

PART III.

SPECIAL REPORTS.

REPORT ON NERVOUS AND MENTAL DISEASE.*

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I. INSANITY IN GENERAL.

Verrücktheit.—The following extract of a paper by Dr. Werner (*Arch. de Neurologie*, 1890) is taken from the *Bulletin de la Soc. de Méd. Mentale*, No. 57 :—The expression *Verrücktheit*, which signifies in the ordinary German speech simply insanity, was employed by Griesinger in 1845 as the designation of a chronic secondary mental disorder, characterised specially by ideas of persecutions and delusions of grandeur. He called this a partial *Verrücktheit* (*délire partiel* of French writers). Griesinger also admitted a generalised *Verrücktheit*, characterised by extreme disorder of ideation, accompanied by excitement, underlaid by a general weakening of the intellectual faculties (*folie aiguë* of Parchappe). In these two species he considered only incurable secondary mental disorders. In 1865 Snell described under the name of primitive monomania a similar entity which two years later he designated primary systematised insanity (*primäre Verrücktheit*). One year after this Sander separated from this form another original one (*originäre Verrücktheit*). He insisted on the necessity of retaining the name *Verrücktheit*, as the subjects are truly delusionally insane, their discernment has been overturned (*gerückt*), their personality, so to speak, displaced (*verrückt*) in such a way that they see the external world and their surroundings in an entirely different manner from what they would in their normal condition. The followers of Griesinger held to his original species of primary *Verrücktheit*. At the Congress at Hamburg in 1876 Westphal proposed a classification and ætiology

* The author of this Report, desirous that no contributions to the subject of Nervous and Mental Disease should remain unnoticed, will be glad to receive any publications which treat of it. If sent to the correspondents of the Journal they will be forwarded.

of these primary systematised forms of insanity; but a few months later Hertz rejected the term *Verrücktheit* to adopt that of *Wahnsinn*. He claimed that it was not necessary to overload the terminology; moreover, *Verrücktheit* did not suit the primary curable types, and it was not separable essentially from that form which begins and ends with hallucinations. *Wahnsinn* is also an old term. The Prussian Civil Code denominates as *wahnsinnig*—that is, affected with *Wahnsinn*—the individual entirely deprived of reason. Griesinger also describes under this name a form of insanity beginning with the melancholic stage, and later developing fixed delusions which, nevertheless, do not render it incurable. In reality the cases of Griesinger resemble especially *Mania gravis*, and one of them is evidently of the type of parietic dementia. Snell with his monomania or systematised insanity struck a mortal blow at the theory of Griesinger, since he includes under this name a primary insanity; the monomania of Snell resembles that of Esquirol, since in it the faculties as a whole are less involved than in other forms of insanity. Griesinger also adopts their view; and Snell, when in 1873 he divided the systematised insanity or *Wahnsinn* (having repudiated the term monomania) into primary or true systematised insanity, and secondary or imperfectly systematised insanity, following mania, melancholia, epilepsy, &c., received general support. The school of Snell, reinforced by Nasse, Hertz, and Schäffer, preserve this nomenclature. It will be readily understood, since *Wahnsinn* (Snell) and *Verrücktheit* (Griesinger) are nearly synonymous. What signification do we attribute to these terms to-day? Krafft-Ebing inclines to adopt Griesinger's idea, and uses the term *Verrücktheit* in the same signification with one exception. Primary systematised insanity (*primäre Verrücktheit*) includes the mental degenerations. It is allied to reasoning mania, and represents a psychopathy that is usually incurable. There is also a secondary systematised insanity (*secondäre Verrücktheit*) following melancholia, and more rarely mania. The delusions, which have been subject to some fluctuations, become as it were crystallised in the mind of the patient in such a way that the whole of the external world is different to him from what it is to normal individuals. The *Wahnsinn* of Krafft-Ebing is a true psychosis from inanition, and it includes a large number of cases of puerperal and alcoholic insanities. Its prognosis, according to him, is favourable, and thus he unites this systematised hallucinatory disorder to mania and melancholia. "I

have never seen it," he says, "terminating in the crystallised systematised" insanity (*Verrücktheit*)—these are his own words. In other words he rejects the term *Verrücktheit* for the cases of more or less systematised delirium, and makes a complete distinction between *Wahnsinn* and *Verrücktheit*. He admits, nevertheless, that his systematised hallucinatory is the same as the acute primary systematised insanity (*primäre Verrücktheit*) of Westphal. It is identical also with the hallucinatory mania of Mendel, and the hallucinatory *Verrücktheit* of Foutsch and Meynert.

Kraepelin speaks of only one systematised insanity—it is either primary, congenital or acquired, or secondary and the terminal stage of other psychic disorder.

Schuele describes systematised insanity, *Wahnsinn*, either as acute or chronic. The forms he recognises, and which in his opinion are curable, are as follows:—

1. Depressive systematised chronic insanity, including the persecutory delusions properly so called, systematised hypochondria, and the more or less systematised insanity of masturbation.

2. Chronic expansive systematised insanity.

3. Acute primary systematised insanity, comprising the following:—(a.) The acute hallucinatory form; (b.) The melancholic form; (c.) The expansive maniacal type; (d.) The stuporous form; and (e.) The cataleptic (atonic) variety.

He retains the name *Verrücktheit* for the congenital systematised insanity of Sander, and holds that there is an abortive form of this that manifests itself in the shape of psychopathic accidents, which, after the duration of a few weeks or months, may finally terminate in recovery.

