Mullingar.—This asylum is still much overcrowded. It is, therefore, not surprising that Mr. Finegan reports :—

> It is, however, a matter of grave concern that tuberculous disease has proved to be the cause of death in no less than 48 per cent. of the cases. It is asserted by a few authorities that tuberculosis is quite preventable, if not an entirely curable disease. If such be true it is scarcely an enviable position for the physicians responsible for the treatment of these cases to try and satisfy their consciences in the belief that no effort has been spared to save them. We know, of course, that the insane, owing to a weakened nervous organization, are feeble subjects for resisting an attack of this awful malady when once it has gained an inlet to their constitutions, and if the most hygienic conditions are not at the disposal of the asylum physicians as a means of treatment the employment of medicinal remedies is at best disappointing.

It is satisfactory to learn that the enlargement of the asylum has begun. It has been decided to introduce the electric light. Cottages for married attendants are to be erected. Beef and mutton are no longer procured by contract. The animals are bought alive, and slaughtered on the premises.

The report left by the Inspector is very satisfactory, and points out many arrangements as indications of the energy and success of the management.

(To be continued.)

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2. *German Retrospect.*

By Wm. W. Ireland, M.D.

On the Neuroglia of the Nerve Centres in Man.

Carl Weigert ("Anat. Anz.," 1890, No. 19, and "Neurologisches 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 dyeing 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 neurokeratine of the peripheral nerves. This is brought out by Weigert's process of dyeing. 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

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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 round the central canal. In the *substantia gelatinosa Rolandi* they are rare. The olivary bodies in the medulla oblongata are rich in fibres of neuroglia. In the cerebellum there are many in the white substance, but few in the grey 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 grey matter the neuroglia is rare. Weigert's preparations show bright interspaces between the fibres.

New Colouring Method for the Brain Tissues. "Neurologisches Centralblatt," No. 3, 1891.

Dr. T. H. Ziehen 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 generally remained uncoloured. Greppin tried to remedy the dark colouring by treating his preparations with hydro-bromic acid. To obviate the last disadvantage Golgi himself, Ramon Y. Cajal, and Kölliker preferred to study the nervous system in embryos and new-born animals, in which all or most of the nervous 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 mixture of one per cent. solution of chloride of gold and one per cent. of solution of corrosive sublimate in equal parts. In this solution the preparation is kept at least three weeks, or, what is better, several months. There is no necessity for changing the solution often. The pieces assume a red-brown metallic look, and can be stuck upon 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. Metallic instruments should be avoided as much as possible, but contact with the mikrometer 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

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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 the axis-cylinder processes are more easily seen, and the nuclei granules are better distinguished. The contour of the cells and nuclei is more visible, and though the interior is coloured dark blue it remains almost transparent. There is some *minutiæ* in the colouring, and specially in the decolorizing 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 upon them. Dr. Ziehen tried hardening his preparations with chromic acid, and putting them several weeks in a mixture of chloride of gold and 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.

The author promises to publish the description of the observations which he was enabled to make through this new method.

On the Circulation in the Brain during Epileptic Attacks.

Dr. Rosenbach gives in the "Neurologisches Centralblatt" (No. 16, 1891) a *resumé* of the observations of A. Todorski, published in the "Russian Wratsch" (No. 25, 1891). The experiments were conducted in the laboratory of Professor Bechterew, of St. Petersburg. Todorski excited convulsive attacks in dogs and cats through applications of the interrupted current to the brain cortex, or through injections of essence of absinth, cinchonin, or cinchonidin into the veins. During the fits the circulation of blood in the pia mater was observed through a trephined opening covered with glass, and the blood pressure was measured at the central and distal ends of the divided carotid. He found, as a result of his observations, that both at the beginning of the epileptic convulsion and during its whole course there was marked hyperæmia of the pia mater. New arterial twigs appeared, and the brain bulged into the hole made by the trephine. It appeared from measurements of the blood pressure in the carotid that after electrical stimulation of the cortex, and especially during the tonic period of the epileptic fit, the pressure, both in the central and distal ends of the artery, is increased. From this we may conclude that there is a diminution of the resistance in the branches of the brain vessels through relaxation of the capillaries. In order to find out how far this alteration of the circulation was influenced by the convulsions Todorski made a comparative experiment, in which one animal had curare injected into the crural vein after ligature of the femoral artery of the opposite side. This was

