3. *German Retrospect.*

By William W. Ireland, M.D.

Die Krankhaften Erscheinungen des Geschlectsinnes. Eine Forensisch-psychiatrische Studie. Von Dr. Med. B. Tarnowsky, Professor an der Kaiserlichen M. Med. Akademie in St. Petersburg. Hirschwald, Berlin, 1886.

While men exalt certain aspects of the amative faculty, celebrate them in poetry, and glorify them in painting, there are others which they habitually conceal and strive not to think of. The only person suffered by conventional usage to lift the veil is the priest of the healing art, who must know the whole man. He cannot escape from regarding the variations and perversions of the sexual propensity. They are the cause of disease in ordinary practice, and force themselves on his attention in medico-legal inquiries. But it is in caring for the insane that we see with the least disguise the great and pervading strength of the erotic feelings and the strange modifications and exaggerations which they may undergo. There is a tendency now-a-days to put all traditional knowledge into books, and we can at least certify that Dr. Tarnowsky's exposition of the subject is very complete. His knowledge and experience in such cases are unusually great, and his list of books and papers, filling four pages, shows how far-reaching his inquiries have been. The book was originally published in Russian, and now appears in German in an octavo form of 152 pages. It is written in a grave and scientific style, and is fitted for the physician or the anthropologist who wishes to take a complete survey of all the aspects of human nature. It is neither designed for nor is it at all fit to be perused by other readers. Dr. Tarnowsky has found that sexual perversity is often hereditary. This makes him divide it into two groups, hereditary and acquired; but a third section is needed for the complicated forms.

Thermal Brain Centres.

Dr. R. W. Raudnitz ("Prager Medicinische Wochenschrift," 1885, No. 18) does not consider the existence of a centre for the regulation of animal heat in the cortex cerebri, as indicated by Eulenburg and Landois, to be sufficiently proved. In experiments upon dogs these physiologists observed a rise of temperature in one paw after extirpation of the grey matter of the brain, and when this supposed cerebral centre was stimulated there was a sinking of the temperature in the same paw. This change of temperature, however, Dr. Raudnitz observes, was not invariable, and might be simply owing to the diminished muscular tonicity and its influence upon the vessels. When the animal is under the influence of curare the alteration of the temperature of the paw cannot be induced. As stimulation of the same region of the cortex induces muscular motions in the limbs, this may

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be the cause of the alteration of temperature. Eulenburg and Landois have stated that they succeeded in producing changes of temperature in the limbs in animals while under the influence of curare. On repeating these experiments, Dr. Raudnitz has not been able to confirm their results. He is therefore disposed to believe that these physiologists have not sufficiently attended to the many different sources of fallacy.

The Cause of the Knee Phenomenon.

Dr. Theodor Rosenheim ("Archiv.," xv. Band, 1 Heft) gives a description of his experiments to determine the nature of the clonus or tendon phenomenon. Since the discovery of this symptom by Erb and Westphal it has been a debated question whether the involuntary motion is owing to reflex action in the cord or direct stimulus acting on the muscles. Eulenburg declared that the latent time between the shock and the reaction was in the patellar clonus too short for the stimulus to be conducted along the excito-sensory nerves to the cord and then back along the excito-motor nerves. He therefore inferred that it could not be reflex, and thought it dependent upon the muscular tonicity of the quadriceps extensor and the quickness of the peripheral sensibility and conduction of impressions. Rosenheim has arrived at the conclusion that the time of the latent stimulus of the knee phenomenon is never so short as to make it impossible for it to be reflex. He never found this period to be less than 0·025, but Eulenburg gave the shortest period observed by him as 0·01613. Gowers gave the latent period of the knee-clonus as from 0·09 to 0·15, that of the ankle-clonus as 0·025—0·04. While he held the patellar reaction to be reflex, he thought the ankle-clonus to be the result of the direct muscular stimulus. Westphal has observed that a tap on the border of a tendon or muscle was the only stimulus which could call forth the knee phenomenon. By some carefully-devised experiments Dr. Rosenheim succeeded in producing an analogous motion by shocks transmitted from a magneto-electric rotation apparatus through a needle inserted in the tendon. The general results of Dr. Rosensheim's experiments seem to confirm the view that the patellar clonus is reflex.

Relation of the Tendon Phenomenon to the Reaction of Degeneration.

