

PART III.—PSYCHOLOGICAL RETROSPECT.

1. *German Retrospect.*

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I have received the following periodicals, of whose contents a *résumé* is given :—

Archiv für Psychiatrie und Nervenkrankheiten, Band iii.

Heft i., , und iii., 1871 und 1872, und iv., Band I., Heft. i. Berlin, 1873.

Allgemeine Zeitschrift für Psychiatrie xxix., Band Heft i., ii., iii., iv., and v. Berlin, 1873.

Psychiatrisches Centralblatt, Nr. 1, 2, und 12. Wien, 1873.

Der Irrenfreund, Nr. 11 and 12. Heilbronn, 1872.

Correspondenz.—Blatt der Deutschen Gesellschaft für Psychiatrie und Gerichtliche Psychologie, Nr. 1 and 2. Coblenz, 1873.

I must confess my inability, with the amount of space at my disposal, to give anything like a *résumé* of the valuable researches into the Histology, normal and pathological, of the nervous system, contained in the periodicals put into my hands, which are a great credit to the skill and patience of German science.

The work of Dr. Francis Boll occupies 138 pages; that of Dr. Ludwig Meyer 66 pages; that of Dr. Tigges as many; that of Jastrowitz 52 pages; that of Butzke 24 pages; making up a total of 346 pages. These monographs ought to be studied by all who apply themselves to examine the microscopic character of the brain and spinal cord. In preparing a short summary of their contents I have tried to present those conclusions which seem to throw light upon disputed points, or raise new questions of scientific interest.

The work of Dr. Francis Boll, on the Histology and Histiogenesis of the Nervous Central Organs (Archiv Band iv. Heft i.), is principally devoted to the exposition of his microscopic observations on the brain and the spinal cord.

Dr. Boll commences with the neuroglia, or connective tissue, which he has carefully studied in man and the lower animals. As he goes on with his description he is careful to explain the manner in which his preparations were made. In opposition to Henle and Merkel he remarks, "In the white substance of the spinal marrow I have found no solitary fibrils of connective tissue and no corpuscles without prolongations, but only those Deiter's cells already described, with their countless prolongations of fibrillæ. The only analogy to these structures which I have met with are the embryo cells of the connective tissue. Like these embryo cells, Deiter's cells have amongst the fibrillæ what appears to be an albuminous substance which takes a bright colour from carmine. It is these Deiter's cells alone, with their prolongations of fibrillæ and accompanying granules, which fill up the interstices between the nervous fibres of the white substance."

They, in fact, form sheaths, or cases, which hold together the nervous substance of the spinal cord. He is inclined to think with Gerlach that these fibrils are composed of a substance more like elastic fibrous tissue than of the ordinary connective fibres.

Dr. Boll affirms that the stellate cells described by Kölliker in the interstices of the nerve-fibres of the spinal cord have no real existence. He describes the substance which makes up the main bulk of the grey matter of the brain and cerebellum, as a collection of granules grouped together, or holding by one another in a highly characteristic manner, which he compares to the arrangement of crystals of hoar-frost. This arrangement allows the grey substance of the brain to be easily distinguished from a portion of granular protoplasm, such as that taken from the cells of the tradescantia or from pus corpuscles.

The author finds great assistance in his researches from the use of osmic acid and chromic acid. By means of these re-agents fibres may be readily separated from the molecular substance in which they are embedded, and the confusion and ambiguity apparent in the works of some previous observers finally cleared up. It is much to be regretted that Dr. Boll occasionally makes use of disparaging remarks upon the labours of his predecessors, and indulges in self-gratulations in a style and tone happily not common in scientific literature.

Dr. Boll's treatise is divided into five principal parts. The first is occupied by the introduction; the second describes the connective tissues; the third gives an account of the microscopical appearance and arrangement of the anatomical elements of the brain and spinal cord; the fourth treats of the perivascular and epicerebral spaces; and the fifth gives the author's researches on the histological development of the nervous central organs. The last part is especially valuable, as we were in want of careful observations on the subject. Dr. Boll arranges the development of the nervous fibres in the chicken as follows:—

I. STAGE.—To the sixth day of incubation the growth of spindle-shaped cells into axes-cylinders.

II. STAGE.—From the sixth to the eighteenth day of incubation, the white substance takes a definite shape, but the structure is not altered.

