

CHAPTER III.

DEMENTIA PARALYTICA PROGRESSIVA—GENERAL PARALYSIS OF THE INSANE—GENERAL PARESIS—SOFTENING OF THE BRAIN.

WHILE in tabes we have learned to recognize a disease of the general nervous system, in which the spinal cord chiefly is the affected portion, we find that in dementia paralytica, on the other hand, the brain is pre-eminently the part attacked, whereas the spinal cord and the peripheral nerves do not suffer so regularly nor to so marked a degree. In its distribution the lesion of the cord is either diffuse or, as in tabes, confined to the posterior columns. With regard to the affections of the spinal nerves a more careful study is still necessary, and more especially this question needs to be answered whether here, as seems indeed very probable, primary degenerative processes, analogous to those of tabes, can also be demonstrated.

Ætiology.—The manifold points of resemblance between general paralysis and tabes, to some of which we have drawn attention above, are found first in the ætiology of the two diseases. In the former as well as in the latter hereditary tendencies are of much significance. A person belonging to a family in which nervous diseases of any kind have been prevalent is more prone to develop general paralysis than a member of a healthy family. However, this factor is in the majority of instances not sufficient in itself to bring about the disease, certain exciting causes being also necessary, and experience has taught us that it is chiefly overstrain of the nervous system, and more especially of the brain, which favors its development. Such excessive demands which are made upon the brain are numerous. Chief among them is mental overstrain, caused by too close attention to work and worrying over business—too much scheming, calculating, etc.—so that we are not surprised that bookkeepers, accountants, bankers, stock brokers, authors, actors, etc., form the relatively largest contingent of cases. Besides this, deep emotions, repeated or long-lasting sorrows or care, the struggle for existence, disappointed hopes, baffled

ambitions, and fright, may attain an ætiological importance. On hearing the history of a general paralytic, one at least of these factors will hardly ever be absent. Bodily overstrain, forced marches, excesses *in Venere* and the like, can be made responsible to a less extent. Excesses *in Baccho*, the habitual abuse of alcohol, only rarely lead to general paralysis, but sometimes a condition is produced by such excesses, the "pseudo-paralysis a potu," which resembles general paralysis, but which is quite distinct from it, and belongs to chronic alcoholism. There is no question but that the occupation may furnish causes for the disease; thus, those which entail at once bodily and mental work, or those in which the workers must for a long time remain in very hot rooms, and again working in poisons, especially in lead (Snell, Vogel, and others), are particularly dangerous. Of great interest, finally, is the fact that, like tabes, general paralysis may be caused by traumatism either to the head or the back, so that we have a traumatic progressive paralysis which is quite analogous to the traumatic tabes. In this latter category we must also place the insolation, (sunstroke, heat stroke) which has been known to lead to general paralysis (Bonnet and Paris, *Ann. méd.-psych.*, Novembre, 1834, 6, s. 12).

Besides the congenital, however, there exists also an acquired predisposition, which differs from the former, inasmuch as no other exciting causes are needed for the production of the disease, since, just as is the case in tabes, it alone is sufficient to bring about general paralysis. We refer, of course, to syphilis. The same highly important rôle which it plays in tabes it plays here too. An individual who has had syphilis has much greater cause to fear general paralysis than one who has never been infected. According to the statistics of Rieger (cf. lit.), the one is sixteen or seventeen times as liable to the disease as the other. These figures correspond very closely with those founded on my own experience. Out of two hundred and fifty-seven paralytics a hundred and seventy-one had been syphilitic, and out of two hundred and sixty patients with other diseases only fourteen. Heredity and all the exciting causes taken together do not give rise to as many cases of paralysis as does syphilis alone; but here again, as in tabes, we must leave the question open as to how syphilis acts, whether, as I myself am inclined to think, the syphilitic arterial disease is responsible, or whether we are dealing with a toxic action

so that general paralysis has to be regarded as a post-syphilitic affection. Whatever our decision on this point, the fact that general paralysis may be the result of syphilis is universally acknowledged, and the numerous writings which we possess on the subject are all without exception in favor of this view.

