

also contain appreciable quantities of phosphorus and of iron. The phosphorus is present as phosphate in organic combination; the iron is present in diatoms, which are in sufficient numbers to impart to the oyster its brown colour. It would seem that the oysters of Portugal are richest in phosphate, each one of them containing a little more than a grain of phosphate.

M. Gautier draws attention to the fact that all aliments of marine origin are rich in phosphorus; cod-liver oil furnishes a good example since it contains glycerophosphoric acid.

On these grounds we may, perhaps, accord to oysters a special nutritive value. All departments of medicine will rejoice at this, though it will occur to many that the action of phosphorus as phosphate is very far from that of free phosphorus or of phosphorus in its lower forms of combination with oxygen, viz., as phosphite or hypophosphite.

M. Chatin's observations are from the "Gazette des Hôpitaux," May, 1895, No. 61.

Alcoholism is a familiar trouble in special and general medicine, and it may, therefore, not be out of place to refer here to a treatment for the gastritis of drinkers mentioned in the "Gazette des Hôpitaux," March, 1895, No. 38. Prof. Zdekauer orders for this gastritis chlorinated water, according to the following formula:—

Chlorinated water, 8 grammes	} Of this a teaspoonful is given every two or three hours.
Decoction of althea, 165 grammes	
Cane sugar, 8 grammes	

Under this treatment the craving disappeared completely, the appetite returned, the hypochondriasis departed. In four-tenths of the cases this was the result. For poorer patients Prof. Zdekauer recommends fifteen drops of chlorinated water in some mucilaginous decoction.

In the "Lancet" of October 26th, 1895, we notice a treatment for vomiting by Lasègue by means of tincture of iodine, five to ten drops in sweetened water; this is obviously very much on the same lines as is the above-mentioned treatment of alcoholic gastritis.

GERMAN RETROSPECT.

By William W. Ireland, M.D.

The Methodical Examination of Ear-forms in Lunatics and Criminals.

Finding that there is a difficulty in describing abnormal forms of the ear, Prof. Schwalbe, of Strasbourg ("Archiv. für Psychiatrie," xxvii. Band, 3 Heft), has arranged an exact method by which variations in the external ear may be tabulated. His articles are illustrated by 19 woodcuts of ear forms. Dr. Schwalbe cites a number of papers from German, French, and Italian

sources, which show the extraordinary diligence with which the outward form of this organ has been studied. He remarks that Gredenigo has enumerated 23 categories of ears, and examined 25,000 men and women in Turin, 800 lunatics, and 467 criminals. This observer found very little difference in the form of the ears in these three classes, while Vali found the Darwinian tubercle thrice as common in insane persons and idiots. Schwalbe thinks this difference of result must be due to race, as he finds a difference on this point between the inhabitants of Lower Alsace and those of Lorraine, Upper Alsace, the Palatinate and Baden. Schaffer found that 55 per cent. of Englishmen had the Darwinian tubercle. This shows that when the form of the ear in lunatics and criminals is compared with sane people, they should all belong to the same race. Schwalbe does not state any conclusion, but observes at the end of his paper that many so-called abnormalities in the ear, which are treated as proofs of degeneration, fall within the bounds of normal variations, and many of them are marks of imperfect development of the organ or have analogies with the animals nearest in structure to man.

The Centres for the Muscles of the Neck and Trunk.

Dr. H. Werner, of Jena, with the support of Prof. Ziehen, has made some experiments in order to resolve the questions: Where lie the cortical centres for the neck and trunk in the dog? and is there a centre for the movements of the eyes in the frontal lobe of the same animal? In his paper ("Allgemeine Zeitschrift für Psychiatrie," lii. Band, 1 Heft), Dr. Werner explains the successive steps by which, after the first discoveries of Hitzig and Fritsch, the localisation of the cerebral functions was worked out. His own experiments are given at length. He finds that the dog possesses two centres for the muscles of the neck, one in the frontal lobe in front of the pre-Sylvian fissure, the other in the parietal lobe at the lateral end of the gyrus sigmoides posterior, below the centre for the fore paw. Electrical stimulation of both centres causes a drawing of the snout towards the side stimulated. Dr. Werner explains Hitzig's finding that the frontal lobe was not excitable to electricity by saying that he used too weak currents. He over-rules an experiment of Ferrier by saying that he used too strong currents. Hitzig, de Boyer, and Kusick found that after extirpation of the frontal lobe there were no derangements of muscular motion, but this Werner attributes to the parietal centre taking up the function of its frontal colleague.