III. STAGE.—From the eighteenth day of incubation to the second of life, the granular cells appear, and the axes-cylinders are covered with the white substance of Schwann.

Dr. Boll agrees in the main with Jastrowitz in his researches on the development of the grey matter of the brain, and considers the appearance of granular cells in the brain of new-born children as a normal occurrence. He, however, disagrees with this distinguished observer in the view that the white substance of Schwann is produced from the molecular mass which at first surrounds the axes-cylinders, and that the granular cells are the product of the superfluous mass of molecular substance. Dr. Boll, on the contrary, holds that the granular cells are the material out of which the substance of Schwann is produced.

Much of the success that has attended the success of German microscopical investigations, depends upon the new method of making preparations and applying chemical re-agents to separate the different anatomical elements. There is in the "Correspondenz-Blatt," No. 1, January, 1873, a description of the manner of investigation of the nervous system in the human subject used by Dr. W. Betz in Kiew, which will be useful to microscopists in our country. Dr. Betz is celebrated for the exquisite fineness of his preparations.

Dr. Butzke, in his "Studies on the Minute Structure of the Cortical Substance of the Brain" (*Archiv für Psychiatrie* iii. Band 3 Heft), gives us a clear and thoughtful statement of the results of his observations, illustrated by two pages of engravings. The following seem to me to be the most important of his conclusions. Many of the ganglion or nerve-cells have no connexion with genuine nerve fibres. Deiter's processes are different from the prolongations of the nerve cells; the latter are mere extensions of the cell substance. They never anastomose with one another. The Deiter's processes seem inserted into the cells, placed against them or pushed into them rather than coming out of them. The assumption that the prolongations of the nerve cells or the Deiter's processes pass continuously into nerve fibres, cannot be demonstrated. The prolongations break up into fibrils going here and there. Dr. Butzke goes on to describe the glia element or connective tissue of the brain, and the arrangement of the nerve tissues in relation to each other.

Dr. M. Bernhardt communicates in the "*Archiv für Psychiatrie*, iii. Band, 3 Heft," some experiments which he has made to determine the existence of a muscular sense. On this point the views of Charles Bell have been denied by Schroeder, Spiess, Schiff and Leyden, who hold that the feeling we have of the posture of the limbs is not communicated through a property existing in the muscles, but of the parts covering and surrounding them, which are pressed or left relaxed by their contractions or relaxations. Muscular fibre itself seems very deficient in ordinary sensibility, nor is the perception which we have of the performance of certain motions destroyed by the loss of tactile sensibility caused by section or disease of the spinal nerves.

Johann Müller thought that the mind became conscious of the performance of a muscular exertion by noting the measure of the effort of volition necessary to bring it about. Physiologists are unwilling to admit that the anterior root of the spinal nerve should both conduct a stimulus to the muscles and convey in a centripetal direction the states resulting from that stimulus. Dr. Bernhardt having invented a simple apparatus resembling a little gallows with three pulleys, so that the weight should drop at one end, and the hand or foot of the person experimented upon should have the traction applied at the other, made a number of observations by which he found that one could distinguish weights even when the muscles were made to contract by the induced current, without any effort of the will.

It might, however, be said that the subject of the experiment could

distinguish weights by the varying amount of pressure upon the skin, and Dr. Bernhardt found that this perception of pressure by the skin was a delicate one. In order to eliminate this disturbing condition to the isolation of the sought-for muscular sense, the author tried his experiments upon some patients suffering from spinal disease, in whom the sensibility of the skin was so much impaired that they had no perception, apart from vision, of the situation of their limbs, and were unconscious when they were moved by somebody else, and who did not feel the strongest induced currents which threw their muscles into energetic contractions. In two of these cases he found the capacity to distinguish weight well sustained.