The influence which has been ascribed to age and sex can usually be explained by that of syphilis. Males are more frequently attacked than females, the ratio being seven men to two women. Those in the prime of life furnish the largest contingent.

Symptoms.—The symptoms of the disease are partly psychical, partly somatic, and this will not surprise us when we learn that the seat of the affection is preferably in the brain, and more particularly in the psycho-motor region of the cerebral cortex. The psychical manifestations differ very greatly, and it is more especially in the prodromal stage that these variations are most noticeable. This is a feature equally well marked here as in tabes, and the main difference between the two consists in the fact that in general paralysis the clinical picture of the prodromal stage is dominated by the psychical manifestations. The patient becomes unable to concentrate his mind for any length of time. He gets easily fatigued when he has exerted himself mentally, he becomes forgetful, and is no longer able to comprehend and deal with matters which he previously understood perfectly. He is found to be indifferent in the performance of his duties and careless in keeping his appointments; he becomes unreliable and absent-minded. When writing, he makes mistakes in spelling, and presents a slowness in thinking and a general dullness of intellect which are quite foreign to him. At the same time his disposition presents alterations. Previously tolerant and kind, he becomes now ill-humored, moody, and irritable; on the slightest provocation he loses his temper and may even be inclined to violence. His character is not the same as it was; his will power becomes weak; he loses his energy and his moral individuality; he allows himself to be influenced and overpersuaded by anybody, and even thus early does things for which he can give no clear motive; he gradually loses all consideration for others in his social intercourse; he neglects his appearance, his dress looks untidy, he becomes indecent, commits nuisances on the open streets, tells obscene stories before his children, and so forth.

In exceptional cases the patient himself is to a certain extent conscious of these changes which are going on in him. They surprise him, and he speaks about them to his most intimate friends and expresses a fear that some serious disease is coming on; but in the great majority of cases, he does not in the least appreciate his condition, which worries and troubles his family so much. Months, even years, may thus pass and no new manifestations make their appearance. It is only the occurrence of certain somatic symptoms which gives to the clinical picture a different aspect. Among these latter, besides a very troublesome ophthalmic migraine, which is frequently observed, there are especially two on account of which the physician is consulted, namely, insomnia and the alteration in speech. The former is all the more striking because the patients often by day and at their work are overpowered by sleep, while at night they lie awake for hours without being able to rest. The latter manifests itself by a difficulty in pronouncing certain words. The patient stutters, misplaces letters and syllables, leaves syllables out; in a word, presents the group of symptoms known as "syllable stumbling" (*Sylbenstolpern*). At the same time the voice loses its usual timbre; it becomes harsh and its former modulation is gone.

For the examining physician, the associated movements in the facial muscles, the fibrillary tremor and twitching of the lips, and the tremulousness of the protruded tongue are sufficient to lead him to the diagnosis, and the inequality of the pupils which may appear at this stage is an important sign. Ballet has shown that other ocular symptoms may be utilized (*Progrès méd.*, 1893, 23; cf. also Oebecke, *Allgem. Zeitschr.*, f. Psych., 1893, Heft 1, 2, p. 169). The motor disturbances (Lemoine et Lecordonnier, *Gaz. méd. de Paris*, 1889, November 2) further manifest themselves in a change in the handwriting and in the gait. The writing shows uncertainty and irregularity; the letters, which are usually larger and written more awkwardly than before, become tremulous; the paper is covered with blots; the words are incorrectly written, inasmuch as letters or entire syllables are omitted or misplaced. The gait becomes awkward and clumsy and the patient "shuffles along"; he is one-sided, and small obstacles in his path are apt to cause him to fall.

