

The Vagabond Papers. Sketches of Melbourne Life in Light and Shade. Melbourne, 1876.

This book is written by one of those facile-penned gentlemen, who, having a talent and no money, wanted to put the former to usury, and the latter into his pocket, and so went into model lodging-houses, emigrant's homes, hospitals, and, finally, as an attendant into the Kew and Yarra Bend Asylums, for the purpose of amusing and enlightening the readers of the "Melbourne Argus." Most undoubtedly, Asylum Medical Officers should carefully read such books; they give an idea of the inner life of their institutions that it is difficult for the heads of those places to get. This book bears all the marks of truthfulness and honesty. The author seemed greatly to prefer the modified cottage system at the Yarra Bend Asylum to the palatial mansions elsewhere, and would like to see most harmless chronic lunatics placed in real cottages with the sane people who inhabit them. The book is very amusing reading.

PART III.—PSYCHOLOGICAL RETROSPECT.

1.—*German Retrospect.*

By W. W. IRELAND, Larbert, Stirlingshire.

The German Retrospect has been done from the following periodicals and papers:—

Archiv für Psychiatrie und Nervenkrankheiten, Berlin, 1875-1876, VI^{er} Band, 1^{tes}, 2^{tes}, and 3^{tes} Heft.

Allgemeine Zeitschrift für Psychiatrie, Berlin, 1875, xxxii. Band, 6^{tes} Heft. 1876, xxxiii. Band, 1, 2, 3, ^{tes} Heft.

Medicinische Jahrbücher herausgegeben, von der K. K. Gesellschaft, der Aerzte, redigirt von S. Stricker, Jahrgang, 1875, iv. ^{tes} Heft. 1876, 1 and 2 ^{tes} Heft, and 1877, 1 ^{tes} Heft.

Psychiatrisches Centralblatt Vienna, numbers from January, 1876, to May, 1877.

Correspondenz—Blatt der Deutschen Gesellschaft für Psychiatrie und Gerichtliche Psychologie, numbers from January, 1876, to July, 1877.

Der Irrenfreund, Coblenz, six irregular numbers from number 9, 1875, to number 8, 1876.

Verhandlungen der Berliner Medicinischen Gesellschaft als Separat-Abdruck aus der Berliner Klinischen Wochenschrift, Berlin, 1876.

Die Luëtischen Psychosen in Diagnostischer und Prognostischer Beziehung von Dr. Albrecht Erlenmeyer, Neuwied, 1876.

Uebersicht der öffentlichen and Privaten Irren und Idioten Anstalten in Deutschland und Oesterreich zusammengestellt von Dr. A. Erlenmeyer, Neuwied and Leipzig, 1876.

Zur Psychophysik des Moral und des Rechtes von Dr. Moriz Benedikt, Vienna, 1875.

The Peripheral Nerve Cells.—Dr. Sigismund Mayer (“Archiv” vi. Band, 2 Heft.) has an article of nearly a hundred pages, which might well have been reduced to fifty, “On the Peripheral Nerve Cells and the Sympathetic System.” He considers the white substance of Schwann to be composed of true cells of very minute size, having free nuclei. By an attentive study of histology he attempts to solve the difficult question of the function of the minute anatomical elements of the nerve fibre. He thinks it probable that the substance of Schwann, which is of a fatty composition, serves to keep up, to strengthen, and to favour the vegetative or nutritive processes going on in the nerve fibres, and that the functions peculiar to nervation are principally carried on by the axis-cylinders. In some nerves, the olfactory for example, the white substance is wanting; nor does it accompany to the end the nerves distributed amongst the fibres of both striped and unstriped muscular tissue to the skin and the glands.

On a nerve being cut through, Dr. Mayer found that a change took place in the tissue of the distal end. The nerve tubes became filled with a homogeneous substance, rich in nuclei, in which the differentiation between the white substance and the axis-cylinder is impossible, though the homogeneous substance rather resembles that of Schwann than the composition of the axis-cylinder. A similar appearance is observed in the regeneration of nervous tissue and in various parts of the cerebro-spinal system during the sleep of hibernating animals.