Dr. Ernst Remak ("Archiv.," xvi. Band, 1 Heft) examines the connection of the symptoms of the tendon phenomenon with diminished irritability to the continued and induced currents following on degeneration of the affected muscles. He observes that a slight stretching of the crural nerve in animals causes failure of the tendon reflex of the knee. He notes the failure of the knee phenomenon in cases of partial and peripheral paralysis dependent upon neuritis, and also its failure in complete motor paralysis of the mixed nerves. In case of recovery the altered reaction to the faradic and galvanic cur-

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rents returns more quickly to the normal state than the patellar reaction. Dr. Remak comes to the following conclusions :—

1. The increase of the tendon phenomenon, especially in the foot, accompanied by partial degenerative reaction of the corresponding muscles, can occur only in spinal disease, and only in amyotrophic lateral sclerosis.

2. The maintenance of the tendon phenomenon, in spite of partial degenerative reaction, occurs, in all probability, only in atrophic spinal paralysis (*polio-myelitis anterior*).

a. The loss of the tendon phenomenon generally follows upon all severe paralysis with relaxation of the muscles and degeneration of the muscular tissue and diminished irritability of the nerve, whether of spinal (polio-myelitic) or of peripheral origin (neuritic), and it lasts longer in cases of recovery than the galvano-muscular reaction of degeneration.

b. The tendon phenomenon fails in peripheral neuritis of mixed nerves.

c. The tendon phenomenon also fails in complete peripheral paralysis, even where there is no consecutive reaction of degeneration.

A New Group of Symptoms.

Dr. Westphal has in a reprint from the " Archiv." (Band xvi., Heft 2) called attention to a group of symptoms in connection with a pathological lesion such as has not previously been described. The patient was 47 years of age on admission to the hospital at Berlin, where he remained two years and three months. He was free from taint of neurotic inheritance, of syphilis, or from alcoholic excess. The disease began with paresis of the left rectus internus of the eye; later came ptosis and giddiness. The legs began to fail, till at last they became almost completely paralysed. Then followed loss of strength in the arms. The paralysis was followed by rigidity in groups of the muscles of the legs, increase of the knee phenomenon, and later on by paradoxical contraction. The last symptom was observed first in dorsal contraction of the foot, then in plantar flexion and in the movements of the knee and hip joints by stiffness. Paradoxical contractions in the arms followed later. Similar disorders of innervation in the muscles of the jaw and tongue, loss of sensibility, spread almost over the whole body, at last implicating the region of the fifth pair. Besides the feeling of giddiness and distress and broken sleep there were no cerebral symptoms till towards the end of the illness, when some blunting of the intelligence seemed to result; but this was no greater than what is observed to follow other severe diseases. The patient was at the same time affected with tuberculosis. The diagnosis of the nervous disease seemed uncertain, but the symptoms were supposed to indicate multiple cerebro-spinal sclerosis. The result of the post-mortem examination was quite unexpected.

There was found disease of the posterior pillars of the cord, affecting especially the inner part of the columns of Goll up to the margin

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of the pillars of Burdach. The peripheral nerves of the affected limbs were much atrophied and the muscular tissue degenerated. Dr. Westphal explains the persistence of the patellar reflex by the entirety of the root-zone in the dorsal region and the want of ataxia by the incompleteness of the degeneration of the posterior columns.

He regards it as a case of chronic parenchymatous neuritis. He is unable to decide whether the disease had a peripheral or spinal origin.

Dr. Westphal's paper, which fills 38 pages, is illustrated by two pages of lithographs.

The Ano-vesical Centre.

Dr. Kirchoff publishes ("Archiv.," xv. Band, 3 Heft) the symptoms in a patient who was thrown from his horse and severely injured in the loins. The accident was followed by paraplegia, but in six months he was again able to walk about. There remained incontinence of the urine and fæces, with recurring attacks of cystitis, which in the end extended to the kidneys, causing death exactly twenty months after the accident. On examination the cord was found to be compressed by the displacement of the first lumbar vertebra. Dr. Kirchoff considers that this case supports the view that the ano-vesical centre is situated near the point of origin of the third and fourth sacral nerves, as indicated by Stilling.

Hitzig on the Motor Centres.

