PART III.—PSYCHOLOGICAL RETROSPECT.

1. *German Retrospect.*

By William W. Ireland, M.D.

New Methods of Hardening Preparations.

Dr. Marcus describes ("Neurologisches Centralblatt," No. 1, 1895) a method of hardening nerve tissues, which has met with approval in the clinique for nervous diseases at Stockholm. He finds his method better than hardening in Müller's solution or in spirits. The prepared tissue remains more elastic and is less liable to contract. The process takes from two to four weeks. Dr. Marcus has tried this method upon the spinal cord of a tabetic patient. After hardening there was a marked difference between the white fresh part and the posterior columns, which assumed a brownish-grey translucent appearance. After hardening the sections were coloured by the Weigert Pal method.

Dr. Marcus gives the following directions for making preparations:—

After the spinal cord has been hardened from two to four weeks in ½ per cent. fermol I cut off a piece ½ cm. thick and leave it in Müller's solution at a sustained temperature of 37° C. for a week.

Then I leave it for a day in 95 per cent. solution, and again a day in absolute alcohol, and then imbed it in celloidin. After making sections on the microtom I replace the slices immediately in Müller's solution in the stove for about a week, then wash them quickly in spirit and leave them immersed for about two days in coloured solution of logwood. I then proceed to the colouring and differentiation as described by Pal.

The colour which I obtained is very distinct. The medullary sheath is a beautiful blue; all the degenerated portion is completely dyed.

I also brought out, as found by Dr. Reimer, that the ganglion nerve cells become very distinct, and that their nuclei come out very clearly.

Nomenclature of various Nerve Cells.

Dr. Nissl ("Neurologisches Centralblatt," No. 3, 1895) proposes a precise nomenclature of the different types of cells, without which it is impossible to ascertain and describe their variations from the normal state.

He regards an exact appreciation of the changes in the cells as the basis of a true pathology of the nervous system. This should

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be worked out by observations upon animals. Nissl already claims to have made noteworthy progress. He assures us that we can now answer in the affirmative the question formerly so much disputed: Whether, after poisonings with lead, arsenic, phosphorus, etc., typical alterations may be found in the nerve cells. Not only has Dr. Nissl found such changes after chemical and bacterial poisons, especially that of tetanus, but he has been able to produce them by sections, separating the motor tracts from the muscles by deprivation of food, and by the application of electricity. He even claims to be able to distinguish the cells excited by electricity from their neighbours which have not been so influenced.

Spinal Lesions in Alcoholic Neuritis.

Dr. Heilbronner exhibited to the S. W. German Psychiatric Association at Karlsruhe ("Allgemeine Zeitschrift," li. Band, 5 Heft) preparations of nerve tissues by Nissl's method,* which brought out alterations in the finer structure before the ganglion cells were visibly affected. In the case of an old drunkard who had been treated for chronic delirium in the Breslau clinique there were marked symptoms of alcoholic neuritis. In the anterior horns of the spinal cord Heilbronner detected progressive degenerations of the nerve cells, passing from a muddy colour in the nuclei to the filling up of the whole cell with turbid coloured masses. He thinks that in farther cases of neuritis the spinal cord should be carefully examined by Nissl's method, when we should likely cease to have negative results in the examination of the spinal cord after neuritis.

Wasting of the Nerve Fibres in Insanity.

For many years microscopists would do nothing but study the vessels of the brain and the nerve cells. To the latter they assigned this and that function very much as they pleased. At last came Dr. Tuczek, who began to pay attention to the nerve fibres. In 1884 he described the wasting of the fibres with axis cylinders in the grey substance of the brain in general paralytics. After this other observers found this alteration not only in paralytics but in epileptics, chronic dements, and idiots. Dr. Ad. Meyer, in a paper read at Dresden ("Allgemeine Zeitschrift," li. Band, 4 Heft) has also found this wasting of the fibres in mania and prolonged melancholia as well as in a case of paranoia with hallucinations. Dr. Meyer finds that the delicate fibres in the

* Nissl's staining method has been described by Dr. Goodall in the Journal for April, 1894, p. 313. See also a more detailed account in the "Centralblatt für Nervenheilkunde," 1894, Juli.