This initial stage, which in its duration varies from a few months to one, even two or three years, is followed by a stage

which is generally, characterized by a rapid increase in the psychical excitement ("maniacal exaltation"). The patient—previously quiet, sullen, apparently occupied with his own thoughts—now becomes noisy, talkative, all the time restless and in a state of excitement; without noticing his surroundings and his friends, he lives with a sense of perfect comfort; he is young, handsome, extremely strong, and immensely rich; he has studied all sciences; he occupies himself with absolutely preposterous but to him feasible schemes; he is going to dry up the Atlantic Ocean, he is the Emperor of China, he is Napoleon, Christ, he is the chief among the gods, etc. In the dreamlike play of his imagination all these fantasies arise, but the patient is not able to give them any logical connection. Without critical faculty he stands out a pitiable victim of the most bizarre delusions of grandeur. At the same time his memory rapidly fails him, especially for recent events; what he did to-day, yesterday, the last visit of the physician, etc., he does not remember, whereas the reminiscences of long-past years can still be called up. He does not know the day of the week or even the name of the month and the season in which he is at present. People with whom he used to deal in business he no longer recognizes; he confounds them with other persons, etc. The lack of judgment of the patient has, of course, a decided influence upon his actions; he buys things recklessly, squanders his money in a most foolish manner, he makes debts, commits easily discoverable frauds, which he denies with the utmost calmness when he is found out. Assaults of which he may be guilty, misdemeanors against the public order, offenses against the public morals, etc., not infrequently lead to trouble with the authorities and to the arrest of the patient.

In by far the smaller number of cases the above-described initial stage is followed, instead of by the maniacal exaltation, by a stage of depression. The patient believes himself persecuted by everybody, and his life menaced; he hears voices, and he is always troubled with a presentiment that something terrible is going to happen. He cries, laments, begs for help, and so forth. In other instances hypochondriacal delusions gain the upper hand. The patient imagines that he is made of glass, that he can not eat, that he is unable to urinate, that he has no head, and the like. The lack of all power of criticism in these delusions, and the inability to systematically elaborate

them, and the usually rapid course of this stage, distinguish the general paralytic from the paranoiac.

Quite gradually in the course of time the general aspect changes, the excitement abates and disappears, and the intellectual impotency increases. The patient spends his days without a thought or care, writing and reading become to him lost arts, he forgets his own name, and his social position, he becomes oblivious of his family, and in general takes no interest whatever in the outside world. This is the stage of dementia. He becomes uncleanly in his habits, his eating and drinking must be watched, and step by step the psychical life approaches more and more its extinction; the patient no longer lives, he vegetates.

It is of great practical importance and interest to study the somatic disturbances which occur in the course of the disease associated with the psychical ones, and which are caused by the simultaneous affection of the spinal cord (and peripheral nerves). The diminution of sensibility, that of the skin as well as of the nerves of special sense, particularly of the opticus, the absolute inactivity of the pupils, the decrease in the perception of pain, the changes in the electrical excitability of the muscles, which at first is increased, later diminished, the (not regular) loss of the tendon reflexes, the appearance of trophic disturbances (ichthyosis, Féré), the tendency to bedsores, the perforating ulcer of the foot (*mal perforant du pied*, cf. page 656), all point to a participation of the spinal cord in the morbid process. Sometimes, quite early, peculiar attacks occur, which, associated with loss of consciousness, are either accompanied by transient hemiplegias or convulsive movements, and which therefore either deserve the name of apoplectiform or epileptiform seizures. They are designated as "paralytic attacks." Under certain circumstances they appear very frequently, from ten to fifty times in one day, and they may then keep the patient in an almost constant condition of unconsciousness. The elevation of temperature which accompanies these attacks is not considerable, the occurrence of albumin in the urine not constant. Among the affections of the cranial nerves which have been but little studied in their connection with general paralysis may be mentioned more particularly the optic atrophy, which is seen in ten per cent of all cases. The nerves of the ocular muscles also frequently become involved, the implication of the trigeminus and of the