Professor Hitzig, who had been kept for six years by other duties from treating of the vexed question of the motor area of the brain, at a meeting of neurologists and alienists held at Baden on the 17th of June, 1883 (see "Archiv.," Band xv., Heft 1), commented on the manner in which his researches had been interpreted and extended. He had been induced to renew his experiments by the statement of Munk, who had found that the application of the interrupted current to the convolutions of the frontal lobe produced convulsions, and that their extirpation was followed by paralysis. Munk found that the removal of one frontal lobe rendered the animal unable to bend the back sidewards, and that removal of both lobes made it incapable of arching the back upwards. He therefore concluded that the function of the frontal lobes was the innervation of the muscles of the back. That the great development of the frontal lobe in man should have no further function than presiding over the movements of the back seemed to Hitzig very improbable.

Hitzig found that the symptoms described by Munk were only occasionally observed. In many of his experiments he found that large portions of the frontal lobe could be removed without these deficiencies in the movements of the back being present. Whilst he found that there was much less disturbance of outward functions after injury to the frontal lobes, Dr. Hitzig was able to make out that there was a loss of sight in the opposite eye, a disturbance in the motions of the limbs, and a loss of intelligence.

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In order correctly to estimate the injury to the intelligence of the animal, one requires to know something of its habits and intelligence before it is made the subject of experiment. Dr. Hitzig confirms the statement of Goltz that removal of any part of the brain causes disturbance of vision which passes away in a few days, otherwise, he observes, he will not range himself in the camp of Goltz. Instead, however, of combating this formidable opponent he here turns aside to criticise the theory of Schiff, that the movements produced by the application of electricity to the brain are nothing else than reflex motions caused by irritation applied to the termination in the brain of the sensory nerves.

Hitzig concludes by observing that from the centres in the cortex proceed motor, sensory, and, perhaps, other fibres, and that it is the motor fibres which are affected by the electric stimulus. "I still hold," says he, "as I did in the year 1870, that the centres discovered by me are nothing else than gathering places; and I apply this theory to the other centres since discovered. I share the often repeated view that deep or extensive lesions to the central machinery of the brain necessarily disrupt a number of connections between the parts, and must thus produce such symptoms. In this category would I place the temporary disturbance of vision after injuries to different parts of the brain." Hitzig opposes the theory of Munk that no especial organ is needed for the higher intellectual capacities. "It is true," he observes, "that the intelligence exists in all parts of the cortex, or rather in all parts of the brain, but I hold that abstract thought needs a separate organ, and seek for it in the frontal lobe."

Gudden on Cerebral Localisation.

At a meeting of the German Medico-Psychological Society at Baden, in Sept., 1885 (reported in the "Neurologisches Centralblatt," No. 19, 1885), Gudden referred to the great difference of opinion about the results of experiments on the grey matter of the brain. He had little faith in the charts in which different centres were put down as in a map. On the whole, he stood on the standpoint of Goltz. His own observations had led him to doubt Munk's results about the visual centres. He had extirpated the whole occipital lobe in young rabbits, and found that they could still see very well. He thought our methods of investigation too rude to give trustworthy results. The method of investigation to which he trusted most was destroying the conducting tracts, and observing what portions of the cortex became atrophied. If one extirpated the frontal lobe, there was degeneration of the tract which passed down through the pyramids, but if the rest of the brain were extirpated, leaving the frontal lobes entire, there was no degeneration of the pyramids. If the hemispheres were removed, the fillet became degenerated. If one extirpated the parietal and occipital lobes, the corpus geniculatum internum became atrophied as well as the corpus mammillare. Gudden removed the so-called motor sphere in cats, and after a few hours they

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showed no motor disturbance. He considered the arrangement of the different layers to be the same all over the cortex. The only centre which Gudden seems disposed to admit is that for Language.

Exner and Vareth on Motor Areas in the Cortex.

At the Congress of Scientific Men and Physicians, held at Strasburg in September, 1885 ("Neurologisches Centralblatt," No. 20, 1885), Dr. Exner and Dr. Vareth gave an account of a number of experiments made by them in the Physiological Institute of Vienna. Their object was to determine more nearly the areas of the cortex which preside over different muscular motions. They experimented on dogs under the influence of morphia, using the constant current. The muscular contractions were registered upon Marey's drum. In order to determine the so-called motor centres, they severed the side connections so as to leave the portion of grey matter isolated, save by its downward connection with the centrum ovale. If a part, after this lateral division, still retained its influence on particular muscles until its continuity below was severed, it was assumed that this was a presumable determination of a motor centre.