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middle layer of the grey matter are the first to disappear. After them, or sometimes about the same time, the tangential fibres of the outer layer of the cortex, and then the elements of the third layer are affected in such a degree that the alteration can be recognized by the naked eye. This advanced process of degeneration is observed in the last stages of general paralysis. Dr. Meyer is disposed to think that the whole physical accompaniment of the mental action may be in the network of fibres, and that the nerve cells may have only a nutritive function. He considers that many of the symptoms of insanity are owing to disturbance of association connected with wasting of the nerve fibres. Dr. Tuczek said that only in isolated cases of paranoia had wasting of the fibres been observed. The disappearance of the fibres in general paralysis was noted at various parts of the brain, but oftenest in the frontal lobes. Except in general paralysis, in intoxication, in imperfect development, and perhaps in senile dementia, he had never seen this disappearance of the fibres in the cortex.

The Circulation in the Brain during Epilepsy.

Professor Bechterew, of St. Petersburg, in an original communication to the "Neurologisches Centralblatt," No. 23, 1894, gives an account of some further researches made in his laboratory by Dr. A. Todorski. The results of Dr. Todorski's previous observations have been already noticed in the Journal for October, 1891, p. 608. It was shown by experiments on animals in which convulsive attacks had been artificially excited, that the blood pressure both in the central and distal ends of the carotids was increased during the tonic period of an epileptic attack. Dr. Bechterew tells us that it was urged against these experiments that he did not take into consideration the alteration of pressure in the great veins of the thorax and abdomen. To meet this objection, Dr. Todorski has set about a new series of experiments to ascertain the amount of blood pressure, not only at both ends of the carotids but also at the veins issuing from the brain, during the epileptic attacks.

For this purpose he introduced a canula into the peripheral and central ends of the carotid and into the trunk of the outer jugular vein as explained in the earlier experiments (see "Neurolog. Centralblatt," 1891, No. 22) with mercury manometers.

For the jugular the canula was fitted either with a manometer of the same kind or with one of thinner calibre, with a 25 per cent. solution of sulphate of manganese. The registration was effected with the drum of Ludwig's cymograph.

These experiments showed that at the beginning of the tonic period of the fit there was an increase of blood pressure, both at the ends of the carotids and at the jugular veins. The increased pressure in the veins persisted during the duration of the epileptic

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attack. The increase or diminution of the pressure in the carotids kept equal measure with the pressure in the jugular veins, save that in some cases when the convulsions were very violent the pressure in the carotids was higher than that in the veins.

By another series of experiments made upon animals, in which a trephine opening had been made in the skull, Dr. Todorski ascertained that the pressure of the cerebro-spinal fluid was in all cases equal to the pressure of the carotids.

In conclusion, Professor Bechterew states, as the result of all these experiments, that during epileptic fits there is an increased flow of arterial blood to the brain.

In the next paper in the "Neurologisches Centralblatt," Dr. Bechterew recommends the use of adonis vernalis in combination with the bromides against epilepsy. He also observes that in some cases of "heart-epilepsy" with increase of the blood pressure, digitalis may be usefully added to the bromides. He has also in some cases found the addition of codein to be of service.

On Hysterical Somnolence.

Dr. Löwenfeld gives us the result of his numerous observations upon this difficult subject ("Centralblatt für Nervenheilkunde," 1895, Mai). He distinguishes between an indolent or lethargic habit with a tendency to fall readily to sleep, or to indulge in long sleeps, and the condition in which the tendency to somnolence passes into hysterical attacks and sleep walking. Some patients suffering from cerebro-asthenia remain for a long time in a drowsy or torpid condition, unable to make any sustained mental exertion, and these often sleep long and heavily, but without any attacks of hysteria or somnambulism.

The hysterical condition is often preceded by a feeling of weariness, want of energy, and disinclination and incapacity for business. The patient is depressed and the memory for recent events is weakened. He or she readily drops asleep. If this undue tendency to somnolence be resisted, there is a feeling of heaviness or constriction in the head, sometimes headache, and the eyelids of the patient are weighed down. If the patient still continues to struggle against it, he may pass into a state of excitement. In general, however, the somnolence gains upon the person till resistance is overcome and the will becomes paralyzed; he then passes into the state of hysterical somnolence. Some writers talk of the appearance of a second personality always hid behind the first, which now becomes more strong when the first is enfeebled. Dr. Löwenfeld more soberly describes this second condition as the result of a subtraction from the first ego. It is not a second personality, but the first personality with some capacities enfeebled or in abeyance, especially the power of