The author illustrates the confusion in the terminology by a suppositious case—a not unusual type of puerperal insanity—which would be diagnosticated by various authorities either as hallucinatory mania (Mendel), primary acute systematised insanity (Westphal), systematised hallucinatory insanity, *Wahnsinn* (Krafft-Ebing), confusional insanity, *Verwirrtheit* (Wille), and asthenic delirium (Mayer). He prefers to reject all these terms and to use only the general designation of Paranoia, which has the advantage of not being associated with any incorrect or partial popular conception of mental derangement in any modern language, and of being in accordance with the scientific usage of employing terms of Greek or Latin origin. Using this for the general designation he makes the following subdivisions:—(1.) Acute primary paranoia, hypo-

chondriacal or hystero-congenital. (2.) Chronic primary paranoia. (3.) Acute hallucinatory paranoia—for example, the psychosis from inanition, such as the hallucinatory *Wahnsinn* of Krafft-Ebing. (4.) Chronic hallucinatory paranoia. (5.) Secondary paranoia following other forms of mental disorder, or which forms a stage of transition.—(*Am. Journ. of Insanity.*)

Characteristics of Criminals.—Prof. Lombroso finds that in congenital criminals the sensibility to pain is much less than in other men, approaching that of savages, so that they will endure severe injuries or surgical operations with little or no appearance of suffering. To this lack of sensibility he attributes much of their cruelty. He quotes Ottolenghi, who found by examination of the urine of fifteen congenital criminals that the excretion of urea was below, and that of phosphates about the normal standard. The sense of smell is less acute in criminals than in normal men. Forty-four out of eighty criminals examined by Ottolenghi lacked it entirely. The sense of taste is also in many cases imperfect. Criminals, like savages, are much given to communicating by gestures, and the custom of tattooing the person is extremely common among them. A blending of religious and obscene or criminal pictures is frequently observed. This excessive fondness for tattooing the author considers an atavistic phenomenon.—(*Centralblatt f. Nervenheilk.*, 1890.)

Influence of Pyrexia on Insanity.—To the *Allgem. Zeitschr. f. Psych.* Dr. Willerding contributes a paper on the favourable influence of pyrexial disorders upon mental disease, and reports a case of acute mania in which recovery followed upon an attack of pleurisy. Amongst certain physicians, says the author, the appearance of an epidemic in the asylum is hailed with satisfaction (!) These advise that acute fever should be artificially produced in the insane, and some have not hesitated to inoculate matter capable of generating the required disturbance. It has been proposed (Koster) that asylums should be erected in places where ague is prevalent, since good results have followed the accidental exposure of the insane to malaria—amongst twenty-four attacked seven regained their sanity and seven others improved greatly. But even the paludal miasm is less potent for good than the “germ” of another disorder—viz., typhus, the course of which is sometimes attended with astonishing results. Variola, erysipelas, pneumonia, and diphtheria are other affections, closer acquaintance with which the lunatic might solicit with possible advantage. The author con-

cludes by narrating his case—one of acute mania following upon an attack of “typhus abdominalis.” The maniacal symptoms disappeared in the course of pleurisy attended by considerable fever. They did not reappear on the subsidence of the latter disorder. The patient was discharged cured. [Several cases similar to that just quoted have come under my own observation. I have seen an acutely maniacal patient emerge from an attack of typhoid convalescent from her mental derangement. I have noted two other cases of a similar kind where very great improvement followed outbursts of fever. Erysipelas of the head and disorders of the lungs I have also seen followed by remarkable subsidences of mental derangement.—*Rep.*]

II. ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM.

Brain-Weight, and the specific gravity of separate parts of the Brain.—Prof. H. Obersteiner, of Vienna, communicates to the *Centralblatt f. Nervenheilk. u. Psych.* Neue Folge, I. Band, a paper on this subject. He refers, in the first place, to the lowest brain-weight in persons mentally sound recorded by Bischoff. The brain was that of a woman, aged 53; it weighed 820 grammes. But in the author’s laboratory in Vienna a brain was found to weigh (with the membranes) 788 grammes. The patient had been able to attend to the wants of daily life, and converse upon the most varied topics. The brain-substance was traversed by fissures of various sizes, the result of old encephalitis. Turning next to the highest recorded weights, the author dismisses as not only unreliable, but as quite false, the statements concerning the brains of Cromwell and Byron. Bischoff records weights of 1,925 grammes and 1,770 grammes. The brain of the celebrated Russian, Turgenjeff, which was examined by eminent Parisian physicians, weighed 2,012 grammes (with or without membranes?). The author has himself met with an instance of extraordinary weight. The brain was that of an individual of medium height and average build, a Jew. His mental endowment had been good, but he had never engaged in a serious vocation, and had squandered a considerable fortune, finally dying, aged 53. His brain in the fresh state and stripped weighed 2,028 grammes. The convolutions were strikingly broad, but there was no diminution in their number. Microscopical examination of cortex revealed no peculiarities. This case can be added to the already considerable stock in which, with extraordinary amount of brain-substance, there is only the ordinary intellectual

capacity. Lastly, the author refers to the specific gravity of the human brain. More frequent and precise inquiry into this matter is desirable. In regard to methods, he considers that those by which the specific gravity of the entire organ is obtained are uncertain. He himself prefers Sankey's method. A table of figures is given in which the specific gravity of various parts of the cerebrum and cerebellum (cortex and medulla) in twelve cases appears. The frontal cortex is lightest, the occipital heaviest, the parietal and temporal occupying a mid position. The central medulla of the cerebrum, and that of the cerebellum are heavier than the cortex, and of equal specific gravity. Heaviest of all is the pons. The thalamus—owing to the greater amount of its white substance—has a higher specific gravity than the corpus striatum. One of the anterior frontal convolutions was taken out and its cortex divided into three equal parts, of which the specific gravity from without inwards=1,028, 1,034, and 1,036. The innermost portion, with its mass of radiating fibres, was the heaviest.—(*Am. Journ. of Insanity.*)