The author makes the histological distinction between the sympathetic and cerebro-spinal nervous system simply to consist in the predominance of the gelatinous over the tubular nerve fibres in the sympathetic. The gelatinous fibres are most numerous in the one; the tubular in the other.

Dr. Mayer then considers the nature of the peripheral cells which he has carefully studied in the heart and bladder of the frog, toad, and salamander.

He observes that cells and fibres accompany one another in many tissues besides those of the nervous system, for example in voluntary muscle and connective tissue.

Peripheral nerve cells sometimes have processes, and sometimes have none. The processes are different in structure from the ordinary nerve fibres. They are of all lengths and shapes, and are often connected, or continuous, with the fibres, though not always. Sometimes the processes run amongst fibres, and end in a blind extremity. Sometimes the cells are more numerous than the fibres, from which they seem to run, so that it is impossible that each cell should have its independent fibre. Moreover there is great variability in form and

sizes of the cells and in their contents, whether pigmentary or fatty. The engravings of nervous cells in text book, each having its process ending in a nerve fibre, are too "schematisch."

From a very careful study of the development of the tissues of the sympathetic system, and the changes induced in nerves by mechanical injuries, Dr. Mayer has arrived at the conclusion that the peripheral nerve cells are nothing else than arrested forms of nerve fibres or elements, which, in some circumstances, pass into nerve fibres; but which, from some cause or other, have persisted in the form of nerve cells and nerve corpuscles. He also holds that although in the first development of nervous tissues the fibres are formed from cells, that afterwards new fibres and even new cells and free nuclei may be developed out of the old fibres.

Dr. Mayer observes towards the end of his paper that though he cannot admit that the peripheral nerve cells possessed the so-called functions assigned to them, he does not think that they have no significance in the organism. Such a view would not agree with the constant occurrence of ganglia, and their wide diffusion in the peripheral nervous system. The great difficulty is that we cannot experiment upon the nerve cells without also acting upon the contiguous fibres.

The Primary Convolutions.—Dr. C. Wernicke has a paper on the "Primary Convolutions of the Human Brain," in the "Archiv." vi. Band, 1 Heft. It is illustrated with twenty-three lithographs of the brains of monkeys, and of the human cerebrum in its different stages of development. The particulars given are incapable of reproduction in a shorter form.

Dr. Wernicke says that he has often seen atrophied brains where the convolutions were narrow and curled, and lying close against one another, treated as finely developed brains. He himself lays much stress upon the relative size of the frontal and temporal convolutions, and of the parietal and occipital lobes. He has seen great varieties in the size of the gyrus fornicatus, of the præcuneus, and of the lobulus lingualis. He considers such appearances should be carefully studied in cases where there is a hereditary tendency to insanity. He notices the resemblance which the brain of the Ateles monkey bears to that of man. Amongst other particulars he specifies that the brain of the Ateles is the only simian brain which has a cuneus analogous to that in the human brain, and in which the calcarine fissure is separated as in man from the fissura hippocampi.

The Structure of the Cerebellum.—At a Scientific Congress at Graz (Zeitschrift xxxiii. er Band, 2 tes Heft), Dr. B. Stilling made a demonstration of the finer structure of the cerebellum. He pointed out three new grey nuclei in this organ, though anatomists have only indicated one. His method of preparation was to cut slices of 1-1½ m. thick from a cerebellum hardened in alcohol, to put them in a watery solution of carmine for three days, then to wash them with alcohol, steep them some hours in turpentine, and then set them

between two plates of glass with Canada balsam. The carmine gives a deep red colour to the white substance of the cerebellum, and leaves almost uncoloured the corpus dentatum and Stilling's three new ganglia, which he has named the Dachkern, the Pfropfkern, and the Kugelkern.

