

States of unconsciousness : irresistible impulses, epilepsy, treadaway.

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STATES OF UNCONSCIOUSNESS.

IRRESISTIBLE IMPULSES—EPILEPSY—TREADAWAY.

A MONOGRAPH of the states of unconsciousness has yet to be written. For years to come this may remain a desideratum, "a sight to dream of, not to see;" but until the birth, bearings, and boundaries of that condition, which entails a loss or a lack of the knowledge of our own thoughts and feelings, be exhaustively dealt with, the relations of the human mind and of human acts to responsibility must be imperfect and uncertain. Habit and popular experience have reconciled us to very vague notions on this subject. The total suspension of mentalisation in coma and syncope has been recognised. The partial interference with sensibility and mobility, and the consequent limitation of will in trance, trance-coma, somnambulism, is known rather as a physiological curiosity than as an affection which places the individual in a different mental and legal position. But it is only necessary to advert to exaggerated, or even to ordinary examples of abstraction, vacancy, fugacious inattention, or absence of mind, to the profound concentration in study, sorrow, suffering, to demonstrate that there is a large unmeasured scale of gradation and of unconsciousness, and that it is only in the highly cultivated, exercised mind, and where there is an equable balance between the subjective and objective faculties, that periods never recur of impaired consciousness, of those gaps in the continuity of perception and memory in which the connection of the individual with the thing said, done, or recalled, is no longer distinct or trustworthy. Even in master minds, such as that of Sir Robert Peel, such obliviousness may occur. He is described as sitting plunged in profound, probably in painful reverie in the House of Commons, after the sitting was

closed, the members, and even his colleagues, departed, and until roused when the lights were about to be extinguished.* In whatever these intercurrent spaces of non-existence may have originated, whether from the unfettered determination or the idle wandering imagination, or from the brain-wasting which follows hard work, intellectual or moral, it is certain that, occasionally, in different persons, at different ages, and in different circumstances, they pass beyond the power and in defiance of the will, and are fairly entitled to be classed with morbid mental affections, if not with positive alienation. Our anecdotal literature is replete with illustrations. All know that the intense contemplation of Sir Isaac Newton rendered him so entirely oblivious to self and surroundings, that, in order to relieve himself from the heat of the fire, he ordered its removal instead of drawing back his chair, a twilight which foreshadowed deeper darkness. Even this expedient did not occur to Martini, the poet, whose leg was burned during his absorption. A clergyman is known to us who forgets his name, the street in which he lives; who, on turning in the street, invariably pursues the wrong direction irrespective of the object of his journey, and who, on retiring to his bed-room to prepare for a dinner party, undressed and went to bed. A similar instance of irremembrance occurred in the professor of Hebrew in a northern college, who, on the day of his marriage, dressing for the ceremony, retired quietly to bed. Ludicrous incidents of the same kind are related of Bowles the poet, who, tying his horse to a stake, retraced his steps, offered to pay the turnpike which he had already paid, and was astonished to find that he had dismounted; of Matthews and Mrs. Siddons, the actors; but all these are outdone by the concatenation of absurdities in the biography of Hookham Frere, the scholar and man of letters, who, handing the Countess of Errol to supper, drank the negus he had prepared for her, and altogether forgot the object of their visit to the dining-room; and who, on the day of his marriage with the same lady, had no recollection until the evening that he had promised to accompany his bride to the country; having occupied the intervening time in reading his poems to his publishers.

It is obvious that these are specimens of mere forgetfulness and absence in those who had taxed attention and introspection to the utmost, and that, in confining the exercise of intellect and memory within a narrow range, they had insured, by disuse or exclusion, the other, and especially the observant powers. But concentration on particular subjects, even upon particular

* Disraeli's *Life of Lord George Bentinck*.

objects, and those the creations of fancy, produces still graver evils, even illusions. Buddhists and Fakirs who direct and fix their devout attention upon a single attribute of Deity, or a single spot or organ in their own frame, are said to become monomaniacal; and even in a man of genius, famous in our own land, continuous application led to serious, though brief, disturbance in perception. It is narrated of Sir Joshua Reynolds that, "when, after being many hours occupied in painting, he walked out into the street, the lamp-posts seemed to him to be trees, and the men and women moving shrubs. His attention had been so long fixed and enchained to the picture before him, that he could not direct it to other objects of sensation."* Now these reveries were, one and all, of vigorous, acute, perceptive minds, of lofty intellect, of immaculate character; but had any of them committed murder, theft, or delinquency during the partial suspension of consciousness, in what relation would they have stood to the demands of justice, to public opinion, or to their own conscience, when restored to complete self-possession? They could scarcely be classed with the bloodthirsty or revengeful, or premeditating ruffian; they would assuredly not be exonerated on the ground of alienation; and yet they could not be held, in the words of the law judges, to have a knowledge of the nature of the act, or whether it was culpable or blameless.

How far seclusion from the world and its ways, the shutting the windows of the soul against external impressions, the subjugation, or rather abnegation of human pursuits, passions, interests, may have contributed to create and establish the visions of St. Teresa, even the posture and stolidity of St. Simon Stylites, it might be irreverent to decide; but it is certain that to narrow the scope of intellectual exercise, to nullify the influence of the emotions or to contract the mental forces, is calculated to induce unhealth, both by giving disproportioned prominence to certain faculties, by allowing others to fall into desuetude and apathy, and, it may be, by inducing undue or defective nutrition in certain portions of the brain. This has been demonstrated in a marked manner in the lives of eccentrics, ascetics, extatics, and above all in the convulsionaries of St. Médard, where the morbid action of intense devotional feelings and practices extended temporarily to the enfeeblement of volition, to the functions of motivity and sensibility, manifested in violent convulsions and complete anæsthesia. But mono-ideaism may be involuntary and originally the offspring of disease. It is not agitated here as to the one-ideaed congenital idiot,

* *The Indications of Insanity*, by John Conolly, M.D. London, 1830; p. 119.