Dr. Bernhardt's observations agree with those of Leyden and of Brown-Séquard, who states that in spinal diseases, where sensibility is impaired or destroyed, the muscular sense (*Kraft Sinn*) remains intact. The author states his opinion in the following terms:—"With Leyden, Bernstein, and Johann Müller, I hold that the sense of weight proper (*Kraftsinn κατ' ἐξοχήν*) is a function of the psyche, that force is conveyed by an exertion of volition through the nervous trunks distributed to the voluntary muscles, and that the sensorium is conscious of the amount of force given out, and how it is modified, in order to overcome resistance." The author confesses that the mind, in coming to a conclusion about the execution of voluntary motions, is much aided by the sensibility of the skin, fascia, and periosteum, as well as by the eye.

Dr. Bernhardt does not explain how his experiment with the induced current bears out his conclusion.

Dr. H. Nothnagel gives (*Archiv.*, iii. Band, 1 Heft) the case of a man who, after an attack of typhus fever, suffered from paralysis of the left leg. While walking with a crutch he was suddenly seized with paralysis of the right arm, especially implicating the muscles of the forearm. When the patient tried to bend the forearm upon the humerus, he could only succeed in doing it slowly, and with a fatiguing muscular exertion. This was found to be owing to the triceps which entered into contraction at the same time as its opposing muscle.

Thus the effort of the will to bend the forearm, brought into exercise the muscle used to extend it, and it was only by the superior force of the biceps that the desired movement could be executed.

Dr. E. Hitzig (quoted in the "*Centralblatt*," 30th Jan., 1873) has shown that powerful muscular motions of the eyes, as well as of the body, result from the application of galvanism to the occiput. On completing the galvanic chain, the man experimented on falls to the side of the anode, and both eyes are turned the opposite way, with motions resembling that of nystagmus. If the chain be interrupted, the person starts to the side of the kathode, while the movement of the eyes are turned towards that of the anode. At the same time the objects of vision seem to be swayed in the same direction as the eyes, and his whole body seems to him to move towards the same side.

Dr. Hitzig shows that this apparent motion of visible objects is the

result of the involuntary motions of the eyes in the same direction, while the real movements of the body are, as it were, instinctively made to restore the balance of gravity which the man imagines to be lost.

As the result of numerous experiments on animals, Dr. Hitzig concludes that injuries to one side of the cerebellum have the same effect as the anode in a galvanic current—they cause movements to the operated side.

Dr. E. Hitzig also has, in the *Archiv.* iii. Band, 3 Heft, a paper on "Anomalies of the Innervation of Muscles," with a number of curious illustrative cases.

Dr. M. Jastrowitz, in the "*Archiv. für Psychiatrie*," iii. Band, 1 Heft, has an extremely careful article, entitled "Studies upon the Encephalitis and Myelitis of Infancy." He commences by giving his views upon the histology of the brain and spinal cord in the adult—at least on those points which are still matters of dispute amongst microscopists. He describes the cells and fibres of the connective tissue, and their arrangement amongst the nerve cells and fibres, and gives us a description of the corpus callosum, which is evidently the result of very careful observation. In this structure he finds four layers. The first is composed of longitudinal nerve tubes, and round and oblong cells, throwing out elongations, and of that fine molecular substance which is found in plenty in the grey masses of the brain and in the centre of the spinal cord. The second layer he calls the ganglionic layer (*Ganglienschichte*), made up of spindle-shaped nerve cells, with large round nuclei, generally arranged in rows of four, with their long axis running from right to left. Here Dr. Jastrowitz disagrees with Kölliker, who says expressly that there are no cells, but only nuclei in the corpus callosum. The third layer is composed of transverse nerve fibres running from one hemisphere to the other, amongst which one finds the long, small cells which many anatomists hold to belong to the connective tissue. In the fourth and last layer adjoining the ventricles, the proper nerve fibres are rare, their place being supplied by white fibres and fibrillæ, amongst which the molecular substance mentioned in the first layer reappears. What has been described as the epithelial lining of the wall of the ventricles is treated by the author as undoubtedly composed of connective tissue.