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followed by diminution of the convulsions, with the exception of the muscles of one extremity, in which the course of the epileptic attacks could be observed. In order to avoid the objection that alteration in the circulation was caused by the curare itself Todorski commenced the injections of that drug an hour before the inducement of the epileptic attack. It is known from Schtsherbak's observations that curare influences the circulation of the brain only during twenty-five or thirty minutes after its injection. This comparative experiment proved that the blood pressure in the carotid was not influenced by the curare.

Hallucinations of the Muscular Sense in the Insane. "Die Hallucinationen in Muskelsinn bei Geisteskranken," von Dr. AUGUST CRAMER, Freiburg (Baden), 1889.

Dr. Cramer has for several years made a study of this difficult subject. Admitting the existence of a muscular sense, through which the impressions of accomplished muscular movements are conveyed to the brain, one may theoretically assume that in disease such sensations may become disordered, and Dr. Cramer claims to have shown that deceptions of the muscular sense not only present themselves in insanity, but that they constitute symptoms of practical importance. He divides them under three heads: Hallucinations of the muscular sense in the locomotor apparatus, in the apparatus of speech, and in the muscles of the eye.

As regards the first of these categories, Dr. Cramer shows that a false or deficient impression of the position of the body or limbs may cause the patient to assume strange positions in order to redress or obviate them. This may also follow deranged sensations, which have no connection with the muscular sense.

Dr. Cramer observes that the acquisition and realization of speech is made through the muscular sense. Thinking is speaking without voice. When thought is lively, there is a slight nervous impulse transmitted to the muscles of the motor apparatus, which causes involuntary muttering or an irresistible desire to emit words. It appears, from a number of cases cited by Dr. Cramer and other physicians, that patients occasionally mistake their own voices for those of some imaginary being, and often refer these voices to the precordial region in connection with something which they feel there. At the same time, these fanciful voices are sometimes the result of subjective noises in the ear. In considering hallucinations of the muscular sense in the oculomotor muscles, Dr. Cramer shows how our ideas of size and direction, and our conception of motions are connected with movements of the eyes, of whose nature and quickness we are informed through the muscular sense. These sensations are blended with those of touch and the movements of the body to form a single act of perception.

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In the part of the work which deals with clinical observations, the author sets himself to show that involuntary motions, constrained positions, and involuntary actions, and impulsive utterances (Zwangsreden), and, perhaps, some appearance in hallucinations or illusions of sight, are all owing to hallucinations of the muscular sense. Sometimes they alternate with one another. Such symptoms occur in the acute stage of paranoia. They often pass away, so that the patient rarely falls into the chronic incurable form of paranoia. Sometimes the patient constructs a whimsical theory to explain his deranged sensations, or attributes them to divine or satanic agency. Dr. Cramer describes thirty cases, in which the prominent symptoms were fixed ideas and the feeling that some one was repeating their inmost thoughts or revealing their past deeds through voices heard from various directions. A patient, described by Dr. Kandinsky, imagined that his thoughts were noted by invisible spies, who, by means of a peculiar machine, were able to register the almost imperceptible motions of his tongue. In three of Dr. Cramer's cases, the patients could suppress the impulse to speak, but when they did so, they began to hear the voices proclaiming their thoughts.

Dr. Cramer does not always make it clear that these symptoms can be explained by perversions of the muscular sense. The impulse to speak or mutter may arise from a central, instead of from a peripheral irritation, and in cases where people hear different voices in the right and left ear, one would be disposed to think that the starting point was irritation of the auditory nerves or auditory centres. It, however, may be admitted that in the acute form of paranoia the whole nervous system is in a state of extreme excitement, and that there may be hallucinations both of the muscular sense and of other sensory nerves, as well as motor incitations to the muscles of the voice.

