and insane when he wakes, and that the attack in the end lasts longer than when no chloral is given. The worst cases of insanity which I have seen have been cases in which large and repeated doses of chloral had been given for some time. The most violent case of puerperal mania was one in which forty grains had been given three times a day for three or four weeks; and in this case the patient began to mend a few days after the chloral had been entirely stopped, and eventually recovered. Had it been continued I have not the least doubt that the lady would have died or become demented.[1] On another occasion I was summoned in haste to see a young, strong, and handsome woman who, suffering from puerperal mania after the birth of her first child, had been given dose after dose of chloral for two days in order to subdue excitement and produce quiet; and certainly it had had its effect, for she was dying from syncope when I saw her, and died two hours afterwards. It is one of three cases in which I have known repeated large doses of chloral to cause death suddenly by fatal syncope: a possible danger which should never be lost sight of when large

[1] As an illustration of the persistence with which chloral is sometimes given, in spite of evidence of the want of any benefit, and indeed of the positive harm done by it, I may mention a case of acute hysterical mania which I was asked to see once. Full doses of chloral had been given twice a day for weeks, and a larger dose at night. But the excitement had not been abated in the least, and the mental state was worse; moreover, matters had reached the pass that it was impossible to get the young lady to take it by the mouth. The daily doses had perforce, therefore, been abandoned, and the nightly dose was administered by the rectum. But as there was great struggling, and much difficulty in doing it, the patient was every night rendered insensible by chloroform and the dose then injected. The treatment was discontinued for a few days but recurred to afterwards, I believe, and eventually the patient died.

doses are freely given. Like opium, its benefits are more manifest, and the harm which it does is less, in melancholia than in active mania; but here also its use should be occasional rather than habitual—a help for the time until other and more permanent measures of relief can be adopted. Dr. Clouston and others have spoken favourably of the virtues of chloral, when given to epileptics, in warding off post-epileptic mania.

In cases of great excitement, maniacal or melancholic, in which opium and chloral are to be eschewed, full doses of *digitalis* will sometimes produce good tranquillising effects. Digitalis was indeed much esteemed by old writers on insanity, and has now been restored to favour after having fallen into disuse for some time. Under its use the excitement may abate, and the pulse, falling in frequency, may, by repeating the dose, be kept for some time at a standard below the average. The effects are certainly excellent as a rule, and marvellous sometimes, in the maniacal outbreaks which take place in the course of general paralysis. Two cautions seem to be prudent in the employment of it: first, to begin with a dose of about half a drachm of the tincture rather than with doses of one drachm or two drachms, until experience has been obtained of its effects upon the pulse; and, secondly, not to continue the frequent use of large doses without carefully watching the effects. Formerly it was supposed to be a cumulative drug, that is to say, to accumulate in the system when given in moderate doses until it suddenly produced dangerous or even fatal effects, and albeit that opinion of its effects is not now entertained generally, death has sometimes taken place rather suddenly after repeated large doses of digitalis. It would certainly appear that although a patient who has taken large doses may be safe while lying down, he runs some risk of fatal collapse if he starts up suddenly or runs about in an excited manner.

Hyoscyamus is a useful sedative in cases of insanity, but it must be given in doses of a drachm or of two drachms of the tincture. Like digitalis, and also chloral, it acts better when combined with bromide of potassium than when given alone. It will oftentimes fail to produce any marked effect, but I have never seen any ill effect other than loss of appetite and sickness