The Dura Mater.—M. Trolard (*Journ. de l'Anatomie*, No. 4, 1890) gives a study on certain peculiarities of the dura mater. The falx cerebri serves to keep tense the tentorium, and it also opposes the pressure which one cerebral hemisphere exerts on the other when the head is inclined to one side; but its most important function is that in a manner it holds the brain suspended, and prevents the lower portions from being compressed by the overlying parts. An analogous protection exists for the lower portions of the cerebellum. How does the falx thus support the hemispheres? By the intermediation of the pia mater, which, firmly fixed to the cerebral surface, and also dipping into its substance, has, on the other hand, notable adhesions to the dura. On the convexity of the brain the pia is intimately connected with the falx along the superior border of the hemisphere. The Pacchionian granulations assist in this adhesion; taking rise in the subarachnoid cellular tissue they attach themselves to the pia, and going towards the dura they penetrate it and, swelling, form a veritable riveting together of all the membranes. The more anterior portions of the meninges are connected with the cerebral veins and sinuses. The internal face of the hemispheres is suspended by its middle and lower portions. The middle portion is held up by granulations which pass through the openings of a network nearly always constant, existing in the falx at the union

of its anterior third with its posterior two-thirds. If the orifices of this network are very large there is union of the pia mater of the two hemispheres. At the lower portion fibrous filaments leave the free border of the falx and attach themselves to the pia, chiefly on the larger of the ventricles of the corpus callosum. The falx likewise supports the pia which comes from the ventricles and those portions which come from the grooves of the posterior portion of the hemispheres, notably the calcarine and internal perpendicular fissures. The support of the cerebellum is due to the fact that the inferior plane of the collection of fibres which is observed towards the posterior confluent adhere to the cerebellar pia at the horizon of the anterior extremity of the superior vermis. These two united membranes join the falx below and behind the ventricular veins. M. Trolard, having demonstrated the way in which the brain is suspended, seeks to prove that the pituitary body is a prolongation of the dura in the same way as is the fibrous envelope which lines the orbital cavity. From each side of the crista galli process on the horizontal plate of the ethmoid we find the ethmoidal opening which gives passage to only a very small nervous filament and some forty orifices, of which only about a dozen are occupied by the olfactory fibres; the other openings give passage to prolongations of the dura which unite below the cribriform plate and join the sheaths of the olfactory nerves, forming a thick membrane which is continuous with the pituitary body. M. Trolard gives an interesting anatomical detail here. He finds that the anterior portion of the olfactory lobe is lodged in a little cavity bounded as follows—within by the crista galli process; externally by the border of the frontal; below by the cribriform plate; above by the prolongation of the dura; starting from the crista galli, and attached to the margin of the frontal which limits externally the olfactory fossa. He has also observed a little falciform fold of the pia mater bounding the olfactory fossa posteriorly. He shows also how the falx cerebri is inserted into the foramen cæcum, and cites a case of duplicated dura mater.—(*Am. Journ. of Insanity*, Ap., 1891.)

The Neuroglia of the Nerve Centres in Man.—Carl Weigert (*Anat., Anz.*, 1890, No. 19, and *Neurol. Centralblatt*, No. 1, 1891) claims to have discovered a method by which a nerve-fibre can be surely distinguished from a fibre of the neuroglia even after the nerve-fibres have become disconnected with the nerve-cell. His process, the details of which he does not explain, consists in stain-

ing the neuroglia deep blue, the other anatomical elements being unaffected. Dr. Weigert states that his preparations confirm Ranvier's view, that the fibres only lie against the body of the cell, and the protoplasm of the cell appears under the microscope to be of different composition. The fibres are smooth, without varicosities. After death the tissue becomes altered, and granules and molecules appear. The composition of the neuroglia is different from the neurokeratin of the peripheral nerves. This is brought out by Weigert's new process of staining. It is only at the exit of the roots of the nerves that a tuft of fibres of the neuroglia goes a little way along the nerve-trunk. It is on the surfaces of the nervous centres that the network of the neuroglia is thickest. In the spinal cord all the single fibres of the white substance are separated from one another by strands of the neuroglia. In the zone of Lissauer the fibres of the neuroglia are abundant; they are even more so around the central canal. In the *substantia gelatinosa Rolandi* they are rare. The olivary bodies are rich in fibres of neuroglia. In the cerebellum there are many in the white substance. The cells of Purkinje are surrounded by a basket of very delicate fibres. In the white substance of the cerebrum there is a thick network of neuroglia; in the layers of the gray matter the neuroglia is rare. Weigert's preparations show bright interspaces between the fibres.—(*Journ. Ment. Sci.*, Oct., 1891.)