Dr. Jastrowitz devotes much laborious attention to determine what cells and fibres belong to the nervous or connective tissue. This can only be conjectured by comparing the appearance of the several structures with those seen in different parts of the body. His histological descriptions are illustrated by two pages of engravings at the end of the periodical.

In the fetus Dr. Jastrowitz finds a fundamental difference which throws great light upon the nature of the molecular stroma. Instead of the white substance of Schwann which surrounds the axis-cylinder in the adult, the tissues are embedded in the molecular substance which abounds in the white matter of the hemispheres, and, indeed, makes up the most of its composition. Axes-cylinders are found at a

very early period of foetal life, lying naked in the white matter of the brain, and the molecular substance becomes less and less frequent, and at last disappears as the development of the white substance of Schwann goes on in the growing child—and this change of molecular stroma into the white substance of Schwann can be followed to a certain degree. We cannot, therefore, continue to regard this molecular substance only as a protecting substance, but must also view it as a species of embryonal white substance which fulfils the same function, viz., the isolation of the axes-cylindrical from one another. Upon this result the author bases the farther inference that the molecular matter has the same function in the grey nervous centres of the adult where it is seen surrounding the axes-cylinders and the prolongations of the nerve-cells, which are, according to Max Schultze, primitive fibrillæ without any covering.

The author finds the nerve-cells with all their characteristic marks fully formed at birth. He considers that the appearance of the fatty granular cells in the embryo is connected with the formation of nervous tissue, as these cells are observed to be present during the regeneration of a severed nerve.

Dr. Jastrowitz regards the presence of these granular cells in the spinal cord of new-born children, as well as infants at a later age, as a proof of morbid action. The general diffusion of these cells in the white substance of the brain of the six months' child and their partial appearance in the child of nine months old is also regarded as a sign of disease; for though these cells might have had a normal existence in earlier periods of the life of the embryo, their persistence is incompatible with the proper exercise of the functions of the developed organs.

Dr. Jastrowitz had an opportunity of examining the body of the infant of an imbecile woman, who had a pretty large, but unsymmetrical head. As the mother had a narrow pelvis from rickets, premature labour was induced, but the child died in a few days. The thorax of the infant was deformed with rickets, and the brain found to be inflamed. In such cases the inflammation seems sometimes to extend to the spinal cord. The author considers hydramnios is probably a cause of imperfect development of the brain, and consequently of imbecility. Dr. Jastrowitz finishes his article with an analysis of the morbid appearances in sixty-four cases who died at various stages of foetal and infantine life.

Dr. Ludwig Meyer, "*Archiv. für Psychiatrie*," iii. Band, 1 Heft, discusses the vexed question of the nature of fatty granules and fatty granular cells in the spinal cord and brain. His views may be gathered from the following passage:—"Fatty granules and granular cells are developed out of all species of tissues under such manifold conditions that their appearance in an organ does not give the least conclusion as to the pathological import of the process to which they owe their origin. The fatty degeneration of the histological elements of certain

organs is a normal and frequent occurrence, and the granular cells may be as much the residuum of a general decline of nutrition of the organism as of a localized inflammation." * * * "Since attention was called to this point through the valuable work of Westphal, the spinal cord of every patient dying in the asylum of Göttingen affected with paralytic insanity, was carefully examined, where a dissection could be obtained, and granular cells were found, though not in all at least in most cases; but, as Westphal had already pointed out, no satisfactory connection could be made out between the occurrence of these granules and cells, even in considerable quantity, with the clinical symptoms. On the other hand, in accordance with Simon's observations, granular cells were found as abundantly in the spinal cord and brain of insane patients, who died of tuberculosis, and in whom no paralysis existed." One is thus driven to the conclusion that these products have no especial connection with general paralysis, but that they are more closely connected with alterations of a general pathological character. A careful study of the affected structures has convinced Dr. Meyer that the appearance of the granules and granular cells is dependent upon a fatty degeneration of the walls of the vessels, especially of the minute vessels which give off the capillaries, the venous twigs being more affected than the arterial. This degeneration seems common both to the grey and white matter of the brain and spinal cord, though it is easier to demonstrate it in the grey matter. Sooner or later the granules become absorbed, the vessels become filled with earthy salts, and are no longer pervious to the blood.