who in his psychical solitude is wrapt up in one sensation, it may be heat, or hunger, or a bright colour, or even of a desire to assassinate, but of such consequences of bodily or mental degeneration as, robbing the thinking part of our nature of its nobler endowments, leave it in the impoverishment of an appetite, an unvarying set of words, a peculiarity or a single all-embracing thought. These sequelæ are designated by the French "fixed ideas." This term would imply that the morbid element consists chiefly in fixedness, in the inability of the will to substitute another train of reflection or perception. A more characteristic feature appears to us to be the unconsciousness of ultraneous sensations and subjective suggestions, and, consequently, of the moral relations of the individual, seeing that the will, though feeble and fickle, is not extinct, as it serves to guide in the direction of the predominating, if not constantly permanent notion or incentive. The narrow circle within which such a notion appears to move has obtained for this defect the name of partial delirium; but this must not be accepted as synonymous with raving or agitation, nor must it be conceived that the word "partial" precludes the extension of this habit of thinking and acting to other mental powers. In the same category may be arranged the reduced capacity of the aged and the moribund; the preoccupation of the maniac, whose disordered imagination can admit of nothing but the present and ruling impulse; the absorbing and exclusive anguish of the melancholic; the shorn and shattered mental remains of the dement; even the dulled and darkened apprehension in false judgments, where the absence of the power of comparison and reasoning excludes a portion of the premises in every induction, and leaves the mind the sport of imperfect reports of consciousness. When the French grouped all forms of mental excitement or perversion under the generic terms of feebleness, fatuity, folly, which might influence human conduct as affected by law, they virtually admitted that in all of these, and in the multiplicity of minor morbid states which they comprehend, there exists in different degrees a suspension of consciousness; but in this classification are not included the results of poisoning by contagion or narcotics, such as *cannibis indica*, which unquestionably obscure and obtund, if they do not destroy, intellectual and moral perception. An attempt has been made to distinguish monomania, whether it presents the outward and visible sign of homicide, incendiarism, theft, or is nothing more than a hidden and mastering, though inappreciable, because inoffensive motive, from instinctive irresistible impulses, but undoubtedly without success.

Somnambulism may be placed as an isthmus between morbid

sentiments or proclivities, which overshadow the moral sense, and sudden blind irresistible influences, which destroy, or for a short season suspend every mental operation. In it the senses are awake, preternaturally alive; the muscles are ruled and regulated with a power and precision emulating the feats of an acrobat—from saddling and riding a horse to scaling a cliff, from writing a theme to running along the roof of a house. There is a purpose and there is a co-ordination of acts for its accomplishment, but consciousness is still asleep, and memory retains no record of the transaction, although that may have gravely affected the interest of the actor and of others. It is only when breaches of the peace or violations of law signalise the conduct of a prudent and peaceful citizen and are tendered in exculpation, that monomania, properly so called, has been investigated; but psychology justifies the belief that in the performance—even the habitual performance—of many acts which do not involve serious consequences, the mind is exactly in the same condition: is forced to think or feel in a particular way, is forced to instigate certain deeds in flagrant opposition to its ordinary character and tendencies, and in utter disregard of the promptings or of the resistance of other motives and considerations. How nearly allied such a struggle and such an ultimate triumph of the propensities over reason, religion, and prudence are to irresistible impulse will be seen in the sequel. In analysing this obscure factor of conduct, it is best to separate it from all other morbid manifestations, to deal with it where no traces of physical or psychical unhealth can be detected, and where neither sin nor shame nor sorrow have flowed from its brief domination. Where impetuous but brief passions and lusts have been resisted, extinguished, and have left no trace behind, except a self-accusing remembrance, or the vague glimmer of a danger escaped, there may be the prodrome, the foreshadowing of disease, as well as the triumph of virtue and high principle. In advancing one step further, we meet with instigations not merely incompatible with the general bearing of the individual, and absurd and monstrous in their nature, but recognised as exotic and reprehensible, and which are subjugable and eradicable. We were once consulted by a female, in the prime of life, educated, intelligent, affluent, of spotless reputation, who confessed, with shuddering and repugnance, and in great perplexity, that when passing those large plate glass windows, now so common in shops, she was tempted, impelled, to break and crash this rather pleasing object; that when in church, of which she was a regular attendant, she could scarcely refrain from shrieking and shouting aloud, not in fear or protest, but from an inexplicable, almost ungovernable urgency; and that when entrusted, as from her kind and gentle

nature she frequently was, with babies or young children, she was horrified to find a craving, an almost insatiable desire to crush, cast them down, and kill them. All these anormal incentives coexisted with no discoverable impairment of body or mind; were never yielded to; were ultimately removed; and the victim is still alive, an ornament to her circle. The brevity and inconstancy of such states, as well as their amenability to control, have been argued as proving that they are not morbid, but malign; but certain it is, although the paroxysm might be momentary, the instigation was beyond the control of the will, and remained or reappeared in antagonism to conscientiousness and high resolves. We conceive that the introduction of duration as an element, when weighing the healthy or unhealthy origin of human motives, is an error. The sanction of the epigrammatic adage "*brevis ira furor est*" would fall pointless were not psychologists brought face to face with instantaneous madness, with sudden outbursts of mania; where, from calmness and equanimity, the individual passes, or rather rushes and reels into wild violence and vindictiveness and other symptoms which become permanent. Opinions as to the reality of *mania transitoria* are divided; but even where doubt is cast on those scathing flashes of moral lightning which sometimes disturb and desolate families or even communities, as an independent species of alienation, it has been admitted that such transitions may be witnessed in conjunction with more familiar aspects of emotive disease, and especially in the non-convulsive intervals of epilepsy.

A certain connection between irresistible impulse and the short and sharp outbursts of epileptoid fury may be indicated by the fact that the former is sometimes preceded by an aura, as well as the latter. This may consist in general *malaise*, insupportable general feelings of weight, distress, anxiety, fear, or in local sensations often proceeding from the epigastrium, the chest, and head. These premonitions may even assume the form of illusions of the external senses, sounds, sights, smells, or of distinct verbal suggestions, apparitions, or the presence of particular external objects, such as blood, a knife, or a rope. How trivial the external cause, how momentous the mental consequence may be in such exigency is proved when a single word or a particular colour provokes, or the touch of a companion's finger or the tying a ribbon round the thumb averts, an outburst of uncontrollable fury. When such adjuncts accompany the propulsion, it of course becomes more complex; but it is desirable, as a preliminary step, to treat the ruling tyrannical idea as simple and uncomplicated with other attributes, even when these are anormal. That such an idea is uncontrollable does not exhaust the definition of this