The centre for the muscles of the trunk lies upon the gyrus sigmoides posterior, between the centre of the two extremities. This centre acts upon the muscles of the same side. Here he agrees with the results obtained by Unverricht and Kusick and differs from Munk, who places the sphere for the muscles of the trunk in the frontal lobe of the dog.

He finds that there is no centre for vision in the frontal lobe of the dog. Here he disagrees with Ferrier, who found in the frontal lobe a centre for the movements of the eyes.

The situation of the centres generally varies in different individual animals within definite limits.

The excitability of the cortex increases to a certain degree through the action of the electrical stream.

Degeneration of the Corpus Callosum.

Prof. G. Anton observes ("Jahrbücher für Psychiatrie und Neurologie," xiv. Band, 1 and 2 Heft) that it is agreed that the functions of the two hemispheres are not exactly co-equal. In general they work together, but in a lesser degree each has an independent function. A case which he had observed throws some light on the question whether the fibres of the corpus callosum form a commissure or an association system, or simply a connecting structure.

Dr. Anton's patient was a bookkeeper, sixty-five years old, who was suddenly seized with symptoms of left homonymous hemianopsia. On the left side of the body there was a diminution of muscular power and of the muscular sense, with a notable diminution of the cutaneous sensibility. This attack was accompanied by giddiness, and followed several weeks after by delirium and hallucinations. Dr. Anton saw the patient two years after. There was considerable diminution of power on the left side, which had fallen into disuse in spontaneous and combined motions. The muscular sense on the left side was much injured; the speech was not affected.

On examination after death the posterior cerebral artery was found blocked up; there was softening of the cuneus and a part of the calcar avis, and the posterior two-thirds of the optic thalamus, and the corpus geniculatum internum and externum were softened and the place occupied by a cavity. In the forceps of the corpus callosum, on its under and posterior part, there was a softened spot as large as a pea. On the right side the optic tract showed marks of secondary degeneration, but the tapetum and fasciculus longitudinalis were intact. On the left side the optic tract was unaffected, but there was secondary degeneration of the tapetum. Dr. Anton holds that the tapetum must not be a transverse commissure, otherwise the degeneration would have affected both sides. What was found might be explained by the assumption that the fibres of the tapetum serve to connect the two hemispheres with one another at points which are not analogous.

Antiquity of Hypnotism.

Brugsch Pasha, the celebrated Egyptologist, has shown ("Zeitschrift für Hypnotismus," April, 1894), from a papyrus written in the first century, that the ancient Egyptians used

hypnotism as early as two thousand years ago. They used passes to induce the hypnotic state, and sought to practice on innocent boys to render them clairvoyants.

Periodical Changes in Brain Power.

Under this title Dr. Richard Stern has described two cases which he met with in the hospital at Breslau ("Archiv. für Psychiatrie," xxvii. Band, 3 Heft). Both these patients had received injuries to the head on one side, and, amongst other symptoms, Dr. Stern noted a diminution of the sensibility of the skin and of all the special senses, paresis with ataxia of the voluntary muscles, and a diminution of intellectual power. The loss of all these functions came on at the same time and generally lasted from one to three seconds; in one case the intermission lasted 23 seconds, and in another, for acoustic impressions, from 15 to 23 seconds. There were intervals of normal function, which generally lasted longer than the declensions of sensibility, motor strength, and intellectual energy. The intermissions in these patients were studied in a painstaking manner with the aid of apparatus for neurological and psychological observation. The details are recorded at length in a paper which fills sixty-eight pages, illustrated by plates and diagrams.