from its continued use. Its alkaloid, hyoscyamine, has been recently employed, having been recommended by Dr. Lawson after a series of experiments at the West Riding Asylum. It is a very powerful drug, producing, in small doses of $\frac{1}{25}$ or $\frac{1}{30}$ of a grain, similar poisonous symptoms to those which are produced by unlimited quantities of the tincture of hyoscyamus—namely, loss of power in the limbs ending in paralysis shown by staggering gait and ultimate inability to stand, mental torpor and rambling delirium, extreme dryness of the throat rendering swallowing difficult or impossible, and great dilatation of the pupils. Twelve hours must elapse before these effects pass away, and two or three days in some cases before the patient recovers entirely from the mind-prostrating after-effects. On account of the great dryness of throat and the loss of appetite which it produces it cannot safely be given in any form of asthenic mania, in which it is important that the patient should not cease to take food; its use must be limited to cases of noisy and turbulent mania in which there is vigour enough to spare and no risk of fatal exhaustion from the mental and physical prostration. But it is not alleged that it promotes recovery in these cases; all that is claimed for it is that it renders such patients much quieter. Indeed, they evince oftentimes a singular dislike and dread of it, being much frightened by the remembrance of the effects which it produced upon them. Dr. Savage has tried the alkaloid recently at Bethlehem Hospital in some cases of violent mania and in a case of melancholia, and his experience is that it has done no good, but harm. In one case of mania the treatment was discontinued after two months as the patient "was becoming alarmingly thin and sallow in appearance"; in another case it was discontinued in consequence of the loss of weight and strength which occurred; in the case of melancholia the patient "was rendered worse in body and no whit better in mind." The instincts of the patients sometimes rebelled energetically against it: one of them, when she saw Dr. Savage, used to become violent and call him a murderer; another was enraged and struck him, calling him a "poisoner." In the case of henbane then, as in the case of other sedatives, we find that, while its occasional use may be of

service, the more heroic the treatment, the greater is the harm done.

Conium, a drug the action of which is very like that of hyoscyamus, has been hotly recommended in the form of the *Succus conii*. A dose of one drachm or two drachms is to be given in the first instance, but it may be increased up to as much as one or two ounces, three times a day, it is said, and be advantageously combined with bromide of potassium. That it lessens the excitement of the paroxysms in some cases of recurrent mania, failing to do so in others, seems to be pretty certain, but there is not sufficient evidence that it does permanent good to the deranged mind. Dr. Savage found in some cases a marked tendency to weak-mindedness follow the use of the drug, and although this might not have been due to it, he was impressed with the fact that the more he pressed its use the more marked was the mental weakness. If this were really so, there would be no cause for surprise: the *Datura stramonium*, which resembles conium and hyoscyamus in its physiological action, is used largely for poisonous purposes in India, and it has been observed that some days elapse before those who have suffered severely from its effects recover their memories and mental powers completely. For my part I do not doubt that a patient will certainly recover who is taking repeated large doses of *Succus conii*, if only the *vis medicatrix naturæ* be strong enough to get the better of the disease and of the drug.

Dr. Clouston has praised highly a mixture of *Cannabis indica* and bromide of potassium as a sedative, and he contrasts the effects of its repeated use with those which follow the use of opium, much to the disadvantage of the latter. The excitement was subdued; the medicine did not lose its effect after nine months' use; the appetite was not interfered with; the weight of the patients increased; and the temperature fell. In fact, the maximum of good effects and the minimum of ill effects were obtained by him. What one misses, however, in the record of these experiments is a ratio of recoveries in proportion to the virtues of the remedy; it is true that eighty per cent. of the patients were more or less benefited, but only one recovered.

A sceptical inquirer might desire to put the question whether it had been considered how many recoveries were prevented.

I shall say little of other sedatives, because I have nothing to add to what I have already said in the foregoing pages. Bromide of potassium is very largely used in all sorts and conditions of mental and nervous troubles, and there cannot be a doubt of its value both when given alone and in combination with one or other of the before mentioned sedatives. But it would certainly be well to have set forth more plainly than has been done yet the exact indications for its administration, since, as matters are at present, a patient gets bromide of potassium if he is maniacal or melancholic, if he is in good spirits or in low spirits, if he is sleepless or sleeps too much, if he has acute pains or distressing numbness in the head—in fact, in whatsoever tribulation of mind or brain he may be. It appears to produce specially good effects in cases of hysterical insanity, and whenever there is evidence of sexual excitement; and it is certainly of the greatest service in recent epilepsy. I have not seen any benefit from its use in recurrent insanity; nor am I tempted to employ it in old-established epilepsy with mental complications, since the present suppression of the fits by it seems to be followed in some instances after a while by an outburst of fits and fury which is positively appalling. As a simple and harmless means of procuring sleep it is of value; and its efficacy for this end will be found to be increased sometimes by giving it at bedtime in a glass of beer or porter. Hydrocyanic acid in large doses, like every other sedative, has had its eager advocates. I have not used it in heroic doses, but in ordinary full doses it has appeared to do good in some cases of mania in which there was evidence of irritation and excitement of abdominal and pelvic organs; acting in that case, perhaps, indirectly as a sedative to the brain by a direct sedative action on parts the activity of which was working prejudicially upon the brain. Tartar emetic was at one time much used in asylums for the same purpose as chloral is used now, namely, to tranquillise noisy, excited, and troublesome patients, and it has also been employed in the medical treatment of acute mania. In the latter case, if it be given in a large enough dose it will produce the peace of