Ziehen's Method of Staining Brain Tissue.—Dr. T. H. Ziehen (*Neurol. Centralblatt*, No. 3, 1891) found that Golgi's method of colouring laboured under some disadvantages. The preparations of the nerve-tissues did not keep well, and the black colour given to the nerve-cells obscured all details of their inner structure, while the nerve-fibres remained generally uncoloured. Greppin tried to remedy the dark colouring by treating his preparations with hydrobromic acid. To obviate the last disadvantage, Golgi himself, Ramon, T. Cajal, and Kölliker preferred to study the nervous system in embryos and new-born animals, in which all or most of the nerve-fibres have no axis-cylinders. On the other hand, Flechsig thought to combine Weigert's method of dyeing with logwood with Golgi's method of dyeing with silver. Though Dr. Ziehen admits that these were improvements on the original plan, he thinks he has found out a better process, which he thus describes:—Small square pieces of cerebral tissue taken from an animal recently killed are put to harden in a fluid composed of a

one per cent. solution of chloride of gold and one per cent. solution of corrosive sublimate in equal parts. In this solution the preparation is kept three weeks, or, better still, several months, there being no necessity of changing the fluid often. The pieces assume a red-brown metallic look, and can be stuck on cork and cut in thin slices. The slices put in alcohol have a dark-blue colour by transmitted light and a metallic-brown colour by reflected light. For differentiation they are now put into a weak Lugol's solution, 1 to 4. Here they are allowed to lie a longer or shorter time, according to the thickness of the sections. Tincture of iodine diluted with alcohol can be substituted for Lugol's solution. Then the slices are washed in absolute alcohol and mounted in oil of cloves and Canada balsam, as usual. Metallic instruments should be avoided as much as possible, but contact with the micrometer knife does not seem to have bad effects. Dr. Ziehen finds, as a result of this process, that both the fibres with axis-cylinders and those without, as well as nerve and neuroglia cells with their processes, appeared to be coloured bluish green. A greater number of coloured nerve-cells now appear than through Golgi's method, and the branches of cell processes are more numerous. The ramifications of axis-cylinder processes are more easily seen, and the nuclei granules are more readily distinguished; the contour of the cells and nuclei is more visible, and though the interior is coloured dark blue it remains almost transparent; there are some minutiae in the colouring, and specially in the decolourising, of the sections which affect their appearance; some elements are better brought out by the longer or shorter time in which the iodine solution is allowed to act on them. Dr. Ziehen tried hardening his preparations with chromic acid, and putting them for several weeks in a solution of chloride of gold and corrosive sublimate, and then treating the sections with iodine. The result was that the body of the ganglion cells appeared almost transparent, but sharply defined, while the protoplasm processes presented a peculiar black colour. Their appearance may be made to vary through keeping them a longer or shorter time in the solution, so that the processes and axis-cylinders and different parts of the cells may be studied in separate relations.—(*Journ. Ment. Sci.*, Oct., 1891.)

The Freezing Method of the Examination of Brain Tissue.—The following is Dr. Bevan Lewis's method of cutting sections by the freezing method, and their subsequent treatment, as recently detailed by him (*Centralblatt für Nervenheilkunde*):—The freezing

is done by ether, and a good form of microtome is that described in *Brain*, Vol. I. (Stirling's instrument is very efficient also). Much importance is attached to the character and quality of the section knife. In that recommended by Dr. Lewis the blade measures 5 inches by $1\frac{1}{4}$ inch; both surfaces are concave, that uppermost in section cutting the most so, in order that a sufficient quantity of water may be retained on the blade. To prepare this upper surface for use ether, in sufficient amount to cover it, is employed; the blade is then immediately dipped into water. By repeating this procedure three or four times the uniform covering of the surface by a layer of water is insured. If there be too much water on the blade (or the under surface be wet) the fluid runs on to the section, where it sets into an icy mass, which injures the knife edge. If, on the other hand, the upper surface is insufficiently moistened the sections cling to the blade and are torn.

Having prepared the knife the cutting is commenced. The freezing chamber of the microtome is lowered until the cap is level with the under-surface of the section-plate, and a piece of brain substance somewhat thicker than the plate is laid upon the centre of the metal cap of the freezing chamber. A couple of drops of water placed at the edge of the tissue suffice, when frozen, to hold the latter firmly to its support. The ether spray is now caused to play upon the lower surface of the cap beneath the tissue, and freezing will be facilitated by a current of cold air. Freeze the substance to be cut up to the level of the section-plate, and then, with a sweep of the knife, remove the unfrozen tissue above. From the surface thus obtained sections are taken, the knife being dipped, prior to the cutting of each section, into a vessel of water, and its under-surface then dried by passing it rapidly across a towel placed over the knee. Float off the sections into another vessel. Each film thus cut is taken up on a slide and superfluous water allowed to drain off. The section is now floated up by a few drops of a solution of osmic acid (25 per cent.), a pipette being convenient for this purpose; the fluid is also carefully drawn over the surface by a penknife or brush. The osmic acid is permitted to act for a few seconds only; the tissue is then placed in pure water for five or ten minutes and gently washed. Staining may now be proceeded with—*aniline blue-black* is the agent employed, in the strength of 0.25 gramme (of the granular powder) to 100 c.c. of distilled water. Each film as it

lies on the slide is covered with the staining fluid, which is allowed to act for about one hour; the excess is then poured off, and the film plunged into water and gently washed. It is once more received upon a slide, the fluid drained off, and the slide placed under cover on a slanting shelf, where the film dries spontaneously; when absolutely dry it is mounted directly in benzole solution of balsam.

In conclusion, a few hints and remarks may not be amiss. In cutting the tissue, if the gray matter be placed nearest the operator and so cut first there is greater likelihood that a portion of pia mater will be obtained with the section, and this is, of course, desirable. Osmic acid is used in order to fix the myelin of the nerve-fibres, which exudes in contact with water; when the acid is employed the film does not deteriorate in water, and can be manipulated without danger. The best sections are obtained from the slowly-thawing tissue; hence it is unadvisable to freeze above the level of the section plate. The temperature of the room should be below 60° F. The fresh as compared with the chronic method has this great advantage, no shrinking of the brain substance is produced; hence, in sections prepared after the manner above described we find the nerve-cells more crowded with processes more numerous and distinct than in corresponding sections from hardened brain. In the former, also, the cells are not stunted, and are far less angular than in the latter.