Dr. Klinke, in a paper on Verbal Impulses (Zwangsreden), in the "Allgemeine Zeitschrift für Psychiatrie," xlviii. Band, 1 and 2 Heft, says that, after observing many cases of the kind, he considers Cramer's explanation to be the most probable one. He promises to show, in a future publication, that abnormal sensations in the tongue and throat may arouse delusive fancies leading to derangements of speech. Sometimes these take the form of babbling and childish sounds. On the other hand, patients suffering from melancholia often feel a dislike of speaking. Sometimes they complain of distress and difficulty in speaking, accompanied by a feeling of constriction in the tongue or throat.

Singular Case of Aphasia.

In the "Zeitschrift für Psychologie und Physiologie der Sinnesorgane" (Band ii., Heft 3), Dr. Robert Sommer gives a further study of a case of so-called aphasia, already described by Dr.

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Grashey in the "Archiv für Psychiatrie," Band xvi., Heft 3, of which see *resumé* in the Journal for October, 1887, p. 447.

In his paper, Dr. Grashey described a patient called Voit, who suffered from fracture of the base of the skull. Amongst other symptoms, there was aphasia, which was considered not to be owing to any destructive lesion of the third frontal lobe or the parts around, but to diminished duration of the memory of sensory impressions. After seeing objects, Voit quickly forgot them and could not recall their names, but on the words being said to him or shown to him in writing he could speak them without difficulty. At the same time his memory for names was very fugitive. Dr. Sommer informs us that Voit now works in a brewery at Würzburg. He was refused any compensation from an insurance office against accidents on the plea that he could carry on his calling as well as ever. Dr. Sommer adds that Voit conceals his incapacity, which, nevertheless, seems of a serious character.

Dr. Grashey's idea was that the memory of seen objects passed away so rapidly with this man that often only a part of the name was apprehended. Dr. Sommer devotes a great part of his paper to show that Voit arrives at the names of objects by writing, *i.e.*, he slowly brings from the depths of his memory the letters which compose the name of the object which he sees. It can be shown by other means that he quickly forgets the shape of an object. It is found that he cannot draw an object from memory; for example, if he sets to draw an animal which he has just seen, he will draw the head well enough, and then add a shapeless continuation for the body. After having words in his mind he forgets them quickly, though sometimes he manages to keep hold of the word by repeating it. In searching his memory for the name of a seen object, he seems to have a singular capacity for guessing at the first letter, without being at the time aware of those which follow. What is singular, giving him the first syllable often fails to help him to guess the rest of the word. He writes the letters slowly and then reads off the name. Thus the association of ideas does not pass from the visual object to the name, and from the name to the letters indicating the sound; but the association of the seen object rouses the series of motions by which the word is written out, and then he arrives at the spoken name by reading off what he has written. When prevented writing the word with his hands, Voit makes motions with his feet, as if tracing the letters, and, if his feet be restrained, he makes motions with his tongue, as if writing with that organ. Dr. Sommer affirms that if the man's tongue be also kept from moving he cannot realize any name of a seen object. Sommer finds that conceptions exist in this man's mind without his being able to state them in words; for example, Voit could, by nodding his head, indicate that he could recognize the common nature of two musical instruments or two weapons without being able to give any classifying name.

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Dyslexia.

Professor A. Pick ("Neurologisches Centralblatt," Nr. 5, 1891) considers dyslexia to belong to the same class of diseases as intermittent limping in horses. This consists in weakness, followed by stiffness of the right leg. After a rest, from five to ten minutes, the incapacity disappears, but on the horse again trying to run the weakness returns. These symptoms are known by veterinary surgeons to be dependent upon arterial degeneration. In the same way in dyslexia, the patient has a difficulty in reading, which obliges him to stop. This disappears on taking a rest, again to return when reading is renewed. It is dependent upon arterial sclerosis, and the symptom is due to intermittent contraction of the vessels of the brain, *Claudication intermittente* of Grasset. In dyslexia the seat of the disease may be assumed to be the third frontal or the parts around. As this sclerosis increases, the loss of function sometimes becomes confirmed. The degeneration often follows syphilitic disease of the vessels, and sometimes affects the heart or the kidneys, as well as the brain.