Dr. Stern observes that the diminution of mental power and loss of memory was accompanied by motor aphasia and a visible falling off in distinct writing. He notices that David Hume, in his "Treatise on Human Nature," mentions that if we look at a small black point on white paper at some distance, it is only visible at intervals. More lately, Urbantschitsch has observed such rises and falls in the perception of weak impressions of smell, taste, and temperature, and this has been confirmed by the exact observations of Eckener and Pace. Dr. Stern regards the Cheyne-Stokes phenomenon as a special form of this intermission of functional nerve power. He thinks that in the cases which he has described, and in another which has come to his notice since writing his paper, we have a pathological exaggeration of a physiological process. He considers that the intermittent diminutions of the power of speech, of memory, and the other manifestations of mental activity show that we have to do with an affection of the cerebrum. Whether any other part of the nervous system be affected at the same time is doubtful. The reflexes of the iris and tendons were not altered.

Affection of Speech.

Dr. Friedmann gave to the meeting of neurologists at Baden-Baden in May last ("Neurologisches Centralblatt," Nr. 13, 1895) an account of a young man who had an uncommon difficulty in the utterance of words. He had learned to speak about the usual time, but through bashfulness in the school the power of articula-

tion was much impaired. He was now 18 years of age, and sound of body. As a rule it takes two or three minutes before he can make words come forth; when they do begin he speaks without any difficulty, and quite fluently. During the latent period he gives the impression of a dumb person. He has none of the customary motions of the stammerer. He can at once write down what he cannot speak. He can multiply double figures by mental arithmetic with unusual quickness. Dr. Friedmann thinks that the obstacle is in the cortex between the area of the conception of words and the path of the innervation of speech. He does not think there is any hysterical affection of the will.

Amusia.

Dr. Edgren ("Deutsche Zeitschrift für Nervenheilkunde," 6 Band, 1 Heft, quoted in the "Centralblatt für Nervenheilkunde," June, 1895, and "Neurologisches Centralblatt," Nr. 15) has reviewed fifty-one cases of musical aphasia taken from various authors. He uses the word amusia as the counterpart of aphasia. Note-blindness and tone-deafness are used as corresponding deficiencies to word-blindness and word-deafness. He has also vocal motor amusia, the incapacity to sing, and instrumental motor amusia, the incapacity to play on an instrument, and also musical agraphia, inability to copy music. He divides the cases which he has studied into three groups—aphasia without amusia, aphasia complicated with amusia, and amusia without aphasia. Dr. Edgren was able to study one case in particular. A man 30 years of age, in good health, but given to drink, received an injury to the head, after which he complained of headache, confusion, sickness, difficulty of seeing, and incapacity to work. Illusions of taste and tone-deafness came later. Before the accident he had been an intelligent man, with a decided talent for music, which had entirely left him. He heard noises, but could not distinguish melody. This was accompanied by word deafness, which disappeared in a month. The power of singing was injured to a marked degree, for owing to the tone-deafness the control of the musical voice was lost. These symptoms continued for three years, after which he died. On examination a recent pachymeningitis hæmorrhagica was found in the seat of an old softened area occupying a space about three centimetres broad and almost five centimetres long in the anterior part of the left Sylvian fossa. There was a similar softening in the posterior part of the right Sylvian fossa. A later examination of the brain showed a destruction of the two anterior thirds of the first right temporal gyrus, and of the anterior half of the middle temporal gyrus, and further the destruction of the upper and outer surface of the posterior half of the upper right temporal gyrus and of the under edge of the second temporal gyrus. Dr. Edgren thinks that the defect in the anterior half of the first and second temporal convolutions is

probably the cause of the enduring tone-deafness. It is to be noted that the lesions existed both in the right and in the left hemispheres and in analogous areas. Edgren gives the following conclusions:—

1. The musical capacity may be destroyed partially or entirely just as the capacity for language may be so affected by lesions in the brain, and where the destruction is partial the musical faculty may be resolved into its component from which different forms of amusia may arise.
2. These forms have a certain clinical independence, both in their relation to one another and in their relations to aphasia.
3. The clinical forms of amusia are often accompanied by analogous forms of aphasia.
4. Amusia can exist without aphasia, and aphasia without amusia.
5. It is probable that the various clinical forms of amusia, or at least some of them, have anatomical substrata. They may be localised in places near the areas of aphasia, but not in the same places.
6. It is highly probable that tone-deafness may be localised in the first or in the first and second gyrus of the left temporal lobe in front of the place where an injury causes word-deafness.