Dr. Meyer observes that the fatty degeneration of the minute vessels is a common sign of the degeneration and atrophy of tissues. It is found in all old inflammations, in granulating wounds, in cicatrices, and false membranes, covering serous surfaces in inflammations of the dura and pia mater, as well as after those of the nervous substance of the brain and spinal cord.

He remarks that diminished innervation may lead to degeneration of the vessels, and this in its turn increase the functional weakness of innervation. The disease of the nervous centres may act upon the lungs, kidneys, and other organs, which may, in their turn, act upon the brain.

Dr. Huguenin (Band iii., Heft. 3), has studied the appearance of the granular cells in a case of dementia paralytica, with embolism in the middle cerebral artery.

By the help of some engravings, he gives his views on the origin of the granular cells in a very clear manner.

According to this observer, the granular cells may originate from the nuclei of the cells of the neuroglia, or from the nuclei and nucleoli of the elongated cells forming the walls of the capillaries, which in the end break up. They may also be produced from the connective tissue cells surrounding the vessels, from the nuclei of the unstriped muscular fibres, forming the coat of the larger vessels, from the spindle-shaped

cells of the under layer of the grey matter of the brain, as well as from the regular ganglion or nerve cells.

Dr. Huguenin regards these granular cells and fatty granules as "the visible form of physiological death." The granular cells are the remains of cells and nuclei doomed to pass away, the granules are the *débris* of the broken-up protoplasm of the old cells.

Dr. Rabenau, ("Archiv.," iii. Band, 3 Heft,) gives a carefully studied report of three cases of myelitis implicating the posterior columns of the spinal cord in insane patients.

Dr. Frederick Jolly in the same number writes on Multiple Sclerosis, or Circumscribed Hardening of the Brain. This is a well-written and valuable paper. Both the observation of the clinical symptoms and the pathological examinations are carefully done, and I regret not having space to reproduce some parts of it.

Dr. Scholz has also in the same number a contribution to the Study of Insanity, combined with Anæmia, with an analysis of twelve cases, which is well worthy of perusal.

Dr. Tigges communicates to the "Zeitschrift für Psychiatrie," 2 Heft, the result of his studies upon granular cells in the spinal cord. He begins with an account of the labours of his predecessors, and the present state of the question, which show the differences of opinion and opposing facts which we have to balance. Some, like Westphal, hold or held that the occurrence of these corpuscles in the spinal cord is a mark of local disease; others, that they may occur even in health.

Simon found in three cases of dementia paralytica, with great loss of motor power, that granular cells were absent or rare; and after having examined two hundred spinal cords, he affirms that they may be found after death from a great variety of acute and chronic diseases. Dr. Tigges shews from an analysis of previous reports that these corpuscles are commonest and found in the largest proportions in the spinal cord of those who die of dementia paralytica, and are commoner with those who die insane than with those who die sane.

Several observers in Germany have remarked the increase in the fibrous connective tissue of the brain in dementia paralytica.

Dr. Tigges adds a number of carefully made observations of his own. He gives a case of melancholia passing gradually into dementia, where there were trembling and a marked stiffness of the muscles. The trembling passed away, but the rigidity continued, though varying in intensity. Sensibility was deficient, but the articulation did not seem to be affected. On dissection Dr. Tigges found in the grey matter of the brain an aneurismal state of the small arteries. The enlargements which are figured in the text were spindle-shaped or globular, sometimes two or three together like beads of different sizes.

The coronary arteries were found to be atheromatous, and the aortic valves insufficient.

In conclusion, Dr. Tigges remarks that we ought to distinguish between fatty degeneration of the vessels and the development of

granular cells outside the vessels. These granular cells are especially abundant in the posterior columns of the cord.