Another Case of Dyslexia.

Dr. S. Weissenberg ("Archiv für Psychiatrie," Band xxii., Heft 2) describes a case of dyslexia, the peculiarity of which consisted in the patient being able to recognize single letters without being able to collect them into words. He was a man of fifty-seven years of age. The dyslexia was followed by paraphasia, paragraphia, amnesia, aphasia, and considerable impairment of the intellect. Three days before death there was right-sided hemiplegia. He died in a comatose condition six weeks after the beginning of the disturbance of the power of reading. It was found on examination that a sarcomatous tumour occupied almost the whole posterior part of the left hemisphere, and that a hæmorrhagic abscess had destroyed a part of the second frontal gyrus, but the third frontal had escaped. Dr. Weissenberg would infer from this case, and others of a similar character, that there is a special centre for the capacity of reading, *i.e.*, collecting characters so as to find words.

Insanity following Influenza.

Professor Kirn, of Freiburg ("Allgemeine Zeitschrift für Psychiatrie," xlviii. Band, 1 and 2 Heft) has arrived at the conclusion that influenza is a more frequent exciting cause of insanity than any other febrile affection. He has collected fifty-four instances observed by himself or other physicians. Nervous symptoms are prominent in ordinary cases of influenza. There are headache, sleeplessness, pains in the limbs, and neuralgia often implicating the trigeminus, and great prostration of strength. Dr. Kirn classifies the cases which pass into insanity under two heads. 1. Where delirium occurs during the febrile condition of influenza. This frequently accompanies pneumonia. There are delusions and hallucinations,

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strange dreams, shouting of a joyous character, or howlings and lamentations. In one case, a boy of seven years, the influenza commenced with mental aberration, the child wandering away without knowing where he was going. Patients affected with delirium during the course of the influenza were rarely found to have any hereditary predisposition to insanity. The patient generally recovered from the mental derangement in a few weeks. In the second, or post febrile form, Dr. Kirn had the details of thirty-nine cases. The insanity generally appeared in from four to eight days after the cessation of the fever. In two it came on as late as three weeks after. From the clinical symptoms he divides them into three forms, characterized by the conditions of mental exhaustion, melancholia, and mania. The exhaustion is of the same character as those cases in which the constitution of the patient has been reduced by fevers or the puerperal state. There is excitement suddenly appearing, with confusion of the senses, and a tendency to depression, with delusions of a dismal character. If the delirium become higher there are delusions of the senses, rapid changes of mood, and tormenting thoughts. The bodily condition is one of weakness and anæmia. Recovery generally sets in in from three to six weeks. The second, or melancholic form, is the commonest. Dr. Kirn collected twenty-two cases. It seems a kind of exaggeration of the depression and disquiet of the ordinary convalescence from influenza. Sleeplessness is the first striking symptom, then discontent, with reproaches against the attendants, and distrust and suspicion against the physician. The patient is hypochondriac, or fears ruin, loss of money, or loss of honour, and occasionally there are attempts at suicide, frightful hallucinations, painful delusions, and refusal of food. The prognosis is good. Recovery, as a rule, takes place in six or eight weeks, though it is sometimes delayed for several months.

Dr. Kirn studied six cases of mania following influenza. They presented the symptoms of simple typical mania without hallucinations and without delusions. The delirium generally commenced about a week after the invasion of the influenza. Recovery generally supervened in from six to eight weeks.

Dr. Kirn holds that the toxic matter of the influenza has an injurious effect upon the whole nervous system, and that it acts most powerfully upon those who already have a hereditary tendency to insanity. He found that 54 per cent. of those who became insane laboured under this predisposition.