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exerting the will and the memory of the ordinary circumstances of life which accompanies our normal being, the where, how, when of our daily life. It is not clearly explained how this change takes place, but it is preceded by a process of brain exhaustion, to which some people of a hysterical constitution are peculiarly subject. Dr. Löwenfeld thinks that it may be a species of auto-intoxication. He has observed that in patients so affected the attacks of hysterical somnolence were preceded for several weeks by diminution of the appetite for food and drink, diminution of the urine, increased constipation, and the loss of healthy sleep. He was able to show by injections in guinea pigs an increased toxic power in the urine of such patients. Dr. Löwenfeld sees an analogy in this somnolent condition of hysteria to the drowsiness observed in diabetes or uræmia. He has tried a variety of medicinal dietetic and hygienic means against this overpowering somnolence without perceptible effect from any save from Essentia Spermin Pœhl. This has proved of some use subcutaneously or "per os." He finds the cost of this preparation an objection.

Unilateral Hallucinations.

Dr. Higier (quoted in "Zeitschrift für Psychologie," 21 März, 1895) describes two interesting cases of this affection, accompanied by hemiopia. The first patient was a widow, 46 years old, who suffered from headache and a peculiar disturbance of the power of walking, which came on in the evening. During her stay in the hospital at Vienna she had a right-sided hemiopia, with general circumscription of the field of vision. Three or four times a week she suffered from headache on the left side, with hallucinations in the field of vision, occupied by the hemiopia. She saw on the right side figures, a garden, a lake, and other things which, being steadily regarded, appeared to become smaller or greater. On the eyes being shut the visions disappeared for a short while, again to reappear. She knew that they were only hallucinations. These attacks gradually disappeared, along with the hemiopia. Higier will not admit any hysteria in this case, and supposes the symptoms to be owing to a periodic spasm of the vessels in the visual region of the left hemisphere, perhaps followed by anæmia.

The second patient was a woman of 24, who had for some time suffered from various nervous complaints, such as headache and giddiness. On admission to the hospital it was observed that she had paresis on the right side, with hyperæsthesia, trembling, increased tendon and skin reflexes; paralysis of the oculo-motor nerve of the right eye; Graefe's symptom in the right eye, and incomplete hemiopia on the left. In this patient there were twice

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visions in that part of the eye affected by hemiopia. She saw figures on the left side.

The first hallucination was preceded by loss of consciousness.

Dominant Ideas.

Much discussion has taken place ("Allgemeine Zeitschrift," li. Band, 5 Heft) on the significance of what Dr. Wernicke has called "Überwerthige Ideen," which we may render by dominant ideas. There are some fixed ideas which occupy the foreground of consciousness, but do not connect themselves with any train of thought, and there are others which seem to become the focus of other ideas which painfully affect the mind, deeply influence the thoughts, and may in the end rule the conduct. These dominant ideas may be real or only imaginary, arise in the patient's mind or be introduced from without. It would appear that such thoughts find their readiest soil in a weak or diseased brain. On the other hand, we cannot say how far an idea of a painful or violent character may so powerfully affect the brain as to modify its function for a long time, and in some cases be the origin of a delusion.

Dr. Koppen describes a case of a weak-minded man who had a special talent for mechanics. He was employed by an inventor in the preparation of a flying machine, which was to be an improvement of the well-known Lilienthal's system. He heard a great deal from the inventor of his expectations for the future which such discoveries awaken. These ideas filled the man's mind day and night; he thought of nothing but the flying machine, and pondered and worked at the improvement of the parts. Carried away by these ideas, he stole pieces of old iron which he either sold in order to obtain money for materials for the inventions, or used in making the flying machine. This was discovered, and after examination he came under observation in the Charité. Here he gave out that he hoped to gain millions with his flying machine in a very short space of time. He thought he saw preparations for his execution in a heating valve in the prison. In the Charité he occupied himself the whole day with making drawings of the machine and considering explanations and copying passages out of a pamphlet by the inventor about the flying machine. The idea which had been implanted in this man's mind, and so deeply occupied his thoughts and attention, was so far reasonable that it was of importance that Lilienthal's flying machine should be improved, but in his weak mind it became the starting point of delusions.

Hallucinations of a Deaf Paranoiac.