Electrical Excitation of the Brain.—Dr. C. Fürstner ("Archiv." vi. Band, 2 Heft), in conjunction with the late Dr. Samt, undertook a series of experiments to test the different questions raised by the discoveries of Fritsch, Hitzig, Ferrier and others. It was intended that the experimental demonstration of the so-called motor centres for the different muscles should be accompanied by excision of these parts, as has already been done by Hitzig* and Carville, with somewhat unsatisfactory results, for where something like paralysis did follow, it very soon disappeared. It was suggested that another part took up the function of the extirpated motor centre, and Dr. Fürstner intended making a search for this vicarious region. Unfortunately, owing to the death of Dr. Samt, all the experiments were not carried out, and the results of the vivisections made were of too uncertain a character to be given to the public. For the electrical excitation of the hemispheres, Dr. Fürstner used the induced current as practised by Ferrier, instead of the continuous current generally used by Hitzig. His experiments agree with Hitzig's results as to the situation of the different centres. He found circumscribed points of excitation for the muscles of the trunk and the arm and leg, and for both together, for the tail, for the movements and protection of the eye, for the tongue, for the opening and shutting of the jaws, and for the movements of the ears; but he found that the reaction of the muscles of the trunk, of the tail, and of the ear were not constant, and that very variable degrees of electricity were required for their production. He found the points given by Ferrier beyond Hitzig's motor zone not excitable by weak currents.

Dr. Fürstner remarks that to excite given motions by excitation of defined parts of the cortex, it is often necessary to raise the strength of the electrical stream in different animals.

There are also cases where, although every condition of the experiment seems to be properly fulfilled, no muscular contractions whatever can be caused. In one case he laid bare the left hemisphere in a healthy dog, and found the centre for the orbicularis palpebrarum, for the fore and hind leg, for the tail, the muscles of the trunk and of the ear. The appropriate muscular contractions were excited in all the groups save that supplied by the facial nerve. After an interval, Dr. Fürstner laid bare the right hemisphere, but here also the missing centre could not be found.

Dr. Fürstner supposes that some of the centres for groups of muscles may be farther from the superficies of the cerebral cortex than others.

Abscess of the Brain and Motor Centres.—Dr. Anton Frey ("Archiv."

* See "German Retrospect," Oct., 1876, p. 465

vi. Band 1 Heft), gives the case of a man who lost, to a great extent, the power of the left arm and the power of moving the left corner of the mouth. The speech was also somewhat embarrassed. He died in the hospital of erysipelas, when a small abscess was found in the white matter of the right hemisphere, at a point which must have been crossed by the fibres for the innervation of the whole left arm, the left angle of the lips, and perhaps of the tongue, otherwise the embarrassment of speech might be explained by the loss of power of the lips. There is no doubt that the clinical study of abscesses, hæmorrhages, and tumours of the brain, forms a very useful test of localisations of muscular motions in the cortex, but of course we ought to have all the cases recorded, and not an observation here and there published because it confirms or throws doubt upon a theory.

Low Temperature in the Insane.—Zenker (“*Zeitschrift für Psychiatrie*,” xxxiii. Band, 1 Heft), has studied nine cases of lunatics where the bodily heat was found easily to sink; it fell in three cases as low as 32.2° , and in one as low as 30.6 . In some of these instances there was maniacal excitement, but the sinking of the temperature was always accompanied by a tendency to lethargy and somnolence. He compares this with the drowsiness which overpowers men starving from cold, and the winter sleep of animals which also follows diminished temperature.

The cases he describes were all emaciated, or wanting the layer of fat under the skin which is so efficacious in preventing the body from cooling rapidly. Five of these cases are given at large, as also the case of an insane man who was discharged from an asylum on a very cold day, thinly clad. About a hundred steps beyond the house he sat down, his head sank upon his breast, and he died as if struck by lightning. Whether it resulted from hyperæmia of the lungs, or the reflex emptying of the vessels of the brain, the effect was the instant death of the man. The lungs were found dull-brown and injected; the air-passages filled with bloody foam, otherwise healthy. The venous sinuses were filled with blood, brain-substance without sanguineous points, white as wax, and empty of blood.

Dr. Zenker’s paper illustrates the danger in some cases of allowing the bodily heat to sink very low, which it is apt to do with lunatics who tear or throw off their clothes.

Rise of Temperature on Section of Spinal Cord.—Dr. Carl Schroff, jun. (“*Medicinisches Jahrbuch*,” 1877, 1 Heft), has made a number of experiments to settle the question whether the bodily heat in the dog is increased by section of the spinal cord, as asserted by Quincke and Naunyn, and denied by others. Schroff’s experiments confirm the rise of temperature, which amounts to about one degree centigrade, but do not tend to support the existence of a regulating centre. There seems some reason for Rosenthal’s view, that the rise of temperature is but the consequence of the fever following a wound. Dr. Schroff’s method of experimentation is simple enough; he divides the spinal cord of the poor animal, and then reads off and notes the temperature from a thermometer half inserted into the rectum.