Dr. Schmitz, in a paper on Insanity after Influenza ("Zeitschrift," xlvii. Band, 3 and 4 Heft), gives as his conclusion that influenza is mainly an epidemic nervous disease.

Operative Treatment of Insanity.

Dr. Burckhardt, Superintendent of the Asylum at Préfargier, gives in the "Allgemeine Zeitschrift für Psychiatrie" (xlvii. Band,

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5 Heft) a description of his experiments, which records the invasion of surgery into the domain of insanity. He indulges the hope that by operative treatment we may succeed in finding a new aid against incurable lunacy. None of his cases treated were of traumatic origin. The indications to the operation were purely "psychiatric." As Dr. Burckhardt fills as many as 85 pages, we are obliged to miss out many important observations. For the explanation of the antiseptic precautions and details of operative surgery, we may refer to the original paper, should any English physician have the hardihood to imitate Dr. Burckhardt's operative procedures.

The first patient which he describes was a woman fifty-four years of age, who had been sixteen years in the asylum of Préfargier. It was a case of excited dementia, with occasional explosions of maniacal fury. She was abusive and dirty, and spat at, struck and kicked anyone who came near her. The fits of passion arose suddenly, which made her all the more dangerous. She had hallucinations of sight and hearing. Dr. Burckhardt put to himself this question—Could one not remove the emotional and impulsive element from this woman's brain, and so change the patient from an excited into a quiet dement? The author here gives a learned discussion of the reasons which induced him to think that the irritation existed in a particular portion of the cortex of the brain.

As the result of his cogitations Dr. Burckhardt determined to remove a portion of the grey matter near the point of the conjunction of the motor zone with the centres generally assigned to speech and hearing. With this view the scalp was shaved, the skin divided, and an opening made by the trephine in order to remove a portion of the brain of about two centimêtres in breadth from the superior parietal lobule, and gyrus supra marginalis of the right hemisphere. The operation, which is carefully described, lasted four hours. About five grammes of the grey matter of the brain were removed with a sharp spoon. The operation was performed on the 29th December, 1888. About ten days after there was paralysis of the left arm and weakness of the left leg. The latter soon passed away, but the paralysis of the arm lasted for several weeks. Although the patient was not so violent, the fits of rage still returned; the motor explosions were manifested by blows of the fist, but she now rarely kicked. She was still very abusive, and had fits of melancholy. Dr. Burckhardt felt confident that she had hallucinations of sight, so he determined upon a second operation, which was performed about ten weeks after the first one.

It was determined this time to remove a portion of the upper and middle temporo-sphenoidal convolutions. The operation lasted two and a half hours. About two and a half grammes of brain were removed. The wound healed quickly. The patient showed

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an elevation of spirits which he had not noticed after the first operation. She laughed and jested, and murmured words to herself, otherwise her mental condition did not seem altered by the second operation. Her health, however, seemed affected. She had attacks of diarrhœa, and was thin and white. She was treated with tannin and tonics.