Dr. Otto Obermeier, in the "Archiv," iv. Band, 1 Heft., after studying the papers of Meyer and Tigges, gives us the result of his own investigations, carried on upon fifty-two cases who died in the lunatic wards of the Charité Hospital in Berlin. He does not entirely agree with Meyer in his views as to the import of the granules and granular cells, and their relations to the vessels, and is inclined to wait for more observations before arriving at a positive conclusion. "We ought to distinguish," he remarks, "between those cases where the vessels are altered, and bear masses of granules, from those where the granular cells lie free upon unaltered vessels. Where granular cells are found in great numbers in the spinal cord of non-paralytics, we are sure of finding notable alterations of the vessels. It is otherwise in paralytic cases. In them one finds a great production of granular cells with the vessels almost intact. This was found to hold good in seven cases out of twelve. In the other five the vessels had also become degenerated. Dr. Obermeier, therefore, is disposed to think that the occurrence of granular cells, without alterations in the vessels, may be characteristic of spinal paralysis. He, however, acknowledges that he has occasionally found granular cells in the spinal cord of cases not affected with paralysis, though never in considerable quantity.

Dr. Obermeier gives the report of his fifty-two cases with algebraic brevity. His system of contractions renders a case with almost stenographic rapidity, though possibly it might be too difficult for some readers.

At a meeting of Swiss doctors at Zurich, reported in the "Allgemeine Zeitschrift für Psychiatrie," xxix. Band, 5 Heft, and in the "Correspondenz Blatt," No. 2, Feb., 1873, Dr. Cramer, of Soleure, made a demonstration of the brain of three microcephales. The dimensions of the smallest amounted to 360 cubic centimetres. It belonged to Sophia Wyss, described by Vogt in his work on microcephales. The dimensions of the second brain are not given, but that of the third amounted to as much as 900 cubic centimetres. In all these brains the island of Reil was left uncovered, owing to the defective development of the frontal and parietal gyri. The same deficiency is noted in the brain of a microcephale in Gratiolet's work. In the anthropoid apes the island of Reil is always covered, and this is also the case with some microcephalic brains which have been already described by other observers. It may be here noticed that the great difference between microcephales and the brains of higher apes is that the temporo-sphenoidal convolutions are the first to appear in the ape, whereas in the microcephalic idiot, as in the normal human brain, it is the frontal lobe which is the first to appear, and the temporo-sphenoidal are the last.

Dr. T. H. Simon, of Hamburg, gives in the "Virchow's Archives for Pathological Anatomy, &c.," 55 Band, 3 und 4 Heft, quoted in

the "Psychiatrisches Centralblatt" for 30th December, 1872, the dissection of the brain of an imbecile woman, aged 69, who had in the last years of her life suffered from insanity, and had died in the poor-house. The weight of the brain was 795 grammes. The lateral ventricles were enlarged, and full of serous fluid, by which the convolutions of the hemispheres were somewhat flattened. The convolutions themselves were more simple than usual; and those of the island of Reil were replaced by a smooth layer of grey matter. The grey matter of the brain itself was normal, but contained much pigment. In the right hemisphere of the cerebellum a small, chalky tumour was found, of two centimetres in diameter. Degenerated cretaceous vessels were also found in the cerebellum. On examination through the microscope, another smaller tumour, of a similar character, was found in the left side of the cerebellum, embedded in the white substance.

At a meeting of the Berliner Medicinisch Psychologische Gesellschaft, reported in the "Archiv. für Psychiatrie," iv. Band, 1 Heft, Dr. Mierjewsky gave a description of the brain of a microcephalic idiot. The size of the head was about that of a child of one year old; the encephalon weighed 369 grammes; the cerebellum, pons, and medulla oblongata were about the usual size, the deficiency being in the cerebrum; the corpus callosum was only one-third of the usual length; the convolutions were simple and undeveloped, the grey matter deficient. The idiot, who was fifty years of age, had the capacity of a child of a year and a half. He could only repeat a few words. He was indifferent to music, and was very apathetic; he would not ask for his food if the attendant did not bring it. His walk was slow and heavy, and his other motions awkward.