On mapping the results thus obtained upon a diagram, these observers arrived at the conclusion that the so-called motor centres are not separable from one another, and are not reducible to given points. The posterior and outer part of the sigmoid gyrus is the common area of the muscles of the extremities, the flexor, and the extensor digitorum, and the abductor pollicis of the fore-paw and of the flexor and extensor digitorum of the hind-paw.

The cortical areas of these single muscles for the most part seem to overlap one another, or to be crowded against one another; the outer part of the sigmoid gyrus constitutes the area of the orbicularis palpebrarum; the area of the facial is sharply divided from that of the extremities. In the discussion which followed, Goltz repeated his well-known views. He observed that we cannot dismiss the possibility that the electrical excitation of the muscles through the cortex may be dependent upon irritation of the white substance.

Goltz on Cerebral Localisation.

At a further meeting of the Congress at Strasburg ("Neurologisches Centralblatt," No. 21, 1885), Goltz presented four brains taken from dogs which had been shown alive in the morning. He laid most stress upon one brain in which the occipital lobe had been completely removed, so that no remaining motor centre could be pointed out, and in which the so-called excitable zone of the cortex was, in a great measure, destroyed. The visual area on the left side was reduced to a very small margin. Yet this dog, as they had seen, had retained sensations of pain or pressure of the right fore and hind paws, as well as what Hitzig calls motor consciousness. The dog

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presented no trace of paralysis. On the left side the centres of the limbs had been removed as well as the so-called centres of sensation. In the brain of the second dog the so-called visual centres were destroyed. According to Munk this animal should be stone blind, which was not the case. In the third brain only, the frontal lobes had escaped; the so-called motor zone was completely destroyed, and only a small portion of the occipital lobe on the right side had escaped. This animal had to be fed; in fact, the dogs thus mutilated became demented but did not suffer from paralysis or apparent loss of sensation. There seemed some difference of opinion as to the character of the lesion in the brain of the fourth dog, but Goltz regarded as already proved the point which the vivisection was intended to show, viz., that the complete severance of the internal capsule does not cause a paralysis of the limbs of the opposite side. Nothnagel, while admitting the apparent absence of symptoms after the destruction of almost an entire hemisphere in the dog exhibited by Goltz, was still of opinion that a similar lesion in man would cause complete hemiplegia. The majority thought Goltz established his point.

Dr. W. Bechterew, of St. Petersburg, has been making fresh experiments by means of vivisections and electrical excitation of the cortex. He has arrived at the conclusion ("Neurologisches Centralblatt," No. 19, 1885) that the loss of motor power in certain parts, after destruction of the corresponding motor centres, is not accompanied by loss of sensibility. The loss of motor power following the extirpation of these centres consists in an incapacity to perform voluntary and designed movements rather than of simple associated actions, such as walking or swimming.

Disease of the Back of the Pons.

In an original communication in the "Neurologisches Centralblatt" (Nos. 16 and 17, 1885) Drs. Mierzejewsky and Rosenbach analyse some of the symptoms of disease of the pons Varolii. In a patient, a man of thirty-four years of age, the symptoms were paralysis of the right facial, the face on that side being immovable and the right eye not being closed. The paralysed muscles were more affected than those of the opposite side by the galvanic and faradic current. There was no paralysis of the extremities, though the patient's gait was weak and tottering, and he yielded a little to the left side. The knee clonus was wanting on both sides. There was paralysis of the external rectus of the right eye, and the left eyeball could not be turned inwards beyond the middle line. This paralysis of the external rectus, and paresis or imperfect action of the internal rectus, were observed not only in associated movements of both eyes, but also when the patient looked at an object with one eye alone. There was double vision. The pupils of both eyes were dilated, and the visual power diminished, and on being examined with the ophthalmoscope neuro-retinitis was observed. The intelli-

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gence and memory were unaffected, but he was troubled with giddiness and pain, especially at the back of the head, with nausea, progressive weakness, and fever. These last symptoms were probably due to phthisis pulmonalis of an inflammatory type. The patient died thirty-five days after admission to the hospital at St. Petersburg. There was found a tumour about the size of a horse-pistol bullet, occupying the back of the pons and the floor of the fourth ventricle. It lay on the right side, and had pushed to the opposite side the raphe and left half of the pons. The tumour was a glioma, rich in vessels, and sharply separated from the nervous tissue. It had caused chronic inflammation and destruction of the nuclei of the sixth and seventh pairs on the right side, and in a lesser degree of some adjoining parts.