In the "Jahrbuch," for 1876, 1 Heft, there are some experiments by Nicolai Böhling, on the effects of section of the spinal cord and ischiatic nerve upon the temperature, but the results seem to me to be too contradictory to justify any conclusion being based upon them.

The Lesions in Epilepsy.—Dr. Snell ("Zeitschrift," xxxii. Band, 6 Heft) has examined the bodies of a hundred insane epileptics in order to obtain some generalizations, which, on the whole, he does not seem to have reached. Of the hundred cases, forty-seven died in a fit or in the comatose state following it, the most common cause of death being failure of the respiratory process. In only two of these did Dr. Snell find fresh extravasations of blood in the pia mater or arachnoid. Hardening of the cornua ammonis is noted in three cases, and in another the cornu was absorbed by a tumour pressing upon it. In four instances there was adhesion of the pia mater to the surface of the brain. In the discussion which followed the reading of Dr. Snell's paper, Dr. Wiedemeister stated his opinion that the hardening and alteration of the cornua ammonis were not a specific pathological result of epilepsy.

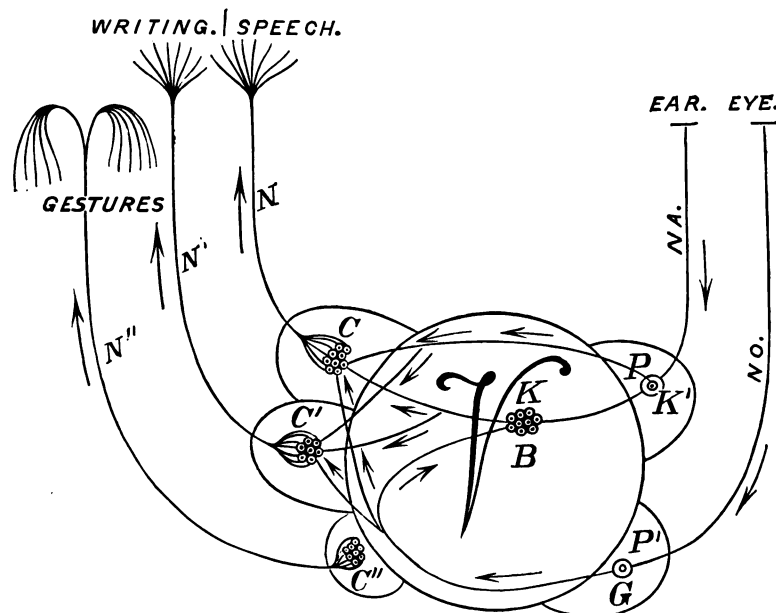
A Difficult Diagnosis.—Dr. C. E. Höstermann ("Centralblatt," 30th April, 1876) describes a case in which the diagnosis was not made till after death. The patient was a woman of twenty-three years of age. In May, 1875, she had an attack of unconsciousness with convulsions, which passed over without any return until the end of November, when the epileptic fits came back. In December, after partaking freely of wine, she had violent headache, swimming in the head, and sleeplessness. These symptoms increased, and she had four epileptic attacks, and a slight exophthalmos, which had existed from childhood, became much increased. On the 9th of January she could not leave her bed, and complained of seeing double. On admission to the hospital the head measured 22 inches in circumference; there was great tremulousness in the hands and tongue; the eyes were prominent, their axis converging owing to paralysis of the external rectus muscles. There was a slight paralysis of the right side of the face; the thymus gland was increased; the heart's action strong, with an apex blowing murmur to the first sound, the pulse varying between 100 and 136. The headache and giddiness, with occasional vomiting and singultus, persevered to the end, but the seeing double disappeared. There was failure of the function of the fifth pair on the right side, both in the sensory and motor branches, and diminution of the power of the muscles of the face. She died on the 27th January. The diagnosis made in Meynert's Klinik was a tumour or abscess of the pons Varolii, which would explain the pressure upon the cerebral nerves near their origin. Nevertheless, the pressure was that of the whole brain upon the floor of the skull, for on examination there was found a hypertrophy of the brain with all the characteristic symptoms as described by Rokitsansky, the inner surface of the skull rough, the membranes anæmic, the foramina narrowed, the

convolutions flattened, the brain increased in density of consistence, and weighing 1508