Amnesia after Recovery from Suspension.

Dr. Luhrmann mentions in his paper ("Zeitschrift für Psychiatrie," lii. Band, 1 Heft) 26 cases of persons who have been rescued from hanging. He himself records three male patients who were brought to the City Asylum of Dresden after unsuccessful attempts at suicide. Two of these were drunkards, one a melancholiac. After being cut down the patients were for some time insensible. This was succeeded by convulsions. It was found in each case that the would-be suicide had entirely forgotten his attempt. This oblivion went back for an hour or two previous. Dr. Luhrmann considers the question whether these were real epileptic fits following the closure of the carotids and the asphyxia, or whether the fits were hysterical and due to the mental effect (seelisch ermittelt). He seems to accept the latter explanation. This amnesia covering the occasion of the hanging might affect the evidence in a medico-legal inquiry.

Artificial Hallucinations in Alcoholic Delirium.

Dr. H. Liepmann has made in the Charité Hospital of Berlin some studies on the delirium of drunkards ("Arch. für Psychiatrie," xxvii. Band, 1 Heft). In examining 52 patients he found that in 40 of them he could induce visions by pressing upon the eyeball, whether closed or open. These spectra were of several kinds, appearances such as the sun, moon, stars, or lightning, appearances of print or writing in large characters, and figures of

men, buildings, and utensils. In these experiments visions of animals were not common; rats and mice were not seen. In spontaneous visions there were 70 per cent. who had illusions of animals, and 40 per cent. who had hallucinations of hearing. Dr. Liepmann accounts for this disparity by saying that in spontaneous hallucinations the patient is more deeply affected with terror or disgust by visions of animals, and this causes him to keep them in remembrance more strongly and talk more about them.

More Experiments.

Dr. Alzheimer has repeated Liepmann's experiments in the City Hospital of Frankfurt ("Centralblatt für Nervenheilkunde," October, 1895). He observes that not only does pressure upon the eyes cause visions in the delirium of drunkards, but that a similar result is produced in epileptic and hysterical insanity, in general paralysis, and other forms of mental derangement. In fact, when the eyeballs in healthy people are pressed there appear streaks of light, colours of different patterns, and other spectra which a little imagination might translate into visions of stars, balls of fire, spots upon handkerchiefs, rings, spiders, and other figures. In insanity not only the imagination wanders beyond the control of the judgment or will, but the whole nervous system is often in an excited condition. In one of Dr. Alzheimer's cases the patient was blind through opacity of both corneæ. Several years later he became insane, after which he had visions of flowers and animals, men, candles, and gardens. There were also hallucinations of hearing, reproaches, and threats. On pressure being applied to the eyeballs the doctor asked, "What do you see?" The patient answered, "Stars, flowers, a number of men, women with children, nothing more; snakes, other beasts." "How do they look?" "Like mice; everything is quite grey." "What were the flowers like?" "Also grey." Some weeks after the man died. Both optic nerves were found to be atrophied, the nerve-fibres being reduced in number by about one-third.

The following case is reproduced:—W. Sch., machinist, 27 years old, has suffered for six years from frequent epileptic attacks; is deeply demented. For four years has had hallucinations of hearing, sight, and general sensation before and after the epileptic attacks; is very excitable. He complained of being much plagued by the other patients; would not be quieted; went behind the doctor. It seemed as if a fit was coming on. When pressure was applied to the eyeballs he was asked, "What do you see?" "Nothing; a sun, stars, a house; it is on fire. There is a fellow like a devil, a shower of fire, a cloth with streaks of blood." Maintains that he has really seen these things. "The doctor has put them into his eyes." Half-an-hour after an epileptic attack came on. The day after he could still talk about the visions he had seen.

In one maniacal patient, who was thought never to have had hallucinations before, on pressure being applied to the eyes he saw stars and suns, mosaics, a black wolf, a forest with animals dancing about. He said "Now leave me alone; I am crazy. Is this real, or is it hypnotism?"