Dr. Cramer read before the Psychiatric Association at Berlin ("Allgemeine Zeitschrift," li. Band, 5 Heft) an account of a deaf

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patient who, being affected with chronic paranoia, had been treated in the asylum of Eberswalde. He was 37 years old, and had been born deaf; but had been educated and learned to be a portrait painter. When admitted he was much excited and violent. He was very suspicious, not at all communicative, and very difficult to handle. In about ten months he began to improve, and engaged in outdoor work. A year after he again resumed his painting, and was willing to converse. Dr. Cramer framed a number of questions which the deaf man answered in writing. Instead of hallucinations of hearing, for he could not hear, he imagined that communications were made to him by the ordinary signs used by the dumb, and through the words which he had been taught to utter by muscular exercises of the mouth and throat, and also by studying the motion of the lips in others. In these ways he thought that obscene ideas were introduced to his mind. Cramer took occasion to observe that it was a mistake to believe that in all our thinking heard words are used. In this he is convinced that there are great differences, some men transacting thought through the acoustic form of words, others through the revival of images formed from the movements of the organs of speech or the sensation of accomplished muscular effort.

Latah.

Dr. van Brero, physician in the asylum at Buitenzorg, Java, describes ("Allgemeine Zeitschrift," li. Band, 5 Heft) a nervous disorder called latah, which is common in that island. The affection is characterized by the patient executing movements and uttering sounds against his will. These motions may be repetition of voluntary ones, or done from the suggestion of others. The sounds uttered are generally disconnected words or expressions in vulgar use. Sometimes there is an evident paraphasia. An attack is easily excited; sometimes a look or a movement of the head from another person is enough to set it on. The intellect is not affected, and the patient is quite aware of what he is doing, but the power of the will is not sufficient to check the motions. Dr. van Brero had three female patients in the asylum who were affected by latah, though this was not the ground of their admission. He is not aware how far the latah may predispose to insanity. He thinks the malady consists in an increased excitability of the nervous system, which must extend to the cortex. There is a paralysis of the will. The affection is distinctly hereditary, and those affected are mostly women. He observes that the natives of Java have a mental feebleness which prevents them becoming independent in thought and action, so that there is always a weak development of individuality. Latah takes a middle place between diseases such as hysteria and epilepsy, in

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which a nervous impulse is followed by muscular contractions and greater or less loss of consciousness, and those "obsessions" in which the will is conquered after a long struggle with morbid influences. Dr. van Brero concludes his paper by defining latah as a hereditary cerebral neurosis, from which arise schokinesia coprolalia and echolalia. Instead of the vulgar term of latah he proposes the more sonorous title of provoked imitative impulsive myospasia.

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2. *Education of Idiots and Imbeciles in Scandinavia.*

The following is an extract from a letter from Hr. Jakob Soethre, Superintendent and Proprietor of the Institution for Imbecile Children at Ekelund, near Bergen, addressed to Dr. W. W. Ireland, Mavisbush, Polton:—

"As regards our special domain, education of imbeciles, there is nothing of peculiar interest to be related so far as our country is concerned. Things are going on regularly at the line once drawn up. It will take a good while yet before we get the law of 1881 fully carried out as regards the imbeciles; but we take a little step forward every year and in the end I expect we will reach the aim, *i.e.*, education of all teachable imbeciles.

"For Sweden a Royal Commission was appointed last year in order to draw up a proposal for a law somewhat like ours in Norway, to be laid before the Riksdag. And this Commission finished its mandate some months ago, and laid its matured proposals before the Educational Department. The starting point of this measure seems to be that a sufficient number of establishments for idiots and imbeciles, asylums, schools, and workshops are to be provided by the Government, together with the county and parish, at the same time as the education of abnormal children should become compulsory. In Sweden they have already established quite a number of small institutions for idiots and imbeciles, scattered over the country. Most of them have only about twenty to thirty inmates, are superintended by ladies, and carried on more or less as a kind of charitable institution.

"In Finland they got their first imbecile school four years ago—a private home for half a dozen idiots at Jakobstad excepted. On the 3rd January, 1890, the Pertulla Anstalt for imbeciles was commenced with seven pupils in hired premises in the suburb of Helsingfors. It was established by Mr. Edvin Hedman much in the same way as the starting with us, Mr. Hedman having gained his first knowledge of the subject at Thorshaug, near Christiania, through about two years' practice and study. In 1892, the Government granted Mr. Hedman 70,000 marks as a

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