state. Jacobi has wisely declared that it annihilates the *Me* by excluding all the relations which determine personal identity, the relations of the moral as well as of the intellectual sense; but in our opinion it engulfs not only all other impressions, but it becomes, during its continuance, the whole mind, the *Me*. The usurpation of such an idea in those who would resist and expel it has been alluded to; and the first indication of morbidity in minds otherwise strong and self-regulating, and where the instigation provokes laughter rather than condemnation, is where it outstrips the grasp of will. Of very numerous instances of this early manifestation of mental impairment a few may be presented. A literary man engaged in his calm contemplative pursuits is constrained, from time to time, to throw up the window and crow like a cock; a lady of good tastes and many accomplishments is incessantly urged, even while mingling in society, to pronounce the words "little pig, little pig," which were without meaning or application; and such manifestations should be distinguished from the epidemic cat-mewing, cries of animals, etc., in religious and other communities where superstition, imperfect nourishment, and irritation might be at work. In addition to irresistibility, the characteristics of suddenness, or rapidity, must be considered. The impulse is most frequently unannounced, momentary, and ceases whenever the object, whatever that may be, has been attained. But there are exceptions to this, where hours, even days have elapsed between the invasion and termination of such dominations, and the concomitant unconsciousness, the interval having been signalled by the perpetration of murders and other foul and frightful deeds. Inferences have been drawn as to the identity of this enslavement of the will with other sorts of insanity, from the fact that many of these deeds are so atrocious and revolting to humanity, and so inconsistent with the previous history and known dispositions of the actor, as to be irreconcilable with any theory of human conduct. There has been blood-thirst and corpse-hunger; but the presence of premeditation, conspiracy, and other concomitant circumstances seem to remove such horrors from the category under discussion, although not from that of mental perversion or derangement. Unity of purpose was formerly supposed to swell these definitions, so that the passive or powerless actor was projected, like a runaway locomotive, invariably in the same direction, or towards the same goal; but the necessity for differentiation has recently been advanced. Two species have been described; in both the patient is a mere machine, but in one the end is single, in the other it is multiple; in the former it never changes, in the latter the objects may be an attitude or a word, suicide or homicide. This automatism

resembles but is not identical with, in the one case, monomania, in the other mania; but it differs from each, inasmuch as there is no delirium, no incoherence, the judgment remaining intact, conscientiousness unclouded, the nature of the impulse understood, repudiated, and reprobated.

The struggle maintained between the deliberative and directing powers and the blind impulse, between the impotent healthy wish and the omnipotent morbid will, is well exhibited in the following case: "C. H. confesses, with the most profound dejection, that ideas, suggestions, words passed through his mind so wildly and forcibly that he could not arrest their progress. Sometimes a frightful thought assumes the form of an impulse altogether irresistible—a desire to kill my wife, whom I regard with strong affection. So soon as I am seized with this singular affection my head seems to turn, my legs tremble, my self-control ceases. I can no longer move, walk, nor yet remain in the same place, neither mount nor descend the stairs. I feel as if I were mad, would injure the whole world. Fear paralyses me; I dread a knife or a razor; my head is so confused that in an omnibus I dread to look at faces of the occupants lest I should do them some harm. I weep, and when the crisis is past my former habits of thought and feeling return."* These are the words of a sane hypochondriac.

How terrible this contest must be, how sincere the resistance where flight is not resorted to, may be judged of from the relation by Brierre de Boismont of a hypochondriac who, in dread that he might yield to a temptation to destroy his wife, cut off his arm. To those who have adopted the doctrines of solidarity and the indivisibility of the mental powers, such antagonism between two spiritual personalities in the same individual may appear incredible; but, wherever there is a conquest over tendencies to evil, a conflict of opinions, an uprooting of cherished convictions, a self-sacrifice—and everyone must have had such experience—a similar mental operation is inevitable. To those, again, who regard will as a component quality of intellect or emotion, it may be difficult to conceive the existence of disease in the one and not in the other; but experience tends to show that volition may be affected while intelligence and sentiment are not implicated. That the will is ruled and restrained from free action by a dominant thought or delusion in lypemania, megalomania, and ambitious insanity with paralysis, is now well known to alienists; but to Esquirol is due the merit of having entered upon the study of diseases

* *Des Impulsions dans la Folie et de la Folie impulsive*, par M. le Dr. H. Dagonet, p. 7.

of the will as distinct from those of other faculties. To show how frequent this constraint is, Marc records that, of 200 cases of instinctive monomania examined during twenty years, all presented lesions of volition to which the false idea or the act might be referred. Subsequent psychologists have recognised overmastering, lethargic, divided, impaired will. While such special affections of volition unquestionably exist, we must not be betrayed into the notion that lunatics generally are deprived of the exercise of free-will, however much that exercise may be fettered or perverted by distinct morbid conditions. The claim of irresistible impulse to be classed as a separate and independent form of insanity is countenanced by the presence of hereditary taint; by its diagnosis from transitory mania, to which it appears allied, having a shorter duration, a perfect recollection being retained of what takes place during the paroxysms, its sudden incursion without apparent cause; whereas transitory mania can generally be traced to intemperance, epilepsy, and depends upon detectable cerebral congestion. That it is connected with physical changes, however, is probable, by its curability, on the establishment of puberty, under the influence of occupation and toil, as well as powerful moral shock. Even Bertrand, the exhumator and violator of the dead, whose bestiality alone disclosed moral perversion, was restored to reason. However unexpected an excess of this kind may be, there is sometimes a period of incubation. The prodromes are exalted sensibility, suffering, probably neuralgic, epigastric pain, sleeplessness, difficulty in fixing attention, vague indefinable sensations, and other indications which have been observed as the precursors of many other species of the neurosis. Although the propulsion may be found alone, it is much more frequently the symptom or concomitant of other mental diseases: may impart ferocity to mania, obstinacy to suspicion, iteration to the garrulity of the dement, and may explain those ebullitions of passion which have led to so many of the outrages which have rendered the presence of the insane fraught with terror.