Curative Effects of Febrile Disturbances in Insanity (quoted in "Neurologisches Centralblatt," Nr. 13, 1895).

Setting out from the fact that some cases of insanity have shown improvement during acute febrile disturbance, and some have even recovered, Dr. Wagner has tried for several years to treat some of his patients by the injection of tuberculin. In several cases there were favourable results, and in two a rapid recovery. These experiments were given up for a while owing to some reasons not explained, but were again resumed in company with Dr. Boeck. The object aimed at was to excite in the patient a febrile action of a moderate character, the temperature not to exceed 39°. At first only one milligramme of tuberculin was injected, and the dose gradually raised. In three cases thus treated a recovery ensued, and some patients so far improved that a complete restoration to sanity might be expected. After every injection some improvement was noticed, which was sustained by each new administration of the tuberculin. The three cases which recovered gave little hope of spontaneous improvement as the insanity had lasted over two years. The bodily weight increased along with the improvement in the medical symptoms.

Dr. Wagner suggests a trial of other bacteria of protein as likely to excite a variety of actions, some of which might be beneficial. Dr. Boeck records the further prosecution of these experiments begun in Graz and continued in Vienna ("Jahrbuch für Psychiatrie," xiv. Band, 1 and 2 Heft, 1895). He tried them in 41 cases, of whom 11 men and 22 women were treated with tuberculin; 10 of the female patients recovered; some of the male patients improved, but none recovered; eight were treated with cultures of pyocyaneus, but this was soon found to be attended with inconvenience. Those cases which recovered under the production of febrile excitement were affected with confusional mania, which gives the most favourable prognosis. Cases of secondary dementia and of paranoia scarcely showed any improvement, though there might be some when the paranoia was passing into confusional insanity. Dr. Boeck treated one case of general paralysis without any improvement; but he thinks this disease is not unsuited for such experiments, especially in its early stages. He thinks that recent cases are better fitted for treatment with tuberculin than chronic ones, and he prefers to deal with young persons from 25 to 30 years of age. It is not clear what factors are operative in this improvement, whether increased change of tissue or increased activity of the lymphatics. The improvement was found not to

keep pace with the height of the fever. A review of the report of the cases described shows that the improvement in the mental symptoms was accompanied by a rapid increase in bodily weight.

Extirpation of a Tumour in the Brain.

Dr. O. Kappeler describes ("Deutsche Zeitschrift für Chirurgie," Band xl., p. 500, quoted in the "Centralblatt für Chirurgie," 21st September, 1895) a case of a smith, 43 years of age, who had paresis of the right arm gradually progressing. It was followed by headaches, first slight, then frequent and lasting, and by fits of Jacksonian epilepsy, also twitchings in the right arm and leg and facial nerve, which seldom extended to the whole body. The fits became more violent and more frequent, and finally, after about a month's illness, were accompanied by dulness of sensation and mental apathy. Dr. Kappeler diagnosed a tumour of the cortex at the left motor area for arm and leg. He determined to open the cranium on the spot. Following the method of Schenk-Kocher the point G was fixed, at the place where the first and second frontal meet the anterior median gyrus, cutting round this point. The dura mater was ribbed and white, 3 mm. thick, with several enlarged veins. Immediately on cutting the membrane a soft bluish grey tumour came into sight. It could be examined with the finger, and was nearly as large as a duck's egg. It lay in the upper part of the fissure of Rolando, and had pressed both cortical convolutions asunder, flattened them at the sides, and deepened the sulcus. It was raised up with the help of the knife handle insinuated into the sulcus. There was only moderate bleeding in the place left by the tumour, which was stopped by plugging with sterilised gauze. Good progress, collapse after the operation soon passed away; the pulse at first very rapid; soon sank to normal after removal of the gauze tampon. After leaving the hospital the patient had no more fits nor headaches, improvement physically and mentally decided, lessening of the paresis in arm and leg so that he could work a little. The extirpated tumour was pronounced by Dr. Hanan after microscopic examination to be an epithelioma springing from the dura. The prognosis against return was thought to be favourable.