As no further change appeared it was determined to try a third operation, which was performed five months after the first one. The intention was to remove a portion of the parietal lobe on the left side. Two openings were made with the trephine, and the intervening bone, about two millimêtres in breadth, was punched off with a chisel and the edges pared. The dura was then opened, the transparent pia separated, and a portion of the cortex cut with a Graefe's knife. The pieces removed weighed 5½ grammes. After the patient had recovered from this third operation, through assiduous care and nursing, it was found at the end of January, 1890, that her condition was stationary, but, as Dr. Burckhardt observes, what had been attained was very pleasing. She had lost a great part of her excitability and violence. Her spontaneous crying and singing and her hallucinations of sight and hearing were gone. She now slept well, and suffered the presence and assistance of other persons, and although she appeared to be demented, she gave some proofs of right observation and correct inference. It was impossible, however, to carry on a conversation with her. She was word deaf. If one spoke to her, the verbigeration increased, and rose to threats. Dr. Burckhardt, in consideration of this tendency to increased talking, thought that the neighbourhood of the motor centre of speech should be the next point of attack. "The risk of making the patient aphasic," he observes, "did not seem to me worthy of consideration in view of the expected advantage, otherwise it was not designed to take away the whole side of Broca's convolution, but only a part." It was not expected from the advanced age of the patient that the lost speech function might be restored from the education of the analogous portion of the brain on the right side. On the 12th February, 1890, about two years after the first operation, the fourth one was performed. It lasted two hours and a half. The pia mater was found to be œdematous and pearl grey. It was opened, and a portion of the Broca's convolution, weighing a gramme and a half, was removed. It was ascertained the same day that the patient was not aphasic. She seems to have recovered from the operation about the end of February. The result is thus summed up by Dr. Burckhardt: "Frau Borel has been changed from a dangerous and excited dement into a quiet one. The incessant flow of words is interrupted; she has become quiet. Her intelligence has not returned, but she has lost nothing." Dr. Burckhardt records a few of her observations, which show more sense than is generally found in the stray remarks of demented people.

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The second case described was a man of thirty-one, who had been eight years in the asylum, labouring under primary dementia, which had now become chronic. There were ideas of grandeur, paroxysms of rage, and hallucinations of hearing. There were deviations of the head and eyes to the left. As altogether the case had some resemblance to general paralysis, Dr. Burckhardt determined that the point of attack should be between the central and frontal convolutions of the left hemisphere. The operation was performed on the 17th of April, 1889. An opening was made with a large trephine at the edge of the first and second frontal gyrus behind the parallel sulcus. Under the pia there was found an œdematous mass, out of which a little fluid issued. The convolutions were broad and massive, of a firm consistence, and "cyanotic" colour; a portion of the cortex, weight not given, was removed with the sharp spoon. The wound rapidly healed. After the operation the patient became quieter. The motion of the eyes and head to the left did not seem to return, but on the 4th of August he had a pretty severe epileptic fit, which was renewed three times in the spring of the next year. This was regarded as real cortical epilepsy, and was treated with bromide of potassium. The fits ceased to return during the summer. Burckhardt remarks that the portion of brain removed is believed by some writers to be the centre for the movements of writing. In this case, however, no agraphia followed the operation. The patient was able to write a card to his mother at the dictation of an attendant. The general result of the operation is stated to be that the man was more composed, easier to deal with, and more disposed to converse.

The next subject was a man, thirty-five years of age, who had been four years in the asylum. His insanity had been of slow growth, passing from anxiety and suspicions into sleeplessness and abiding fear of persecution. He heard voices, and was violent and destructive.

Dr. Burckhardt cites the observation of Luys that in the cases who preserved lucidity of the intellect the paracentral lobe was found to be hypertrophied only on one side. Taking into consideration that there were auditory hallucinations with violent actions, Dr. Burckhardt thought that the point of attack should be where the auditory centres were connected with the motor area. This induced him to trephine above the left ear. The operation lasted about two and a half hours. The brain was found of a slate colour; about 2·80 grammes were removed. The patient did not become word deaf after this operation, and the hallucinations became less intense; but as Dr. Burckhardt avows his intention of performing a second operation, it is clear that he does not consider the result quite satisfactory.

The next subject was a widow, thirty-seven years old, who suffered from primary insanity (primäre Verrücktheit) with

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hallucinations of hearing. Voices shouted out her thoughts to her; apparently heard in both ears. After being two years in the asylum this woman passed into a state of excited dementia, with permanent auditory hallucinations. In her case the same operation was performed, a portion of brain weighing three grammes being removed from the posterior part of the first and the middle of the second temporo-sphenoidal convolutions. The substance of the brain was found to be unusually soft. After the operation the patient was found to confuse words, and in some instances to have forgotten the names of familiar objects. She said that she had a feeling of distress and uncertainty in her resolutions. The improvement after this operation does not seem to have been of a decided character. Five months after the patient was removed by a sister to Geneva. A second operation in the spring was contemplated; but, at the close of the year 1890, the poor woman took advantage of her sister's absence to leave the house, and she was no more seen till her body was found in the Rhone two days after. We have a description of her brain. It was found that the portion designed had been successfully removed. There were marks of inflammation or degeneration at the depressed spot, which had healed well.