Vassale's Modification of Weigert's Process of Staining the Nervous Tissues.—In the *Revista Sperimentale*, Dr. Vassale proposes the following modification of Weigert's well-known process:—The sections are first immersed for three to five minutes in a one per cent. solution of hæmatoxylin in distilled water, whence they are transferred for a like time to a saturated solution of neutral acetate of iron, in which they become very black. After washing they are plunged in a solution of two parts of borax and 2.5 of prussiate of potassium in 300 parts of water. The ganglionic cells, the neuroglia, and the degenerated portions lose their colour, the medullary fibres remaining a dark violet. After careful washing the colourless parts may be stained with picrocarmine, according to Pal's method.

III. NEURO-PATHOLOGY AND PATHOLOGICAL ANATOMY.

Pathological Anatomy of Insanity.—Luys (*Journ. de Med. de Paris*, March 1st) calls attention to an alteration that he has found in the brains of patients who had for many years been in an excited

condition—viz., the hypertrophy of certain special regions of the paracentral lobules. The paracentral lobule is, as is well known, the point of confluence of the psycho-motor convolutions of the cortex, and one of the special regions where the psycho-motor innervations are specially accumulated. This hypertrophy therefore indicates a focus of continued excitation, absorbing to itself the vitality of the other cerebral regions which are found more or less notably atrophied. In the extreme cases of excitement with dementia in which this condition was observed he claims the subjects are completely absorbed in the hallucination or delusion connected with this hypertrophied region of the brain. The hypertrophy is usually symmetrical in the two hemispheres, but he presented the brain of a patient in whom there was a visceral hallucination that she was inhabited by a tape-worm, which completely possessed her that it became almost her sole idea. She dwelt constantly on the coming and going of this parasite in her internal organs. Aside from this idea, when she could be induced to speak on other matters she was perfectly lucid in her mind. The brain of this patient exhibited very marked hypertrophy of the paracentral lobe in one hemisphere, that of the other remaining perfectly normal. M. Luys explains by this anatomical arrangement the patient's clearness of mind co-existing with the delusion; she was insane with one hemisphere of her brain, and rational with the other.

The Pathological Anatomy of Paralytic Dementia.—At the International Congress at Berlin Mendel read a paper on this subject, confining himself to the microscopical changes, which he found in the cases examined to be as follows:—

1. *Neuroglia.*—Two changes: increase of nuclei and increase and enlargement of spider-cells. The latter are only found in the normal brain in the superficial layer of the cortex. If the disease is of long duration sclerosis develops through fibrous degeneration of the cortex; in case the medullary substance is principally affected, it may be possible to wash the cortex away from it with a stream of water, especially when the body is not entirely fresh.

2. *Blood-vessels.*—Increase of nuclei in the walls of the vessels; thickening of their coats; hyaloid degeneration.

3. *Ganglion-cells.*—Alterations of the protoplasm, sclerosis, and atrophy are found in most cases. Gudden found them in all.

4. *Nerve-fibres.*—The disappearance of the nerve-fibres is not confined to the cortex, but is a general affection; it has been observed in the gray matter of the ventricles and in the cerebellum.

The degeneration of the nerve-fibres is not specific for general paralysis; it has been observed in alcoholic paralysis, senile dementia, epilepsy, and other psychoses. Focal lesions have long been observed in this disease. In the spinal cord the most various alterations may occur—all the different forms of systematised sclerosis, separately or in combination, and the various forms of myelitis.

Although there is no specific lesion of this disease, it is nevertheless a disease *sui generis*, which may be recognised anatomically, apart from the clinical history. The essential feature is the diffuse extension of the process over the brain.

In regard to the origin of the process, the author inclined to the view that it had its starting point in the vessels rather than in the nervous tissue, and that it is to be considered as a chronic inflammation of the neuroglia, terminating in atrophy. In the discussion which followed, Tezek, of Marburg, held that one of the most uniform peculiarities of paralytic dementia was the predominating affection of the frontal lobes, and that when the posterior parts of the brain were affected it was a secondary trouble. He had never failed to find degeneration of the nerve-fibres of the frontal lobes, but had always found it localised in the anterior part of the brain. Dagonet, of Paris, called attention to the hyaloid degeneration described by him, and especially to the peculiar corpuscles found in the lymph spaces.

Zacher, of Ahrweiler, had recently examined two cases of short duration. In the first, which proved fatal in less than four weeks, he found extensive destruction of the nerve-fibres, especially in the frontal region. In the second, which lasted two months, he found nothing abnormal. He believed that in a large proportion of cases the starting point of the disease was in the nervous system. In galloping paralysis the process was mainly confined to the nervous system; in chronic cases it was predominantly an inflammatory process in the vascular system.—(Abstracted in *Am. Journ. of Insanity*.)