A Nail Embedded in the Brain.

Dr. Hebold at the meeting of the Psychiatric Association of Berlin ("Neurologisches Centralblatt," Nr. 13, 1895) brought forward the case of a shoemaker with hereditary tendencies. Ten years before he had suffered from headache, and had been in an asylum. He was again admitted suffering from delusions of persecution, to which soon were added delusions of grandeur. He was at first highly excited, but calmed down, and in a short time improved so much that he was discharged. Not long after he was

brought back to the asylum for attempting to commit suicide by driving nails into his hand. He appeared much distressed, and complained of weakness in the eyes. A right hemianopsia was found; the temperature was high, and after being insensible for a short time, he died. On examination a nail ten-and-a-half centimetres long was found embedded in the left occipital lobe of the brain, which had caused suppuration and softening.

Dr. Jacobssohn, who reports the case, observes that it is remarkable that such a lesion did not cause more distress. He does not say how long the nail had remained embedded in the brain.

Anæsthesia with Loss of Motor Power and Somnolence.

Dr. Heinrich Witte, in an inaugural dissertation, Leipzig, 1894 (reported in "Zeitschrift für Psychologie," Band ix., Heft 2, and in "Centralblatt für Nervenheilkunde," August-September, 1895), gives a *résumé* of the descriptions of several physicians, of patients affected by total anæsthesia who can be thrown into a somnolent condition by closing the remaining senses to outward impressions. There is an account of some of these curious cases in our German Retrospect for January, 1893, p. 129.

Dr. Witte adds another case observed by himself, a woman named Ida G., who had been under medical observation for six years. There was a hereditary neurosis in her family; the exciting cause of her illness was a fright which she received when gathering wood in a forest. This brought on a fainting fit with hysterical convulsions. She was then sixteen years old. This was followed by other attacks of a hysterical character. Towards the end of her first pregnancy, owing to her erratic conduct, she came into the hands of the police, and on the 10th of April, 1888, Ida G. was admitted into the Psychiatric Clinique at Leipzig. On admission a slight exophthalmus was noticed. She soon fell into a state of stupor which passed away, and then returned again and again. During the intervals her intelligence was clear, but hallucinations of hearing and sight gradually came on. On awaking from the stupid state there was a loss of memory to some occurrences. On the 1st July she was freed from her pregnancy by perforation of the membranes. Ten days after she again fell into stupor. Upon this intermittent condition there suddenly supervened anæsthesia of the cutaneous surface of the head, which was followed by total anæsthesia of the whole body, with intervals of deficiency in the sight and hearing. At some times the loss of vision amounted to complete amaurosis. In the summer of 1890 she was in a state of complete anæsthesia of the surface, and the eyesight was narrowed to a small central field, so that two metres off she could scarcely discern a face. The hearing was diminished, and the sense of smell and taste appeared to be lost. Delusions of an erotic character appeared, generally lasting about five days to be succeeded by somnolence. She believed herself to be a queen, immensely rich; with the left

eye she could see her bridegroom, a soldier and prince, who was to deliver her from the asylum. Those delusions were sometimes accompanied by outbursts of rage which rendered seclusion needful; recovery came suddenly. On the 3rd of June, 1893, she had awakened from a prolonged sleep, the delusions were found to have disappeared, sensibility was restored, and the use of the senses was found to be normal. She was sent home to her parents after having been about four years in the clinique. After two months she was brought back pregnant for the second time. At the end of her full time she was delivered of a daughter, a small child, but save for a mark on the left forehead about the size of a thaler, presenting nothing abnormal. The anæsthesia and sensory deficiencies and delusions returned, though scarcely to the same extent. They again disappeared after a period of somnolence. During the total anæsthesia Ida had no sense of the position of her limbs, and did not remark when they were moved about if the change did not meet her sight. When her head was pushed she recognised this by sight, not by feeling. She generally remained out of bed the whole day. As on account of her narrowed field of vision Ida could not see her own legs, she kept her eyes fixed on the ground about two yards in front. She could stretch herself, and had the control of the movements of the fingers as long as she looked at them.