Dr. Friedrich Carl Stahl, in the "Zeitschrift für Psychiatrie," 4 Heft, gives the result of his Clivus-Studien. A deformed condition of the Clivus—that portion of bone which descends from the posterior clinoid process of the sphenoid to the anterior edge of the foramen magnum—has been found very frequent in cretinism, and Dr. Stahl, following out a dim foreboding that some interesting results might be found through an attentive examination of the base of the skull in insane subjects, has taken a note of its condition in 104 dissections. In a few cases he found an abnormal condition of the Clivus, and his descriptions, which it would be difficult to reproduce, are illustrated by three engravings. These cases—one male and two females—were all insane, but one had been previously imbecile. There is no explanation given of the connection between the unusual formation of the Clivus and the insanity of the patients. One thing is clear, that deformities of this bone are not very common in insanity, though frequent in cretinism.

Dr. Nothnagel, quoted in the "Centralblatt," No. 12, has some remarks upon cutaneous pain and neuralgia. At the beginning of neuralgia, from the second to the eighth week, there is increased

sensibility (hyperalgesie) over the integument covering the seat of the pain; but deficiency of sensibility (analgesie) is later in coming on. In general, the hyperalgetic stage is shorter the greater the neuralgia becomes.

In paroxysmal neuralgias increased sensibility persists in the intervals of remission. In like manner deficient sensibility, where it appears, alternates with the neuralgic pain. These abnormal conditions disappear with the neuralgia. What has been called hyperæsthesia the author finds is not an increase in the sensibility enabling one to have a finer perception of the minima of differences, but an increase in the intensity of painful impressions.

Dr. William Zenker, in the "Zeitschrift für Psychiatrie," 3 Heft, writes upon Arthritis in the insane. He gives three cases where arthritis deformans supervened upon insanity. He is disposed to believe that the nervous disease either was the cause of the morbid action in the articulations, or that both affections appeared under the influence of a common cause not yet made out. Dr. Zenker quotes the observations of pathologists and military surgeons, describing injuries to the nutrition and other changes following lesions to the nerves supplying the parts.

Dr. P. Samt ("Archiv," iii. Band, 3 Heft) has an article on Aphasia, with two cases. Towards the end of his acute and careful article, Dr. Samt says:—"Localisations of a speech-centre are at present quite unwarranted; discussions on the possibility of a speech tract on one side of the brain quite idle; I, at least, understand as little and as much of thinking and speaking with one hemisphere as of thinking and speaking with two.

In the "Zeitschrift für Psychiatrie," xxix. Band, 5 Heft, there is an account of two cases of imbecility, or dementia, following on epilepsy passing away with the cure of the epileptic attacks. The first case was a girl called Caroline; her father subject to epilepsy, and a drunkard. She had frequent attacks of epilepsy when three years of age; but on the gradual disappearance of this disease she grew to the normal stature and intelligence of a girl of fourteen. About this age the epileptic attacks again returned, and became very frequent, when she passed by degrees into a fatuous state. Her gait became tottering; often she was unable to sit up even in an easy chair, and she even required to be fed. Sometimes she would wander about at night, instead of sleeping, or fall into maniacal bursts of passion. After four years' illness she was admitted into the asylum under Dr. Wiedemeister, of Osnabrück, where she passed her time in the compartments used for dirty and noisy patients. The fits were both severe and frequent, and she was treated with bromide of potassium and oxide of zinc. Little hope was held out of her recovery; but after being a year in the asylum, and five years ill with epilepsy, the fits began to be less frequent. In November her catamenia first appeared, and in December the last fit was seen. She began to do

simple pieces of work, her strength revived, and her intelligence gradually returned, and on the 23rd of June, 1872, after being three years in the asylum, she was dismissed cured of imbecility and epilepsy. On her returning to the world it was found that she had forgotten many things which she had once learned. She had again to be taught to sew and knit. She never entirely lost the use of speech, and even during the period of her deepest fatuity, she used to sing songs which she had learned in the school, generally with the proper tunes; and when she was again sent to her lessons, it was found out she had not entirely forgotten reading and writing. During her fatuous condition she was not able to recognise her mother, and on her recovery she had entirely forgotten that her mother had pigs and cows; nor did she recognise her native place, nor even her home when brought back to it.