The Condition of the Intercortical Fibres in Dementia.—MM. Keraval and Targoula report (*Le Progrès Médical*, 1890. 29) the result of microscopical examinations undertaken to ascertain the condition of the intercortical fibres in the later stages of general paralysis and in secondary dementia. They found that the medullated intercortical fibres disappeared to a large extent in the advanced stages of general paralysis, and the same was the case also

in secondary dementia, whatever might have been the form of the primary mental disorder. The frontal lobe is the region of the brain most involved, and in it the gyrus rectus is the portion that invariably suffers most. The paracentral lobule, on the other hand, is the region that most generally escapes, or is least involved. As regards the different layers of the cortical substance, the morbid process extends irregularly throughout them all, excepting that they observed that the latest remaining medullated nerve-fibres were nearest to the white substance. They also found that this process of atrophy of the fibres might extend without any necessary involvement of the meninges. Their examinations were made on twelve brains, and included not less than five hundred histological specimens.

Homonymous Hemianopsia; Recovery; Subsequent Death and Necropsy.—Anderson (*Ophth. Rev.*, Dec., 1889) reports the case of a man, aged forty-one, who complained of a failure of vision for six weeks, with severe frontal headache, much failure of memory, and mental depression. He could not see to the right side, and his speech had altered. No loss of gross motor power or of general or special sensation, except as regards vision, was observed. The gait and reflexes were normal. The ocular and pupillary movements were normal, and the media and fundus were healthy. Vision and accommodation were normal. The right halves of both visual fields were lost up to, but not including, the line through the fixation point. Anderson concluded that the patient had an intracranial growth situated in the medulla of the left occipital lobe, and that a hæmorrhage had taken place into the tumour recently. Within two weeks the headache and mental symptoms had much subsided, and there was only very slight contraction of the right halves of the visual fields. Two months subsequently he had a transient attack of left hemiplegia, which soon passed off. Three weeks after the occurrence of the hemiplegia the quadrants of the right halves of both visual fields were deficient nearly to the vertical line through the fixation point. Vision was still good, and the fundus was normal. Rapid mental deterioration ensued, and he died demented three months later. There was a recent blood clot in the posterior cornu of the left lateral ventricle, with hæmorrhage and softening of the tissue external to this, involving the whole of the angular gyrus up to its surface. The angular gyrus was replaced by gliomatous tissue.

Recovery from Hemianopsia with Subsequent Necropsy.—Doyne (*Ophth. Rev.*, Dec., 1889) reports a case of an old man who had a sudden attack of right homonymous hemianopsia. The fields of vision recovered in the course of two weeks, but subsequently a quadrant of the opposite side of each field was lost. Death occurred some weeks later from cerebral apoplexy. At the autopsy, in addition to the extensive extravasations which caused death, there was found asymmetrical softening on both sides of the brain in the cortex of the occipital lobe, one evidently more recent than the other.—(*Alienist and Neurologist.*)

The Ætiology of General Paresis.—The ætiology of general paralysis was the subject of several communications to the French National Congress of Alienists at Rouen. M. Dubuisson gave statistics embracing some 6,000 insane patients, including 1,600 subjects of paretic dementia. He found alcoholism predominated over all other causes of disorder, while, according to his figures, syphilis is given as a cause of only fifty cases, and an equal number was attributed to traumatism, which is not usually recognised as among the leading causes of the disease.

M. Regnier read a paper on the special subject of the relation of cerebral syphilis to progressive paresis, in which he held that the infection of syphilis did not produce the symptoms or lesions of general paralysis. That there is no such thing as syphilitic paresis, but that cases so referred were either those of cerebral syphilis, wrongly diagnosticated as true paresis, in which the specific symptoms were merely incidental.

M. Régis followed with a communication in which the opposite views were held, giving an analysis of twenty-one cases in which the specific disorder certainly existed in eighteen. In one it was doubtful, and two were free from syphilis. He claimed that on the average eighty per cent. of paretics were syphilitics. The paralysis generally appeared from twelve to thirteen years after the infection, and, as a rule, it appeared more quickly when the primary disease had been too briefly or insufficiently treated. The syphilitic paretics usually presented none of the stigmata, and only occasionally were there traces of old or recent specific lesions. All the clinical varieties of general paretic dementia are met with among the syphilitic cases, and the remittent and circular forms appear to be especially frequent.

M. Cullère remarked that after a period of scepticism he had come to believe that the relations of syphilis to general paralysis

were very real. In the hospital under his observation he thought that the average was about thirty-seven per cent. syphilis in females, and for the two sexes together he would admit a hypothetical ratio of forty-two per cent. The syphilitic paretics are generally youthful, though they may be of advanced age. If a peasant had neither been a soldier nor sailor nor domestic, if he did not leave his native village, he would not become a paretic, because he would not be specifically infected. He did not believe that syphilis alone would produce general paralysis; other causes are also required, Hereditary predisposition was very frequently found, and among other causes are over-work, long residences in hot climates, &c. Specific paresis has no general characteristic symptoms.

M. Voisin was of the opinion that M. Régis had given too important a place to syphilis in the ætiology of paresis. One point in which his statistics failed was in the lack of autopsies. In his own experience he had 560 cases, only nine of which were syphilitic. He had, moreover, not limited himself to the testimonies of the patients on this point, but had searched for the signs which are almost always to be found in the tertiary stages, and which alone give rise to symptoms identical with those of general paralysis. In cerebral syphilis we have symptoms differing from those of paresis: persistent headache, partial paralysis, hemiplegias, ocular paralysis, and epileptiform attacks. The expansive delirium of paresis is also wanting. It is different also as regards the results of specific treatment.

M. Charpentier had been struck with the frequency of syphilis in general paretics. The syphilitic form did not differ materially in symptoms from the true, but he considered it rare. It was possible that there existed diffuse interstitial scleroses of syphilitic origin.