When the eye-lids were held down for thirty seconds, even when hearing was not cut off by the stopping of the ear-passages, Ida sank into a condition of apparent unconsciousness, the limbs were stretched and the whole muscular system became rigid. The eyes were turned inwards and upwards. This somnolent condition generally lasted for several hours, and sometimes after awaking she remained in a confused state of mind. Witte regards Ida as a case of hypnosis. In the similar case described by Strümpell, the condition was considered to be one of physiological sleep; but Ballet, who met with some of these curious patients, regards the somnolent condition as an autohypnosis.

As the result of his studies Witte gives the following conclusions:—(1) In total anæsthesia the unaided sense of sight is able to maintain the body in an upright position as long as the eye has a fixed object to rest upon. (2) Motility, that is to say the capacity of innervating all the muscles, is not met with in pure anæsthesia. (3) The well-known manipulations used to induce the hypnotic state have a purely suggestive influence; but stimuli pass by the sensory nerves to the brain which act upon certain parts of the brain independently of consciousness.

The Castration Question.

How well Medicinal-Rath Dr. Kroemer, Superintendent of the Provincial Asylum at Neustadt, is qualified to write the history of the twenty years' controversy on ovariectomy may be inferred

from the fulness of his reading. Above two hundred papers are quoted, mostly in German, French, and English, and his article fills seventy-four pages of the "Zeitschrift für Psychiatrie" (lii. Band, 1 Heft). He has collected above two hundred pages about operations on the uterine appendages undertaken on account of neuropathic affections. Two hundred of these operations were followed by benefit to the patients, and in one hundred the result was either doubtful, indifferent, or unfavourable.

The Medicinal-Rath gives us a report of five cases of women afflicted with hystero-epilepsy admitted into the asylum at Neustadt who derived benefit from ovariectomy. He sums up that amelioration of the mental disorder came to all in the end with improvement in the bodily health. Nevertheless, in reading over the detailed reports we see that recovery did not speedily follow the operations. The best case was discharged one year and two months after the ovariectomy; another remained two years and four months; a third nearly four years; while two of his patients are still in the asylum not yet sane, three and six years after being operated upon.

Dr. Kroemer thinks that there are many cases of women who have become insane through irritation of the ovaries who might derive benefit from surgery. He considers the argument that the operation entails sterility on the women is of no weight, as such women are likely to bear unhealthy children and thus propagate their neuroses. Dr. Kroemer would not confine these surgical benefits to the female sex. As he observes, there are young men who, hitherto quite healthy, on the arrival of pubescence, become epileptic, take to reckless masturbation, or become maniacal and finally demented. Castration would stop the reflex irritation acting upon the brain, and thus cut short the progress of the insanity. The operation is not dangerous, and is followed by speedy improvement in the bodily condition.

Every stock-breeder knows this, and makes good use of his knowledge. Why, asks the learned Medicinal-Rath, should it be so different with men? He informs us that Semiramis was so strongly impressed with the force of such considerations that she caused weakly and poor-looking men to be castrated lest they should inconsiderately diminish the vigour of the Assyrian breed. While Dr. Kroemer approves of this radical measure, which he thinks might be adopted against the poor health and disease of our own day, he is careful to explain that he is far from advising that every young man who becomes maniacal or falls insane at the period of evolution should be castrated. He is of opinion that, as in the case of the women, full consideration should be given to each patient as to the propriety of an operation. The loss of manhood in some unsound and neuropathic individuals is not to be deplored. If Burkhardt, he argues, could venture to treat his maniacal patients by the removal of a portion of the motor zone of

the cortex, why should we boggle over a much less serious operation, which would free the patient from a peripheral cause of mischief and disturbance, leaving him to the enjoyment of a healthy brain, better bodily nutrition, and a feeling of general well-being?

The Fibres of the Corpus Callosum.