As bearing practically upon this discussion it is interesting to discover, on an analysis of the reports of judicial inquiries collected by M. Tardieu, that nineteen out of thirty are, in one aspect or another, explicative of certain of the propositions considered. These reports concern inquiries in which alienation, real or supposed, or pretended, affected the interests, either of society or of the individual, and in which medical science was appealed to in order to determine the presence or the degree of mental disease. These documents embrace a very wide field, refer to the validity of marriage, of death-bed testaments, of stimulated folly, and necessarily illustrate not only the intellectual state

of the moribund, of civil liability during lucid intervals, but the psychology of a large number of the more obscure and morbid sources of human action. Of the nineteen alluded to one is an example of pyromania, or an impulse to incendiarism in a mind otherwise vacant; two concern moral obliquities associated with comparative clearness of mind; in eight the emotion of suspicion was the mainspring of conduct, fed and fostered, it is true, by delusions of various sorts; in three the propulsion to suicide was a prominent feature; in one maniacal fury shut out all healthy motives and self-control; in one sudden ebullitions or paroxysms alternated with periods of intermittence and lucidity; in one there was no vestige of errors of judgment or conscience, where murder was perpetrated on the instigation of words audible to the accused only; in one a calm, gentle, and pious demeanour was supposed to hide immorality, where almost a massacre was committed; in one reasoning madness was combined with the idea of persecution.

In none of the neuroses is the presence of these elements so conspicuous as in epileptic insanity. In its relation to mental phenomena, epilepsy and its concomitants must not be viewed as a single disease, but as a series or train of psycho-physical disturbances, which less or more affect the soundness of reason. This series or train is not merely a succession of stages of the rise, progress, and culmination of a specific malady, but contain intrinsically and independently of each other, different sources of impairment, which represent the excitement, the unconsciousness, the violence, the enfeeblement, the fixed ideas, the irresistible impulse, which, in various degrees, affect spontaneity, and which have been separately alluded to in the previous pages. Before tracing the members of this morbid series in their effects, it is expedient to deal with them in the concrete, as these, as a group, are recognised under the general term epilepsy. It has been contended that epilepsy invariably precedes insanity, and that insanity never precedes epilepsy. Such a generalisation must be received with some reserve, as, unquestionably, convulsions epileptiform in aspect occur in many forms of alienation, and we have met with them existing contemporaneously and co-ordinately. This matter is, however, insignificant when compared with the inquiry as to the prolificness of epileptoid seizures in the production of derangement of some kind. It might be presumptuous to contravene the pleasing illusion, if such it be, that such attacks may arise and pass like a thunderstorm, without inflicting injury, without leaving a single trace of their fury; but it is prudent to test the proposition more precisely and circumspectly.

Esquirol has given the following statistics to illustrate the

comparative frequency of the association of epilepsy with the different forms of mental disease, whether present as a cause, a symptom, a consequence, or simply as a complication, for it may stand in any of these relations. Of 339 female epileptics treated in Charenton, 12 were monomaniacs, 30 maniacs, 34 furious, 145 demented, 8 idiots, 50 habitually reasonable, but afflicted with loss of memory; and 60 exhibited no aberration of intelligence; one-fifth preserved their reason, but, he significantly says, "what reason?" He elsewhere subjoins that, notwithstanding improvement in mental health, when the fits become infrequent, he has never seen the entire obliteration of a certain moral and physical susceptibility. This indelibility has been confirmed by cases in which infantile convulsions reappeared at the consummation of marriage, or on the supervention of some grave constitutional change, so that the lapse of half a lifetime may not insure permanent immunity.

"There are a certain number of epileptics," writes Falret, "who, notwithstanding the intensity and frequency of their attacks, preserve nevertheless throughout life the integrity of the intellectual powers, and present only slight perturbations of character and intelligence, to which we cannot give the name of insanity." Echeverria, the most recent and copious authority upon this disputable point, writes, as his experience during thirteen years, that of more than 700 epileptics examined, 267 laboured under manifest epileptic insanity, the mental state of the remainder not being recorded. This number, it is probable, came under his notice as patients in an asylum, but we must depend upon the evidence of Russell Reynolds for information as to the proportional affection of certain mental powers in those "who are sent to asylums," but who may not have been actually residents. He found that the memory was nominal or affected only after the fits in 43·85 per cent., and more or less defective in 56·14 per cent. Apprehension was normal in 62·5 per cent., defective in 37·5 per cent. It must be obvious that this acute observer has failed to supply any of the other indications of mental disease save those involving two intellectual powers, and has omitted the more important aberrations—those, in fact, which could justify even the contemplation of seclusion, and that his researches do not support his first and most sweeping conclusion, "that epilepsy does not necessarily involve any mental change."

Except, where under very vigilant scrutiny, in an hospital, the nature and amount of mental deterioration in epileptics will defy the penetration of statisticians. The attacks may be nocturnal and unnoticed. As there remains the exercise of will to a limited extent, and in a small number of epileptics the fits

may be checked during the day. There may be no convulsive paroxysms, and these may be supplanted by transitory unconsciousness, *petit mal*, or many of the analogues of the fully developed disease which have been described. As epilepsy has been simulated, so it has likewise been suppressed. This class of patients are endowed, perhaps as a symptom of their complaint, with the power of concealing many of those psychical manifestations which would reveal the breadth, if not the character of their affliction. Even under favourable circumstances it may be impossible to reach the root of the etiology, or to determine whether the fatuity presented be the fruit of chorea, epilepsy, or any convulsive seizure, whether it be original or consecutive. As the proposition here enunciated is that, in all its phases, the cerebral muscular affection is in different degrees detrimental to healthy mentalisation, it may be expedient to expose these seriatim.

I. The premonitory condition or diathesis which announces a stage of unhealth which is itself an integral part of disease, and which may precede the pathognomic signs for months or weeks or days, may be succinctly stated as disorders of mind and temper, such as sadness, peevishness, irritability, quarrelsomeness, torpidity of conception, failure of memory, obtuseness of ideas, hebitude, prostration, and, as the climax is approached, gaiety, exaggeration of moral and physical strength, vertigo, restlessness and loquacity, passing into passion and fury, and all these being accompanied by bodily ailments, such as cephalalgia, neuralgia, vomiting, and various modifications of neuropathic indisposition. Two inferences may be drawn from these facts—first, that they demonstrate a constitutional disturbance under which it is difficult to conceive how the intellect could act calmly and clearly; and second, a predisposition or proclivity to morbid actions of some kind which may eventuate according to the excitant applied in mania, paralysis, or epilepsy.