Several other physicians took part in the discussion, and the general opinion of the majority seemed to be that there is a striking coincidence of syphilis in general paresis, if not an ætiological relation between the two. It seems a little remarkable, however, that so high an authority as M. Voisin should be so positive that this relation does not exist, and it can be accounted for only, as suggested by those who took part in the discussion, by assuming that the rejection or admission of the influence of syphilis depends upon the prepossession of the individual.—(*Am. Journ. of Insanity.*)

The Nature and Frequency of Disease of the Spinal Cord in

General Paralysis.—Dr. Köberlin, of Erlangen, records the results of his examination of the spinal cords in twenty-three cases of general paralysis, pieces being taken from the cervical, dorsal, and lumbar regions in each case. For staining Weigert's hæmatoxylin was used, and occasionally carmine. Pal's modification of Weigert's method giving uncertain results was not employed. Numerous drawings are given, in some of which disease of the lateral pyramidal tracts and posterior columns is portrayed in a very early stage. In the regions last mentioned the morbid change is seen more particularly in certain parts, all or some of which are affected, according to the duration of the disease; sometimes Goll's columns alone are degenerated, or Burdach's columns participate, but to a less extent; sometimes these latter show the greater changes, and Westphal's and Lissauer's tracts bear the brunt of the disease. Certain drawings exhibit a mapping out of Goll's columns by streaks of degenerated tissue separating each column from the outlying area of Burdach—the two streaks being quite symmetrical. The morbid appearances comprise atrophy and degeneration of the medullated fibres, with excess of connective tissue, and also plentifully-distributed corpora amylacea. Both in tranverse and longitudinal sections the degeneration was found to be remarkably symmetrical. In one case syringomyelia was found, but this case the author considers atypical. The cases are, in conclusion, considered in three classes, according as there existed disease (1) of crossed pyramidal tract; (2) of posterior columns; (3) of both together. In one case of the first-mentioned class there was a difference in weight between the cerebral hemispheres, and as the more atrophied hemisphere was opposite to the diseased lateral tract the author is disposed to think that the pyramidal degeneration was secondary. Amongst the cases in the second class he gives reasons for considering the cord disease as primary in some; in others the brain disease was probably first to develop. In none of these twenty-three cases were the anterior columns or lateral cerebellar tracts diseased.—(*Allgem. Zeitschr f. Psych.*)

IV. NEURO-THERAPEUTICS.

The Treatment of Mental Diseases by Hypnotic Suggestion.—Dr. Giuseppe Seppilli has an interesting review of this subject in the Oct. (1890) number of the *American Journal of Insanity*. To Voisin is due the merit of having first called attention to the application of hypnotism to the treatment of mental disorders; he

has from time to time published records of cases showing surprising results. By means of suggestion made during hypnosis he witnessed the cessation of agitation, the disappearance of hallucination, of delirious ideas and suicidal tendencies. Thus, for example, a hysterical woman of twenty-four years, who for eighteen months before had been unable to work, was constantly complaining, and dominated by the dread of becoming insane, and of being a disgrace to her family, was cured of this morbid state in one month by means of hypnotic suggestion. In another woman of twenty-one years there disappeared an erotic delirium, that was associated with hallucinations of sight and hearing, which had lasted for some time. Several patients affected with amenorrhœa and mental disturbances were cured by the same means. But still more singular appear the effects obtained by Voisin in cases of dipsomania. A man, aged thirty-five years, for ten years the victim of dipsomania, the excesses being repeated twice each month, and lasting for ten days consecutively, was completely restored after two hypnotic sittings. A lady of forty-two years had for four or five years felt an excessive desire for drink at the menstrual periods, and at these times consumed five or six bottles of wine daily, and a quantity of brandy. She had become thin, pale, and irascible, and had agitated sleep. During hypnosis it was suggested to her that she would sleep tranquilly through the night, in the interval between meals would feel no desire for drink, and that at each meal only half a bottle of wine would be required. After a few sittings these suggestions had a salutary effect, and the lady left off her alcoholic habits. The same result was obtained in the case of a lady of thirty-one years, who for several years before had been assailed every eight or ten days with a mania for drink. Recently Forel, of Zurich, suggested to four individuals affected with alcoholism that they would completely change their mode of life and take part in a temperance society; and in fact they did so. But he does not tell us whether they have faithfully retained the suggestion received by them. Encouraged by the results of Voisin and Forel, Ladame, of Geneva, applied hypnotic suggestion in three cases of alcoholism. In one he obtained from a few sittings the cure of the dipsomaniac fits, in the second an improvement, and in the third no benefit. He then remarks that suggestion made during hypnosis does not substantially differ from that to which a drunkard submits himself when he is admitted into a temperance society and pledges himself

to abstain from drink. Hypnotism in such cases simply favours the good intentions suggested to the alcoholic.

Castelli and Lombroso relate the case of a girl affected with grand hysteria who, after mental distress, became melancholy, with delirious ideas, refusal of food, and agitation. She was cured by suggestion; and by the same means a severe headache and paresis in the right lower limb was removed. Bernheim in his ample case histories furnishes some observations of hysteric disturbances cured by suggestion. Brémond by a single sitting cured a woman of twenty-five years, who after child-birth became sad, and felt aversion towards her husband and children, and manifested ideas of damnation. The same author cured, by hypnotic suggestion, a man of forty years, addicted to alcohol and morphin, which had produced hallucinations with insomnia, agitation, refusal of food, and attempts at suicide.