Dr. Oscar Vogt has two papers in the "Neurologisches Centralblatt," Nr. 5 and 6, 1895, on the fibres in the middle and caudal portion of this commissure. He has made his studies on normal brains. The old view was that the corpus callosum connected analogous parts of the two hemispheres. But studies made on this structure in the lower placentalia went to show that it also connected heterologous parts, and this was confirmed by the observations of Sherrington and Muratoff on the course of degenerated fibres. A tract of fibres stretching into the lateral walls of the posterior and middle cornua of the lateral ventricle, to which the name tapetum was given, was regarded as a part of the corpus callosum. Forel and Onufrowicz* found this structure entire in a brain in which the corpus callosum was absent. They held it to be the caudal end of the association-fibres which connect the frontal and occipital lobes of the same hemisphere. This was confirmed by the observations of Kaufmann and Hochhaus. The former found the tapetum entire where the corpus callosum was softened. Muratoff studied this question in the dog. He traced the fibres from before backwards to the tapetum, connecting different parts of the same hemisphere. He called this system of fibres the fasciculus subcallosus. Beevor and Sachs still hold that the tapetum is a part of the corpus callosum. Vogt tells us that his own studies have shown him that the tapetum contains both fibres of the fasciculus subcallosus and of the corpus callosum. The tapetum is made up of an inner layer of bright coloured fine fibres, and of an outer layer of fibres coarser and of a darker colour, which is much broader behind. The fine fibres belong to the fasciculus subcallosus, the coarser ones to the commissure.

Vogt has found that a part of the fibres of the inner layer mix with those of the outer layer. He has succeeded in tracing the fibres of the fasciculus subcallosus to the nucleus caudatus. He combats the views of Sachs that the connection of the different parts of the brain are kept up solely through the middle brain.

Dr. Vogt's researches are of the most painstaking character; he enters into details which it is impossible to condense. He has made a careful study of the distribution of the fibres in the corpus callosum of the mouse. His observations are illustrated by some schematic woodcuts. He seeks the first traces of connecting fibres in the reptilia and follows them out in the lower mammalia. In general his results agree with those of Beevor. In his second

* See German Retrospect, "Journal of Mental Science," Jan., 1889, p. 604.

paper Vogt remarks that all comparative psychology, as well as the newest results of anatomy, show that the sense of smell is phylogenetically the oldest, and in the lower vertebrata the most important of the senses. He finds that the fibres of the fornix longus and the fibres of the cingulum going to the gyrus subcallosus, as well as the middle band of Lancisi, belong to the olfactory tract.

PHYSIOLOGICAL PSYCHOLOGY.

By Havelock Ellis.

The Psychology of Pain.

The neurologist and alienist are constantly concerned with pain, yet the psychology of pain still remains very obscure. What precise pathological or physiological process do we think of when we admit the presence of pain? What is pain?

This is a question which has lately been discussed, with a certain amount of agreement, by Prof. Strong, of Chicago, Dr. Nichols, of Harvard, and Mr. G. W. A. Luckey (Strong, "Psychology of Pain;" Nichols, "Pain Nerves," "Psych. Review," July and September, 1895; Luckey, "Some Recent Studies of Pain," "American Journal of Psychology," October, 1895; Marshall, "Psych. Review," Nov. 1895).

The theories of pain may be divided into three groups: (1) Those which represent pain as a quality of sensation generally; (2) those which class pain as a distinct sensation with special nerves; (3) those which class pain as a certain degree of sensation, but not as an element of all sensation.

The first—including the *quale* theory, or aspect theory, as Strong calls it—is a very ancient one, and was substantially held by Aristotle; in more recent times by Wundt, Höfding, Külpe, Lehmann, Sully, Bradley, and especially Marshall, who has given the best exposition of it. It regards pain, as well as pleasure, merely as colouring, "feeling-tone," a manner of experiencing sensations and ideas. It is a great mistake, Marshall holds, to place in the class "sensation," a mental state which lacks one of the most marked characteristics of sensation in general, *i.e.*, special terminal organs. According to this view, pain can never be an isolated experience, but may belong to any element of consciousness; both pleasure and pain are "primitive qualities of psychic states," the first coming when the energy involved in reaction to a stimulus is greater than usual, the second when it is less. The pain sense of the skin is thus not really a pain sense, but an exaggeration of a sense whose normal product is, what Marshall calls, the cutting-pricking sensation. It is a seductive theory, but, as both Strong and Luckey point out, it cannot be