Drs. Mierzejewsky and Rosenbach cite a number of cases in which paralysis of the sixth pair was associated with that of the facial nerve of the same side. They explain this combination by quoting the researches of Duval, who showed that a part of the fibres of the facial come from the same nucleus as the sixth pair. They regard facial paralysis, with loss of power to turn out the eye, as indicating lesion of the posterior part of the pons and the floor of the fourth ventricle. They regard increased excitability to galvanic and faradic currents, with slow contraction of the muscles, as a proof that the facial paralysis is not peripheral. In facial paralysis following disease of the pons, the atrophy of the muscles supplied by the seventh pair is generally confined to the lower muscles of the face. Dr. Mierzejewsky maintains that the combined symptoms observed in his patients, paralysis of the external rectus with imperfect action of the internal rectus muscle, have been repeatedly observed with disease of the nucleus of the sixth nerve and integrity of the deep origin of the ganglion of the third pair (oculomotor). While admitting that there must be some physiological connection between the sixth pair and the innervation of the internal rectus muscle, Drs. Mierzejewsky and Rosenbach consider that this connection has not yet been satisfactorily explained. Most authors who describe similar cases confine themselves to the statement that lesions of the nucleus of the sixth pair paralyse the movements of both eyes towards the side of the injury, which they explain by the assumption that the said nucleus presides over the outward motion of the eyeball on the injured side, and also over the associated sideward movements of both eyes. This explanation fully suits those cases in which the paresis of the rectus internus in the opposite eye is remarked only with associated movements of the eyes sidewards; but they observe that such cases are exceptions, and that in most cases the motor power of the internal rectus is directly injured independently of the other eye. It is also worthy of remark that in most observations of the kind, while there is complete paralysis of the external rectus, there is only an incomplete paralysis of the internal muscle of the other eye. W. W. I.

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Dr. Brosius. Heilanstaltern für Nervenkranke, Bendorf a. Rh., Villa Sayn, und Waldesruhe.

We have received this description of the private asylums of Bendorf, Villa Sayn, and Waldesruhe, which have been under the charge of the veteran Brosius for more than a quarter of a century. It may not be generally known to our readers that so long ago as 1860 this physician translated Dr. Conolly's work on the Treatment of the Insane without Mechanical Restraints, and he has himself endeavoured to dispense as much as possible with their use. Indeed, his asylum was the first in Germany in which they were disused. Now other physicians in much larger institutions have introduced the non-restraint system, more or less completely.

Dr. Brosius's institutions are pleasantly situated on the Rhine, not far from Coblenz, and have recently been enlarged by the addition of a small villa, fitted out with every comfort and convenience. During a recent visit we paid to Bendorf, the doctor took one of the gentlemen patients out hunting with him in the neighbourhood. The patients of both sexes take their meals with the family, unless their mental condition renders it absolutely unsuitable. We are sure that English alienists visiting the Rhine will be warmly welcomed and hospitably entertained by Dr. Brosius should they be disposed to spend a few hours in visiting the asylum. T.

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4. *English Retrospect.*

Asylum Reports for 1884.

Through the abundance of more important matter, the notice of the reports has fallen somewhat behind. It is, therefore, our intention to be exceedingly brief on the present occasion, and to compress this abstract into such small dimensions that it can be published conveniently in one number of the Journal. It will thus be possible to notice the reports for 1885 in the course of the present year.

We would again beg the medical officers of asylums to favour us with a copy of their annual report. From England we receive an almost complete set, but from Scotland and Ireland the number forwarded is small.

Aberdeen.—Various structural alterations have been made in the older buildings, thereby increasing comfort and bringing the accommodation up to the requirements of the day.

The report of Dr. Arthur Mitchell is a most thorough production, and should greatly assist the managers in deciding various questions as to their relations with the guardians of the poor. The asylum is already overcrowded, and from its position incapable of enlargement, yet the managers seem to have been on the point of agreeing to receive 400 pauper lunatics instead of 350 as heretofore. Dr. Mitchell's report has saved them from committing such an error.

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