Fontan and Ségard relate three cases of alcoholic insanity and one of hysterical mental disorder cured by hypnotic suggestion. Séglas subjected to this treatment a woman affected for a long time with melancholic delirium, insomnia, hallucinations, and suicidal tendencies, and obtained a favourable result.

Perronnet records a case of cure in a woman affected with hysterical mania. In the Phreniatric Congress at Sienna, Ventra communicated the case of a girl affected with hysterical insanity, and hemiparesis and hemianæsthesia of the right side. After hypnotic suggestion these morbid phenomena disappeared. In some cases of hysterical psychosis, Forel found hypnosis, either alone or associated with suggestion, useful in inducing sleep and quietude.

Amadei by this means cured a woman affected for two years with hysteric dumbness, and Dumontpallier saw an attack of lypemania pass away after a single sitting in a hystero-epileptic woman. From an examination of these cases, Seppilli comes to the conclusion that hypnotic suggestion may be effective in dipsomania and in forms of hysterical insanity; but, from an examination of cases in which the treatment was tried in other forms of mental disease, he is of opinion that, excepting a few cases, no favourable results were obtained. Obersteiner asserts that the insane are, in general, very difficult to hypnotise, and Ventra asserts that he found it impossible, notwithstanding repeated and patient trials, to obtain the hypnotic sleep in any form of insanity except that of hysteric origin. Vizioli tried without effect in a case of melancholic delirium almost all the known methods employed for provoking hypnotic sleep, and he, too, admits the refractibility of the insane to hypnotisation.

Bernheim, Bottez, and Mall likewise, and all who have latterly been specially engaged in the study of hypnotism, admit that it is very difficult to hypnotise an insane person.

After a lengthened examination of all the facts as yet recorded, and as the result of continued personal experience, Seppilli considers that he may assume the following principal conclusions:—

1. Therapeutic hypnotic suggestion cannot be instituted as a general means of cure in the treatment of mental diseases owing to the difficulty of hypnotising the insane.

2. Hypnosis succeeds most readily in the hysterical and epileptic.

3. The most certain results of hypnotic therapeutic suggestion have up to the present time been obtained in the psychoses depending on hysteria and dipsomania.

4. Hypnotic suggestion may be employed when the insane submit to it of their own accord, and derive benefit from it. The physician should use it with great caution and take account of the hurtful effects which in certain cases may be produced.

5. Therapeutic suggestion made in the waking state is the most reliable and effective means of cure in mental diseases, and to it almost solely are due the beneficial effects of the asylum, which represents a real suggestive surrounding.

6. In cases of melancholia without delirium, cases of fixed ideas, cases of alcoholism, and in slight forms of stupor, suggestion methodically repeated in the waking state in order to combat the morbid phenomena may prove effectual.

7. In the chronic form of paranoia suggestion has never given favourable results.

Chloralamide.—Dr. John Gordon (*Brit. Med. Journ.*, 16th May, 1891) contributes an article on the action of this drug. He records an interesting series of physiological experiments conducted to determine the influence of the drug on the cardiac, respiratory, and cerebral centres, on the functions of digestion, and on its value as a hypnotic. Clinical observations on the effect of chloralamide as a hypnotic were made on a number of cases of insomnia from various forms of disease. The results gained here are as follows:—Pain as a cause of insomnia was not easily combated by chloralamide, though where the pain was moderate the drug was fairly reliable. In painless insomnia excellent results were obtained. Hypnotic action usually followed within half an hour. There was no tendency to deferred action, such as is not uncommonly witnessed with sulphonal. The sleep was tranquil and natural; no craving was

noticed. The most reliable doses were 30 to 45 grains. Excitement, giddiness, inco-ordination, headache, indeed many of the features of alcoholic intoxication, sometimes follow the use of chloralamide.

Dr. Gordon found chloralamide very satisfactory in the treatment of the insomnia of old age, hysteria, and pulmonary diseases.

Note on Chloralamide.—Dr. Warren B. Chapin (*N. Y. Med. Journ.*) says:—The cases in which I have used chloralamide have been mostly those of insomnia of a very persistent character, in some of which all the other hypnotics had failed. Although my experience with the drug has been mostly confined to one class of cases—those of insomnia depending upon some nervous affection—I have seen enough of its action to convince me that not only does it fail to possess all the virtues attributed to it, but owing to its uncertain action and the many unpleasant symptoms it produces, it is inferior to most of the new hypnotics.

Uralium.—Tambroni and Stelani (*La Psichiatria*, VIII., 1 and 2) conclude the publication of results of extended therapeutic investigations on this drug, which is a compound of chloral and urethan combined according to their respective atomic weights. They speak highly of its hypnotic action, and they find that its best effects are obtained from doses of from two to three grains. They find little difference from the effects of the medicine in the different forms of insanity, though it seems to be a little more adapted to excited than to depressed conditions. The sleep it causes commences usually within an hour of its administration, and lasts then to seven hours. It is rather light, and comes very near to physiological slumber. Uralium has, like sulphonal, the property of continuing its hypnotic action for more than one night, and it may be administered for a long time to the same individual without causing serious disturbances, and without engendering a tolerance of the remedy. In a few cases the patient complained of a certain feeling of weight in the head on awakening. The authors conclude as follows:—"We are able to say that uralium, in doses of two or three grains (?), has a considerable hypnotic value not inferior to that of chloral, and superior to that of paraldehyde, urethan, hypnone, hyoscyamine, and perhaps to that of sulphonal also; that its use is free from any inconvenience; that it may be protracted over a long period, and that it should be classed among the better hypnotics."—(*Am. Journ. of Insanity.*)