The next case described was a man of twenty-six years, labouring under primäre Verrücktheit or paranoia, passing into dementia. He was much plagued with loud voices shouting to him and giving answers. Occasionally he had also hallucinations of sight and smell. The first operation tried was excision of a portion, weighing 4·6 grammes, from the auditory area. Eight months after 2·5 grammes were removed from the third frontal (Broca's) convolution. Here the pia was found to be thickened, and of a dull reddish colour. No symptom of ataxic aphasia was noticed after the ablation, so that Burckhardt was doubtful whether the motor centre on the other side was not in full function. An improvement is claimed in this case, the auditory hallucinations and tendency to talking and muttering being less marked.

The sixth observation was a man of thirty-three years old, suffering also from primäre Verrücktheit, with very marked hallucinations of hearing, and given to making attacks on others. A portion of brain was excised from the auditory area. The brain tissue was found to be much softened. The immediate result was complete word-deafness and cessation of the hallucinations; but on the fourth day after the operation convulsive attacks began, which carried him off in two days.

Dr. Burckhardt has a firm faith in the view that the mind is made up of a number of faculties, holding their seats in distinct portions of the brain. Where excess or irregularity of function occurs he seeks to check it by ablation of a portion of the irritated centres. He defends himself from the criticisms which are sure to be directed against his bold treatment by showing the desperate

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character of the prognosis of the patients upon whom the operations were performed. "The nature of physicians," he observes. "is various. One holds to the maxim: *Primum non nocere*, Another says: *Melius anceps remedium quam nullum.* As I belong to the second category, I hailed the experiments of Goltz as not only of theoretical but practical importance; I was, however, first led to this operative treatment when Macewen, Horsley, and Bergmann opened the way, and showed to myself and my friend Socin the surgical methods of procedure."

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3. *French Retrospect.*

By Rev. H. Hawkins, Chaplain of London County Asylum, Colney Hatch.

"*After Care*," *at l'Asile Ouvroir, Sainte Marie, Paris, Grenelle.*

By steamboat, on 11th June, from the Pont de la Concorde, past the Bridges des Invalides, d'Alma, de Jena, past the Eiffel Tower to the Pont de Grenelle, thence, turning to the left, a short walk brought our party to the Rue du Theatre, No. 52, where, after two removals, the Asile of which we were in search has its local habitation. It is known as the "Asile-Ouvroir Sainte Marie." "La Supérieure?" inquired a member of the community, by whom the door was opened. We were shown into a small waiting-room, simply furnished, in which were some flowers, a crucifix over a table, and a few books.

Presently came in the mother superior, a kindly, pleasant person, with benevolent countenance, who readily entered into conversation. The Asile Sainte Marie is a home for the "after care" of female mental convalescents. As will be presently related, it fulfils various functions.

There were (as was understood) more than forty convalescents in residence, and ten sisters, under the direction of their superior. The mother was good enough to show us over the home. In the shady garden, which, in addition to its ordinary use, is a weekly tryst for convalescents and their friends, a little girl, the child of one of the inmates, was called forward by the mother. Young and old are cared for there. Among their community was an aged woman, past four score, there for her life's short remainder, so that though, as a rule, residence is limited to a few weeks, there are generous exceptions.

We had a look into a comfortably-arranged dormitory, but did not go in, as an invalid was lying down. Adjoining, was a sister's bedroom, with a view into the larger apartment. Our visit was paid at the hour of recreation, but some convalescents, under a sister's charge, were occupied at needlework on their own account. This religious community leads an active life, with them "laborare

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