A Theory of Aphasia.—In studying and recording cases of aphasia much confusion has arisen from observers neglecting to analyse the different mental processes connected with the faculty of speech, and even supposing the theory proposed by Dr. D. C. Spamer, of Giessen, be not adopted, a perusal of his paper will be useful in helping one to carry out such an analysis. Scarcely any two observers have agreed in adopting a common classification of the variations of aphasia. Several reject all classification whatever, preferring to describe each case separately. The terms amnemonic, aphasia, aphasia, alalia, aphonia, asymbolia, agraphia, and alexia indicate so many attempts to include different failures of speech under a common definition. Dr. Spamer, who has evidently applied his mind intensely to the subject, proposes a theory by which he thinks this variety of symptoms may be explained in accordance with received notions about the functions of the nervous system.

Dr. Spamer, in his paper, which occupies 46 pages of the "Archiv." vi. Band, 2 Heft, takes a comprehensive view of the whole subject, but the necessary limits of space prevent us from doing more than reproduce the main features of his theory, with such illustrations as seem necessary to its being understood.

In order to understand his theory one must study the diagram which is here reproduced.



The circle in the middle of Figure V delineates the paths of the representations. The impressions proceed from the sensory nerves into the brain. NA is the auditory; NO is the optic nerve. P and P¹ represent the places where the apprehension of hearing K, and sight G, are received. When the impressions have reached these points, they are simple apprehensions of sensual objects, but when they reach B they become ideas or comprehensions (Begriff). From this we may suppose that they are conducted to C, C¹, and C¹¹, the centres of co-ordination of speech, writing, and gestures. Motions N¹ and N¹¹ are the motor nerves through which the symbolic communications of speech and gesture are maintained in activity. The feathery prolongations at the ends represent the distribution of the nerves to the different muscles.

The integrity of the process of language through words and writing is dependent upon the exact relation between the co-ordinating groups of cells with the muscles of the vocal apparatus. Dr. Spamer thinks that the greater facility in the execution of mental processes and motor actions attained by practice may be due to the diminished resistance opposed to the conveyance of excitations from cell to cell. In the diagram this connection is indicated by the line from B to C, the co-ordinating centre for speech, and from B to C¹, the co-ordinating centre for writing.

Besides these paths there must be separate tracts for the effects of the representations or behests of the will to the same muscles through which the ordinary actions of the throat, arms, and other actions are directed. This is proved by the fact that the process of swallowing, &c., are not suspended in aphasia. The complication of aphasia with paralysis of the muscles of the pharynx, tongue, and lips is very rare, only occurring with extensive destruction of brain substance.

On the contrary, aphasia is often accompanied with hemiplegia. In this case the non-paralysed hand can do everything but write, save in the rare instances where there is no agraphia with the aphasia; but if the aphasia be not complicated with hemiplegia, the distinction between the symbolic and non-symbolic motor tracts can be clearly shown: the person can execute fine work with the hand, only he cannot write.

In order not to complicate the diagram, the second path to the muscles for non-symbolic motion is not drawn. As with writing we learn the meaning of what we write, an enduring connection is drawn with B, the centre of ideas or comprehensions; but words may be learned without their names, so the connection is not a necessary one. The way from P, the place of perception of the verbal symbol K¹, to C, the centre of co-ordination for the utterance of the words, does not inevitably pass B, the seat of the idea of the word, but may go by another and more direct way.

From Meynert's researches it appears that there are in the medulla oblongata and the pons large multipolar ganglionic cells in connec-

tion with the extensive origin of the auditory nerve, and that these multipolar cells are also connected with the motor nerve cells of the facial vagus and hypoglossal nerves.

The integrity of the medulla oblongata and the pons is sufficient for the movements of the throat and lips which are put in action in crying.