II. The actual premonition, or aura, is likewise entitled to be ranked as a part of the epileptoid paroxysm. It may stand alone, it may never be followed by convulsion, and may then be confounded with other anomalous peculiarities, under the comprehensive but vague designation of nervous affections, or ties. It may be centric or excentric, a movement or a sensation, but generally proceeds, as pain, from the surface to the throat or head. Spasms, or even reflex actions, may serve as heralds. More frequently heat or cold, a breath, a tingling or tremor may be felt passing along the arm, or from the epigastrium. In place of these modifications of touch, there are experienced impressions of the other senses, simple tinnitus, the sounds of music, the roll of thunder or artillery may assail

the ear, red or rainbow colours may flash upon the eye, sweet or disgusting odours, or savors, become warnings, all of which ultimately become or may become hallucinations, may be referred to external causes, and though intermittent, are ever recurrent, assuming large proportions and greater influence. These next merge into delusions and apparitions, articulate meanings and menaces, suspicions of poisoning, adulteration of food and so on, usher in the muscular paroxysm, but may pass away when it terminates. Even particular states of consciousness become precursors of the subsequent steps of the malady; and certain thoughts, even continuous process of reasoning, certain emotions and propensities, fear, fury, but foreshadow the invasion of greater evils, and often assume a habitual sway over the regulation of conduct. In their permanence and prominence they must be regarded as "fixed ideas;" in their dominations over the will as "irresistible impulses."

Falret, while appreciating the precedence of these indications to the attack, has, we conceive erroneously, designated them as an intellectual aura, and has failed to distinguish between conditions of the organs of the external senses and of the sensorium. The sudden development of sentiments, passions, instincts, in their nature transitory, is constantly remarked, while the presence of a prognostic idea, opinion, prejudice is rare. But whatever the mental phenomenon may be coincident with the commencement of the disease, it may be fairly expected to be reproduced in all future attacks.

We have been told by a distinguished physician that he has been subject to *petit mal* since puberty; that it formerly occurred during the day, but at present only when retiring to rest; that it is invariably preceded by a particular train of thought; that it can be produced when he consciously adverts to such thoughts, and that it consists of a loss of the feeling of personal identity followed by panic. In the statistics of 267 cases an aura of some kind or degree was noticed in 86 per cent.; auditory hallucinations were recorded in 62 per cent.; visual in 53 per cent.; auditory and visual combined in 42 per cent.; olfactory in 6 per cent.; and lastly, 30 per cent. displayed disturbance of general sensibility. Neither these facts nor their bearings upon the rationality or responsibility of the sufferer have been duly estimated, nor has the aura, perhaps from the shortness of its duration, been esteemed a form of alienation.

III. Cerebral epilepsy, or what is more properly known as the *petit mal*, may be fairly defined as "a state of waking unconsciousness, connected with convulsive seizures." It is not always so connected, but may constitute the only morbid affection discernible. Herpin has asserted that in every case of

absence it is always possible to discover some slight partial convulsion, but this has not been confirmed by concurrent observation. The persistence of such a loss of apprehension of mental and bodily relations may be but momentary, or it may extend through hours or days. An organist stops while playing for seconds or minutes, and resumes without omitting a note, and exactly where he ceased, with no consciousness of the interruption, nor recollection of the loss of time; and a performer on the piano has unwittingly played on, while the head was spasmodically twisted round. A card-player pauses at the moment he is about to throw a card, gazes steadily on vacancy, and then plays the right card. An architect, while traversing a plank in the scaffolding of a building, runs quickly across, pronounces his own name repeatedly, and knows, from the anxious look of the workmen, that he has had an attack. In speaking or reading, a sentence or word is abruptly broken off, and while all are wondering at the hiatus, the lips articulate the word or syllable necessary to complete the meaning of the speaker. These brief arrestments of continuous attention are not invariably followed by convulsion, but they are generally considered as more portentous and pregnant of injury to the mind than the *grand mal*, and occasionally initiate insanity directly. It is obvious that when unconsciousness is prolonged for any length of time, events may occur and conduct may be attributed to the sufferer, which may involve grave consequences to himself and to society. Wherever such a suspension of present knowledge and of memory have been urged as explanatory or exculpatory of particular acts, the plea has either been rejected or accepted with grave suspicion, as the evidence of such a ground of excuse must almost always depend upon the person chiefly implicated, and as the existence of such a state is doubted or disbelieved in by all, except psychologists. Dr. Ray, one of the most distinguished of this body, has admitted this difficulty, when narrating trials in which such a defence was set up, and in which he took a special interest. There would, accordingly, be an important principle established, could it be shown that the *petit mal* may continue for hours, either apart from or identified with an epileptical diathesis, and where no catastrophe marked its progress, and suggested any motive for falsification.

In a recent communication from Dr. Ray (June 1877), the following statement is given on his authority and that of Dr. Tyler: "An epileptic gentleman told me that he felt the premonition of a fit as he was passing out from the entry of the Tremont Temple, in this city (Boston). In his next conscious moments he was astonished to find himself at the end of 'Malden

Bridge,' walking towards his home (the distance is about two miles), his clothing undisturbed and unsoiled, showing that he could not have fallen; and in some way he was able to fix the time, so as to make it clear that he had accomplished the walk with no considerable delay."

Memoranda are in our possession of a gentleman who left his house without intention or object, threaded many of the crowded streets of a large city, crossed a bridge, again traversed thoroughfares, crossed another bridge, and returned home unscathed. This walk extended to eight miles, and was accomplished in somewhat more than two hours. The pedestrian's recollection was a complete blank: he could not recall his journey as a whole, nor any part of it; not one step of the way, nor street, nor bridge, nor anything seen; not even the acquaintances by whom he had been accosted, and who were the only witnesses of this extraordinary feat. This person was not an epileptic or a lunatic. It has been recounted that these periods of wakening sleep have given birth to new mental illumination, and to intelligent though erratic manifestations, and we have not only observed greater lucidity after epileptic coma, but when this increased clearness reached its maximum another paroxysm ensued, as if the renewed energy had acted as a stimulus to the morbid tendency. At the same time the general effect of repeated, though short, incursions of this waking sleep is as numbing and noxious to the brain as that of the ordinary aura to the tactile nerves.