The second case was a girl named Wilhelmina; her father was given to drinking. When thirteen years old she began to be troubled with epileptic fits, which brought on an attack of mania. She ran at her father and mother with a knife, and wanted to strangle her little sister. On being admitted to the asylum, she was observed to have epileptic fits, to fall into a cataleptic state, and to talk in her sleep. She was treated with bromide of potassium for above two months, and after having been ill for four months, was dismissed in the complete possession of her faculties, which were stated to be of rather a superior order.

Dr. M. Bernhardt (*Archiv.*, iv. Band, 1 Heft) gives the results of his studies of a case of injury to the spinal cord, implicating only one side. In the same number Dr. W. Sander gives a case of epilepsy with subjective sensations of smell, found to accompany destruction of the right tractus olfactorius through a tumour. Both papers bear marks of careful application and ripe study of the subject.

There appears still to be much difference of opinion amongst chemists about the changes which occur in the secretion of the kidneys after waste of nerve tissue. For example, Dr. L. Hodges Wood, as the result of his observations published in 1869, denies the correctness of the generally received statement that the amount of phosphates in the urine is increased by fatiguing mental exercise. He found that while the alkaline phosphates were slightly increased the earthy phosphates were notably diminished after mental work, and that when the mind was not much employed the excretion of earthy phosphates was increased instead of diminished. He accounts for this by the hypothesis that when the brain was worked it withdrew more phosphorus from the circulating fluid.

Dr. E. Mendel (*Archiv.*, iii. Band, 3 Heft) gives us the result of his observations on the amount of phosphoric acid in the urine of those suffering under diseases of the brain. He finds that the amount of phosphoric acid excreted during the night time is greater than that during the day.

Dr. Mendel ascertained that, as a rule the quantity of phosphoric

acid excreted in patients with chronic diseases of the brain is less than with healthy persons using the same diet. The quantity is increased really, as well as relatively to the amount of the other solid components of the urine.

Dr. Mendel also found that, during periods of maniacal excitement, the phosphoric acid was diminished both really, and relatively to the other solid contents; but that the phosphoric acid was increased both really and relatively after apoplectic and epileptic attacks.

(*To be continued.*)

2. *American Psychological Retrospect.*

By T. W. McDOWALL, M.D., Assistant Medical Officer, West Riding Asylum, Wakefield.

American Journal of Insanity, Vol. xxviii., January to April, 1872.

(*Continued from page 157.*)

A New Definition of Insanity.—Dr. Cruse, having remarked upon the real difficulties which beset any attempt to give a truly accurate definition of insanity, and having pointed out in what respects definitions already proposed fail, offers the following for general acceptance—“*Insanity is the psychic manifestation of brain-disease.*” The Editor of the “*Journal of Psychological Medicine*” appends a note to Dr. Cruse’s paper to the following effect:—“While Dr. Cruse has given a definition of insanity, which is in the right direction, and has written very philosophically in support of his views, the terms of the definition are not sufficiently explicit. A man insensible from the effects of cerebral hæmorrhage exhibits ‘psychic manifestations of brain-disease,’ and yet he is certainly not insane. The definition of the editor, ‘a manifestation of disease of the brain, characterised by a general or partial derangement of one or more faculties of the mind, and in which, while consciousness is not abolished, mental freedom is weakened, perverted, or destroyed,’ appears to be preferable. If Dr. Cruse’s definition were made to read, *a psychic manifestation of brain-disease unattended by loss of consciousness*, it would probably be more compact, and fully as logical as any extant.”

A Case of Diffused Cerebral Sclerosis.—As excessive brevity greatly lessens the value of clinical records, we shall reproduce in their entirety Dr. Baldwin’s notes of this case.

“The victim of the disease, the name of which heads this history, was a gentleman of rare endowments and extensive acquirements; his ancestry were healthy, his habits unexceptionable; he was the father of nine children, all of whom are living and healthy. Some two years since he was assailed by charges highly derogatory to professional and personal character. The charges proved unfounded; but, to escape