Wernicke gives two cases where children cried after craniotomy, although the medulla oblongata alone was left intact. The incitation to the movements causing speech assuredly do not come by this short way, as is proved by numerous cases of aphasia with inability to speak or to repeat words which are found to be attended with injury of the third (left) frontal convolution. Through this gyrus the speech tract passes, but we may suppose that in its centrifugal, and perhaps in its centripetal course, it goes through the medulla. The paths B C and K C must meet at the third frontal gyrus, for both these ways are almost always interrupted by lesions of this convolution. Nevertheless one of these paths may remain intact when the other is occluded.

Eisenmann had, as early as the year 1864, collected twenty-one cases in whom the patients could neither express themselves by writing nor speaking, but could repeat words said to them. The interruption must have lain between B and C, while K C, the direct line, lay open. Spontaneous powers of speech, without the power of repeating speech heard, would be only possible when the understanding of words spoken failed. The path would here be interrupted both at K C and K B. There is a path both from P and P¹ direct to C without passing through B. This explains how we can read aloud or copy print or manuscript without understanding its meaning. An interruption of the path from P or P¹ to B, while the path from C or C¹ to B is maintained, would explain cases like the one given by Broadbent (*"Med. Chir. Trans.,"* Vol. lv., p. 146).

A very intelligent man lost, after symptoms of brain disease, the power of reading print or manuscript, while he could both easily and correctly dictate and write himself. His conversation was intelligent, and his stock of words was large. Dr. Spamer cites other cases where patients could copy writing or print from sight, but could not do so from dictation. Others connect wrong ideas with words, or use words which do not correctly express their ideas, or they substitute one word for another in copying (paralexia). Some notice the false symbols for their thoughts, others blunder away apparently without being aware of it. Dr. Spamer has noticed some cases where the patients failed to recognise their blunders in speech and writing, and yet could understand correctly what they heard or read. I have seen this exemplified in a case of eclamptic idiocy. How can one recognise the true symbol received in a passive form and fail to recognise the utterance of a false one in an active form?

It is singular that so acute a physician as Trousseau, and so learned a philologist as Max Müller, should have taken up the fallacy that our thoughts are inseparable from words. Dr. Spamer, considering that

the expression of our ideas is often conveyed through other ways than that of verbal symbols, proposes the name *Asymbolia*, instead of *aphasia*, to include all the disturbances of the faculty of language which have been described by medical observers as following disease of the brain. His analysis of the different perversions of language will be found useful in guiding the study of new cases. The inquirer should find out whether the patient both uses and understands symbols correctly, the nature of the perversion of speech, how many words he uses, and of what class, and whether he can repeat words said to him. In like manner the various perversions in writing should be studied, whether he can write at all, or write false words or senseless combinations of letters, or can write to dictation or copy correctly. It ought to be noted whether gestures or signs are used correctly or incorrectly. As the understanding of symbols may be affected in a degree unequal to the expression of them, the inquirer should ascertain whether the patient knows the letters, understands what he reads, knows numeral figures and chemical or algebraic symbols, or connects ordinary sounds with their real associations.

In a postscript the author refers to a case reported by Westphal, of an intelligent man who was afflicted with hemiplegia along with incomplete *aphasia*. He spoke fluently, but could not find for himself or understand single words. He could write to dictation, but could not read a short time after what he had himself written. He succeeded after a time in accomplishing this, but, as he himself explained by means of a special contrivance, he followed with the finger the single letters of the written word, and read while he was writing (so *schreibend las*), that is, I suppose, he traced the written letters again with his finger as if re-writing them, and thus read.

This play of lines and centres seems an easy play, but there is a complexity both in the ordinary processes and perversions of human thought which can hardly be reduced to figurative explanations.

Temporary Aphasia.—Dr. Schlangenhäuser ("Centralblatt," April, 1876), records the case of a young woman, who, on learning she was deserted by her lover, became insensible for a quarter of an hour, and on regaining consciousness, found that she could not speak. In place of the desired words, she repeated, *ti, te, to*. She understood everything which was going on around her, and could express her meaning in writing, but not without much delay over particular words. The *aphasia* passed away in about five hours. Dr. Schlangenhäuser thinks that the series of changes which went on in the brain were sudden contraction of the vessels causing loss of consciousness, succeeded by dilatation and hyperæmia, which were greatest in the regions supplied by the *arteria fossæ Sylvii*.