IV. A dull steady gaze and a spasmodic shriek are immediate precursors of the paroxysm. The patient is suddenly struck down as if by lightning, insensible to the wounds or injuries which may attend his fall; but occasionally a certain amount of self-control remains, so that a suitable and safe position may be assumed. Unconsciousness may precede the muscular agitation, but they often occur simultaneously. The suspension may be complete or only partial, so that words have been heard, or incidents have been observed, during the convulsion. The muscles of both the trunk and extremities may be implicated, or there may be local epilepsy affecting a limb, and accompanied with very slight mental impairment. Where the frightful contortions of the body, which present every conceivable combination of muscular action, and are so violent as sometimes to induce dislocation, and the other strictly physical symptoms afforded by the state of the respiration, circulation, surface, and so on, are eliminated from the description, a fit may be defined as coma, involving physical perturbation of various kinds, present or potential, followed by sleep. Such attacks differ in intensity and frequency, but are characteristically periodical.

There may be one or a thousand in the year. There may be one or many in the day, and so slightly separated in time as to have acquired the designation of *status epilepticus*. The life of an individual so affected is not only darkened but diminished in duration. He obtains cognisance of mere portions, handfuls of his years. His experience is composed of shreds, interrupted series, the lacunæ being either entirely void or occupied with confused and obscure impressions. When this disease commences in infancy it is aggravated at puberty, and even where there is no cerebral malformation or degeneration, the longer its continuance the more damaging are its consequences. But there may be no palpable convulsion. Its place may be taken by sadness or dejection, by sullenness, by ebullitions of rage and ferocity, realising what was known anciently as the *mania furibunda*, and signalised by suicide, homicide, and every modification of blind and destructive impulse. Examples might be cited where, on the entire cessation of fits, the propensity to kill became developed. Trousseau has affirmed that wherever there was a revolting or motiveless crime he suspected the existence of epilepsy. These atrocities may mark the close of the *petit mal*, as well as form analogues or substitutes for the regular paroxysm. It might be rash to conjecture that these sanguinary events were premeditated during the antecedent stages of deterioration, but it is possible that the violent and vindictive feelings, the tumultuous and unregulated passions, that the fixed ideas, the intellectual aura, for example, may seek and find vent and gratification in tragedies which may have been forecast in imagination. But, according to the opinion of Morel, wherever the true nature of these analogues is masked, or larvated for a season, convulsions ultimately supervene, ending fatally. Not only are certain of the links of the long chain which constitutes the totality of this neurose sometimes wanting, but at others all the principal features, or nearly all, may be found in one person. Dr. Robertson, Lunatic Wards, City Poorhouse, Glasgow, has recently recorded an instructive example of this concatenation. A female patient, æt. 53, under his care, who had suffered under epilepsy for twelve years, presented three forms of this affection—1. The ordinary convulsive seizure, recurring every seven weeks, from six to thirty having been counted in one day; 2. Periods of faintness; 3. Automatism, during which she, on one occasion, laid the cloth, knives, &c. for her companions, the only error being that she mistook the time. When epilepsy is, in asylum language, brooding or incubating, patients are believed to suffer much, and to be relieved by what is called, in the same vocabulary, a well-formed fit. In many, however, when complete relaxation of the muscles, the drooping of the head to one side,

the long-drawn suspiration, and the change of colour announce the termination of the attack, sheer prostration or recuperation do not inevitably succeed. The awakening from stupor may resolve itself into an outburst of derangement, which is supposed to have a nosological place, and to deserve the specific name of epileptic insanity.

V. The cessation of coma does not imply the return of perfect consciousness. The madness now under consideration differs only in a few particulars from better known forms. It may bear the features of melancholia, especially of mania, and even, it has been affirmed, of general paralysis. This latter opinion must as yet be held as speculative, or as founded upon an imperfect diagnosis of the convulsions which appear towards the closing scenes of paresis. The symptoms of epileptic mania are extreme vehemence, violence, and destructiveness. When of traumatic origin, the most dangerous, even murderous dispositions and designs prevail, and somewhat similar aggravations have been traced back to intemperance and syphilis. Hyperæsthesia and real or imaginary exaltation of physical force have been offered in elucidation of the demolition of doors, walls, windows, as well as of the pugnacious and pugilistic assaults which have been complained of. Epileptics have declared that they obtain relief by such onslaughts, by beating the walls and similar exercises; and it is at least proved that if not entirely anæsthetic, many of them suffer less than other persons from even severe and serious injuries. The instantaneousness of such outrages has been assigned as pathognomic, and to emulate, if it be not identical with, *mania transitoria*. The alternate dilatation and contraction of the pupils, lasting for an appreciable time, is seen in this insanity as well as in the coma by which it was preceded. Among other diagnostic marks "the echo sign," which consists of the frequent repetition of the same words in language or in writing, is greatly insisted on by American writers. Although the paroxysm of excitement may be exceedingly evanescent, it may be prolonged for weeks; circumstances which, as well as the uncontrollable instincts alluded to, manifestly vindicate and demand special structural arrangements and supervision for this class of lunatics, especially during the night. The intermittence witnessed in the course of this disease may or may not correspond to the recurrence of the convulsive attacks; but even should vehemence, incoherence, and other symptoms disappear, it would be unwise to infer that the disease itself had ceased, or that more than a lucid interval could be depended upon. Of 532 epileptics, 267 were affected with this mental sequela or complication.

VI. But this is not the only disturbance of the nervous

system concomitant with the more marked symptoms. The storm may subside into calm. The countenance may become placid and good-humoured in expression, the recollection may rally to a certain degree and in a certain direction, there may be the resumption of previous habits and occupations; but the activity of the exacerbation is not preserved in this temporary convalescence. There is apathy, lethargy, or gentle dulness, and many of the indications of progressive fatuity. In this dementia there may be gradual impoverishment of ideas and words, inextricable confusion of both, amounting to incoherence, vague timidity, panic, terrors, absurd, even vile fancies, and positive hallucinations.* To these Brierre de Boismont has referred many of the atrocities committed by this class rather than to outbreaks of fury. When it is borne in mind that this condition may reach no deeper than the feebleness or fantastic folly which are tolerated in society, but reveal great uncertainty and untrustworthiness of purpose, and may be lighted up to intense excitement by some latent delusion, some unprovoked irritation, the connection of even these remote results with the welfare of those around may be seen.