prostration, but the temporary lull of excitement is followed by a recurrence of it when the patient recovers from the effects of the drug, and to go on repeating the doses will be likely to cause loss of appetite where the necessity of food is urgent, and ultimate injurious depression. On the other hand, strong, turbulent, restless chronic maniacs, in whom the pulse is regular, the tongue clean, the bodily health nowise affected—in whom the body seems to have thoroughly acclimatised itself, so to speak, to the mania—suffer no harm from full doses of tartar emetic, if it does them no good.

The foregoing remarks will no doubt appear to some persons to be inspired by a spirit of exaggerated scepticism with respect to the value of sedatives in the treatment of insanity, Let it not be overlooked therefore that they refer not to their occasional use as adjuvants of other well-considered measures, but to their repeated use day after day and night after night in order to abate an excitement which they will not abate, and to enforce a sleep which, so enforced, does no good. It is foolish to expect that a person who is suffering from acute mania will have anything like the quantity of sleep which a sane person gets, and unwise to try to force him into it by stupefying drugs. If he does not sleep one night, he will probably sleep for a part of the next night, and if we wait patiently, taking care meanwhile to attend to his special constitutional state, and to provide that he takes abundance of exercise in the open air, that he gets sufficient food, that he has baths if he will take them, and that his surroundings are such as are not likely in any way to irritate his disordered brain and to add to his excitement, we shall happily find that the natural sleep which he obtains by fitful snatches increases gradually in amount; and we may be content that a few hours of such natural sleep, even if obtained only on alternate nights, will be worth more to him in the end than a whole night of chloral-enforced insensibility. As regards melancholics, it is to be noted that they oftentimes sleep more than they think and say they do; and it is well therefore before treating them for sleeplessness to have the evidence of some one who has watched them through the night. Moreover, if they have been wont to have sedative draughts for

some time, they will protest that they cannot sleep a wink without them; albeit, if the strength of the draught be lessened without their knowledge, a taste of the drug only being left in it perhaps, they sleep fairly well. In some cases a small quantity of light nourishment taken in the night when they wake up from their first sleep and begin to toss about in the mental agony of a succession of tormenting thoughts, will procure calm and sleep. For example, an old gentleman with a feeble heart, suffering from melancholic apprehensions and distress, always woke after a few hours' sleep in a wretched state of panic fear, so that he could not get to sleep again but was obliged to pace the room in an agony of mind. He was recommended to take when he awoke a cupful of beef-tea with a little sherry or brandy in it, and then to lie down again; and the result was that he got to sleep and soon recovered, afterwards getting married again, old as he was. To get out of bed and walk up and down the room a few times, to go through a little gymnastic exercise, to brush the hair briskly, to sponge the body with water and to rub it well afterwards with a towel—are expedients which may be had recourse to; instead of tossing about in bed; they may help a mild sedative to take effect when the person gets into bed again, if they do not break the spell of tormenting ideas and enable him to go to sleep without any sedative. One gentleman who consulted me used to get into a cold bath, and found that efficacious.

There is no doubt of the value of systematic exercise and employment in the treatment of mental disease. If one could persuade or compel a strong and turbulent maniac to plough a field, or to row several hours a day, or to walk twenty miles a day for a month, taking plenty of nourishment the while, the treatment would do him more good than he would get from all the drugs of the Pharmacopœia. The co-ordinated use of energy in any sort of systematic employment is an excellent medicine for the distracted and incoherent mind. Employment is a thing therefore to be patiently and persistently aimed at, albeit it may be very difficult to get it done: the maniac is oftentimes too turbulent and restless to fix his attention for any length of time; the melancholic too self-indulgent or lacking

in energy to make what is to him a painful effort and to persevere. In enjoining exercise it will, of course, be necessary to have attentive regard to the state of the bodily strength and to any symptoms of bodily disease, and to modify rules accordingly; in the most acute form of mania, especially in acute delirious mania, the patient should be kept as quiet as possible, and treated more as a person suffering from meningitis or from the delirium of fever would be treated.