VII. These are positive results, but there is a negative condition, dating from the close of the *grand mal*, more insidious, obscure, and perplexing, because it offers a strong resemblance to healthy mentalisation, and differs only from such by the presence of complete unconsciousness, which appears to be compatible with many rational doings. It is closely related to the *petit mal*, but is distinguished by these peculiarities, that the memory recalls events which have happened during previous stages of the complaint, or even previously; secondly, that it follows the convulsive attack; and thirdly, that it is more fraught with evil to those around. It may continue for days, and the patient appear so much a duplicate, a simulacrum of his former self, as to deceive even those most familiar with his deportment and habits, into the belief that he is both *compos mentis* and *compos sui*. He may be compared to a dreamer, but there is more method, more self-possession, in his cognitions, while his acts are more nearly allied to those of the somnambulist. Yet journeys are undertaken, marriages contracted, engagements entered into, persons or places recognised, during this state of unconsciousness. All of these transactions being invalid, are utterly blotted out from the knowledge or recollection of the individual, and only disclosed to him by the consequences which they entail. The revelation is often made by the commission of a crime or misadventure, by the stern

* Balfour Browne, *On Medical Jurisprudence*, p. 222.

interference of the law ; and it may be readily understood how greatly the difficulty of convincing the unscientific of such a ground of exemption from penalties is enhanced when such catastrophes are the only proofs. That recourse may be had to such profound and imperfectly known deviations from sanity, with the intention of cloaking or concealing crime, or of escaping from its punishment, is shown in the following extract :—

“A vine-dresser, in the neighbourhood of Lyons, was suddenly seized with a fit of shivering. He took up a mattock and killed three of his children who were near him in the house. A hundred steps from thence he killed his wife and his last child. Having accomplished all those murders, he went and gave himself up. This man was not intoxicated, he had never previously evinced signs of madness, there was no apparent motive to explain his action.

“M. Bottex, the physician charged with the examination of the vine-dresser, discovered that he had experienced vertigo and giddiness some days before the arrest. Besides this, he was sad, melancholy, and appeared to have had some idea of suicide. Other testimony established that he was much attached to his wife and children.

“The case then appeared most simple, and that transitory madness ought to be admitted without difficulty. But at this stage a witness came forward to reveal a strange proposition which the murderer had held ten months before. He had said that a man who should kill his wife and family would get off with a few months' imprisonment, because the physicians would make him out to be mad. In addition to this he had remarked since his arrest that one of his children having survived its mother some hours, became her heir, and that as he himself was heir to this child, his wife's property ought to come to him. The result became questionable, and in the report presented to the magistrates the existence of an access of transitory madness was only mentioned as a simple probability. The murderer was condemned to death, but the punishment was commuted to that of penal servitude for life.”*

A few illustrations of the least disastrous effects of this morbid motive power may be given :—

An epileptic, whose hands were afterwards soiled with blood, while employed as a mercantile clerk, was walking along a dock in New York when a steamer was about to start for Charleston, went on board, and found himself in that town without funds, luggage, or any acquaintance, and was compelled to pledge his valuables in order to accomplish his return. This expedition,

* Baillarger, *Ann. Med. Psych.*, Avril 1861.

undertaken unintentionally and without object, left some traces in his memory.

In a second case epilepsy following a fall from a ladder was associated with short periods of suspended consciousness, during which the patient appeared to be dead, of which he was unaware. After one of these he took possession of a carriage encountered in the street, drove to his father's grave, a mile and a half distant, collected flowers, gave them to his mother, and, contrary to her directions, deposited the vehicle as his own property in a livery stable. It does not appear that this larceny was seriously visited. Of the appropriation and all other circumstances he was and continued to be altogether ignorant. During another attack he engaged as a sailor and embarked for London, was speedily detected to be a landsman, and was spared the danger of mounting into the rigging. When, a few days after sailing, he recovered consciousness, he expressed great astonishment and utter forgetfulness of the circumstances which led to his position.*

A youth liable to vertiginous seizures, so extreme as to necessitate him to seize hold upon some object close at hand, and which returned several times each day—labouring, in short, under what is called in France the intermediate crisis—attempted to poison himself, was not excitable, nor had he shown any tendency to destroy, but was in the habit of leaving his work abruptly; wandered about the streets without losing his way; walked to Amiens, 75 miles from Paris, and back, taking no food for two days; complained of forgetfulness of his ordinary work, and even of matters with which he was conversant, and of being a sleep walker during the night. This unfortunate being wounded a female in the street, without appreciable reason or provocation, retained an indistinct remembrance of what happened before and after the accident, and none of the assault itself. His abstraction continued during his flight, but in his deposition he insinuated that the knife had acted of itself.†

In this instance the obscuration of the perceptive and moral faculties was perhaps transitory, but the following records much longer stupor, confusion, and irritability:—

An inebriate woman visited a friend, partook of a draught of beer, and then became epileptic. After recovering from the fit, intelligence was restored for a brief interval, during which she lamented her depraved habits, then became somnolent and slept for eight hours. On awakening, her moral and intellectual powers were suspended, the face was pale, one pupil contracted,

* *American Journal of Insanity*, vol. xxx. (1873), p. 20.

† Falret, *Obs.* x. p. 478, t. xvii., *Archiv. Gen. de Méd.*

she did not attend to the injunctions of those around, refused food and medicine, glided about the house, but when obstructed or thwarted, her force became excessive, almost convulsive, and her bearing became so threatening as to alarm all around her, and to show that resistance would have provoked extreme violence. This condition remained for thirty hours. She then recognised her friends, but had no conception either of the fit or of what followed.*

Had this woman wreaked her insensate vengeance upon supposed opponents she would assuredly have been arraigned, and, failing the testimony of a judicious medical witness, would have been condemned.