The general medical treatment in mental disease must be based upon the most careful appreciation of the bodily state. If there is reason to believe that it is of syphilitic origin, iodide of potassium should be given freely, and, if necessary, some preparation of mercury. Small doses of the chloride of mercury in decoction of cinchona answer very well. It is remarkable how rapid and complete sometimes is the change for the better which follows the administration of antisyphilitic remedies to a patient whose demented symptoms seemed to portend certainly an incurable insanity. The one hope for an obscure case which, presenting most of the features of commencing general paralysis, as syphilitic insanity sometimes does, cannot be diagnosed with certainty, is that it is of syphilitic origin, since, if it be, there is a fair chance that recovery will take place under specific treatment. If there be a suppression of the menses, as there often is, it must be borne in mind that the insanity most frequently causes the suppression, not the suppression the insanity. No good therefore will be done by active measures to provoke menstruation in such cases; on the contrary, if such measures are successful and the menses are regular without an accompanying change for the better taking place in the mind, the prognosis becomes more gloomy. But if they return naturally as the mind shows definite signs of amendment, then there is good hope that mind and body will go on together to complete recovery. Sometimes, however, they remain obstinately suppressed after decided improvement or complete restoration of mind. In that case I have found nothing more useful than an ounce of a mixture containing equal parts of Mistura Ferri Co and Decoct. Aloes Co., taken early every morning. Or a pill containing aloes and iron

may be given every night. In some very obstinate cases Dr. Savage has found the tincture of hellebore in doses of from half a drachm to a drachm two or three times a day to be very successful. Obviously in a case in which the menstrual suppression and the mental disease appear to be common effects of a low state of the general health or of an enfeebling bodily disease, the proper treatment will be to treat the constitutional state: to strengthen the weak body will be to do the best for the functional irregularity.

In many cases of melancholia and in some cases of asthenic mania cod-liver oil is most useful, and it may be proper to give iron and quinine also. Among tonics, however, I have found small doses of arsenic alone, or in combination with small doses of strychnia, to be of the greatest service. I have more faith in arsenic, indeed, than in phosphorus, which many persons now employ largely in cases of nervous depression. In the treatment of general paralysis, physostigma, the active principle of the calabar bean, has been employed by Dr. Crichton Browne, at the West-Riding Asylum, with alleged results which, having regard to the generally accepted notion of the incurable nature of the disease, must be accounted extraordinarily successful. Other experimenters have not yet had the successes which he has had from its use, and further observations are required in order to settle what its actual value is. It may be given when given in doses of twenty drops of a Tincture or of from $\frac{1}{10}$ to $\frac{1}{4}$ of a grain of the Extract.

Let it not be forgotten that a cheerful and hopeful mood of mind is a most valuable remedy against disease of all sorts, and that if the physician can infuse that into the patient he will often do him more good than by all infusions of drugs. Charms, amulets, ceremonies, and the like, which have prevailed amongst all nations in all ages, have without doubt been truly helpful in curing disease, having owed their efficacy to the faith and hope which they inspired. Hope inspires the organic elements of the body with energy; despair infects them with feebleness. If a person is convinced he will die of a disease from which he is suffering, and abandons himself to despair, he will die when there was not death in the disease; if he is

convinced that he will not die, and looks forward buoyantly to recovery, he will hold death successfully at defiance even when its victory seems assured. In like manner recovery from chronic disease will take place when the organic functions feel the animation of a hopeful spirit, whereas the disease may continue or even increase if they are oppressed with the weight of despondency. He is commonly the best physician who inspires the most faith in his patient.

In conclusion—and it may well be the last word concerning treatment—the physician cannot too constantly and sincerely bear in mind that the body is not a mechanism the parts whereof work independently of one another and may be adjusted to their special purposes without relation to the purpose of the whole, but a living organism, each part of which calls the furthest brother, and no part of which can suffer or be glad without the whole suffering or being glad with it, the humblest element working in the whole and the whole in the humblest element. Keeping this just conception ever in mind, he shall not miss the practical lesson of it: namely, that he should strive always to bring the inspiration of a healthy tone of mind to bear upon the disorders of the body, and should not ever neglect to observe and to put right the meanest bodily disorder in his efforts to restore health to the disordered mind. Let him pass reverently through a holy—*i.e.* healthy—temple of the body to the inner sanctuary of a holy temple of mind.

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