The conflict indeed between law and medicine on this point is painfully conspicuous, and there is even a gloomy diversity of opinion between experts, for one has said what is tantamount to a suggestion that lunatics, and consequently epileptics, should be hung; we imagine upon Voltaire's precept "pour encourager les autres." The great majority of these, actuated not by humanity alone, but by scientific conviction, advocate leniency and forbearance, even the abrogation of capital punishment. The custom of different nations has likewise betrayed how irreconcilable legislative provisions are upon this question. In Rome an epileptic was held to be irresponsible for three days subsequent to an attack; in France the onus of proving the sanity, and therefore the accountability of an accused during the same period is thrown upon the prosecution, while in our own code there is no provision similar to this, every case being tried on its own merits, and until very lately neither epilepsy nor the manifold deviations from right reason by which it is surrounded have been admitted as exonerative. A distinction has been essayed in order to attach responsibility to civil and exemption to criminal delinquency on the part of epileptics; but the scheme appears to be unpractical and unphilosophical, and we cannot accordingly reverence justice or mercy in sparing the lives of such offenders and then handing them over to life-long penal servitude. Again, it has been argued that should the offence be connected with or the result of a prominent or predicable delusion, a fair ground for pleading exculpation was established. Attention has been very generally directed to these subjects by the misadventure which was imminent in the person of Treadaway, a murderer, who was convicted and condemned to death. This culprit, according to evidence adduced in court and obtained from his consistent narrative, was a hosier,

* *British Medical Journal*, No. 846, March 17, 1877; abridged from a paper by Dr. Holland, p. 324.

æet. 19, in whose family hereditary tendencies to cerebral disease had been manifested in varied and numerous forms, fourteen individuals in three generations having suffered either from depression, excentricity, insanity, or from epilepsy and paralysis. Treadaway himself, after indulgence in excessive intemperance, became affected with permanent headache, and had sustained during its continuance and for two years repeated seizures of unconsciousness, which he called "fainting fits." The attacks took place while otherwise in sound health, lasted a few minutes, and were marked by a severe shooting and throbbing pain in the head, vertigo which made him clutch some support, the sensation of a black cloud coming over him, and finally entire oblivion of what was passing in himself and around. The recovery of his senses did not at once dispel the cephalalgia and mental confusion, but he was able to walk onward, and felt quite well in an hour or two. He was likewise subject to severe pains in face and cardiac region, where a cord seemed to be tightly pulled round his chest, and to involuntary micturition during night. Loss of employment induced depression, which was not relieved by the kindness of his family, and under the pressure of these circumstances he meditated suicide, first by drowning, then by shooting himself, and for that purpose bought a revolver. While conversing with his victim, he experienced the first signs of an approaching fit, which had been preceded by headache, etc., and from the moment when the dark cloud seemed to brood over him he lost all knowledge and recollection of his doings or of the discharge of the pistol bought for his own destruction, until he found himself in the street, and did not fully realise his position until next morning, although he seems then to have taken some precautions in order to conceal his connection with the deed. Most fortunately he became convulsed while in the dock, and was declared to have had a fit of genuine epilepsy, the last of a series which had occurred during his examination in the police court. As to the perpetration of the homicide by the prisoner there was no doubt, and a sentence of death was passed. More fortunately still, certain misgivings having arisen, prompted, in all probability, by the healthy comments of the press, as to the verdict, the Secretary of State directed further examination, confided the duty to the President of the College of Physicians and to Dr. J. Crichton-Browne, Lord Chancellor's Visitor, who reported in such a manner that execution was stayed and the epileptic sent, not to Broadmoor, but to a penitentiary. Had such a commission exercised their functions previous to the trial, or, what would have been better, had the law required—as it does in France and in one American

State—that the accused in whose favour it was known mental impairment would be pleaded, should be consigned to observation in an asylum, such a painful and discreditable dilemma would have been eschewed. Like some of the parallel lines which run through the history of greater events, it is curious to find that in a similar case in America, where a paroxysm took place during the trial, conviction was followed by a deferred sentence, a medical inquiry, and ultimate seclusion in an asylum; and that this was the first occasion on which a plea of epileptic insanity had been successful.

Now, taking it for granted that the pathological history of Treadaway has been accurately ascertained, and comparing the phenomena presented with the description in the cases contained in the foregoing pages, it will be impossible to avoid the conclusion that he sacrificed his friend while under the influence of the unconsciousness, or mental weakness, which are the sequelæ of epilepsy, which permits of the predominance of delusions, morbid monoideaism, irresistible impulses, and sanguinary instincts, which regulate mechanically or automatically the volition and action of the individual. Under whatever category placed, the precursory stage, the aura, the *petit mal*, before or after the convulsion, the mania, hallucinations, intellectual irregularity and enfeeblement, which are its results, he and all those similarly affected may claim to be treated as irresponsible or partially responsible.

We do not aver that one, or even a group of such phenomena, should place a man in the same relation as a raving riotous maniac; but they are of such a character as to render him less capable of regulating his conduct, less capable to resist the all but omnipotent urgency of external circumstances; and, if not involving partial responsibility, certainly demanding consideration and allowance from friends, associates, and public tribunals.

Notwithstanding the boasted advance in psychological discrimination, it would be difficult to frame a graduated scale of responsibility, or to apply such, if the numerous and incongruous factors in human conduct be considered when so framed; but it is encouraging to find that a step has been taken in this direction by our American fellow-workers, who now speak of "guilt of the second degree." But, if such a safeguard cannot yet be created, an alternative remains in the introduction of the mitigatory plea of extenuating circumstances into all convictions where the mental strength and stability are doubtful, or where the antecedents or bodily condition of the individual render the presence of morbid but undiscovered incentives probable. This would be a confession

of ignorance, a compromise ; but it leans to mercy's side, and might be preparatory to a virtual acknowledgment that responsibility must be judged of by other standards than by impairment of the intellect, of the moral sense, or by the "dark saying" of *non compos mentis*. This measure, in conjunction with a preliminary and prolonged scrutiny in an asylum wherever alienation was suspected, or was about to be urged in exculpation, would confer great benefit in putting a stop to the unseemly antagonism of paid experts during legal proceedings, and of removing the opprobrium of hanging lunatics as criminals, and secluding criminals as lunatics, to which our present system of judicature has been exposed. As some modification of the Lunacy Law may be expected to flow from the report of the Parliamentary committee which has just completed its labours, this appears to be an appropriate and critical juncture for bringing these important difficulties before the judgment of the public and the medical profession.

In this article we have endeavoured to utilise, but not to criticise, the works of Dagonet, *Des Impulsions dans la Folie et de la Folie Impulsive* ; Tardieu, *Etude Medico-Légale sur la Folie* ; Echeverria's excellent papers on Epilepsy in the *American Journal of Insanity* ; and other fugitive pieces.