minds like our own, that the higher animals have some amount of reason, but that plants have no reason, stones have neither life nor reason, and so on. Most men assume that God exists, and that this hypothesis accounts better for the form of the universe and man's normal nature than any other. A view like this is quite in accordance with the spirit of modern science; indeed, astronomy and chemistry are founded upon hypotheses incapable of demonstration.

At the end of the little volume there are three lectures on education, which are well worth reading. It is likely that the rules laid down by Dr. Morell, based upon a combined study of psychology and the art of teaching are reached by sagacious teachers from empirical observation alone; but stated in a scientific form they can be more easily learned and longer retained. Some of his remarks are even suggestive to those engaged in the treatment of the insane, for it is often of prime importance to remove surrounding circumstances, which feed the passions and keep alive dominant ideas, to surround the mind with fresh impressions, insinuate other desires, provide new impulses of a better description, and occupy the feelings and sentiments with new objects of interest.

PART III.—PSYCHOLOGICAL RETROSPECT.

1. *German Retrospect.*

By William W. Ireland.

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

"Archiv. für Psychiatrie und Nervenkrankheiten," ix. Band, 2 Heft. Berlin, 1879.

"Allgemeine Zeitschrift für Psychiatrie," xxxv. Band, 5 Heft.

"Verhandlungen der Berliner Medicinischen Gesellschaft," Band ix. Berlin, 1879.

"Psychiatrisches Centralblatt," Nr. 4 and 5, and 6. Vienna, 1878.

"Centralblatt für Nervenheilkunde, Psychiatrie, und Gerichtliche Psychopathologie," Nr. 12. 1878. Nr. 1, 2, 3, 4, 5, and 6, 1879. Leipzig.

"Der Irrenfreund," 1879. Nr. 1 and 2. Coblenz.

Neurokeratin.—Ewald and Kühne have, through the methodical application of pepsine to the nervous tissues, discovered a new substance

resembling horny epithelium, to which they have given the name of Neurokeratin. It is hoped that the discovery of this substance will help in determining the nature of the neuroglia, in which neurokeratin forms a part. ("Centralblatt für Nervenheilkunde," Nr. 11, 1878)

Betz's Pyramidal Cells of No Importance.—Dr. Meynert ("Psychiatrisches Centralblatt," Nr. 6), in an argument which he sustains by careful descriptions holds that the nerve cell is the functional centre in the cortex cerebri, and thus refers to Betz's discovery of pyramidal cells in the motor centres. Hitzig, influenced by an erroneous location which he had given to the central convolutions in the dog, adopted the view that the motor centres in the monkey's brain were exclusively in the anterior median gyrus, and Betz imagined that he could demonstrate these centres through the microscope. He found (as Clarke and I had already found in the calcarine sulcus) groups of large pyramidal cells in the anterior median gyrus quite separate from other cell groups. This discovery is of no importance; I studied the grey matter of all the convolutions, and described it in the year 1867, but I made no remark on this appearance, because it seemed to require no explanation. The grey matter of the anterior central convolution is characterised in this way simply because it is a convolution of unusual breadth. In consequence of this breadth the inner pyramidal cells gain a much greater calibre than they attain in the narrower convolutions, on account of the long way their processes have to go to reach the grey fibrous net of the outer surface, where the pyramidal cells are smaller. The bundles of nerve fibres press together the pyramidal cells into groups.

The Centres of Sensation in the Cortex.—Dr. Huguenin has made a dissection of the brain of two people afflicted with blindness, in order to ascertain if he could find any confirmation of the experiments of Ferrier and Munk, who place the termination of the optic nerve in the occipital part of the hemisphere. These observers do not agree in their location of the centres of visual sensation. One places it in the angular gyrus, the other in the occipital lobes.

Dr. Huguenin's first case was a man of 56, who had been blind of the left eye for about four years. The left optic nerve and optic tract were much atrophied, and the two left corpora quadrigemina and the left corpus geniculatum were much smaller than the right. The grey matter of the cortex of the occipital lobe was deficient, especially on the spot where the occipital fossa runs into the median fissure. This deficiency was much greater on the right side than the left. In the other case, a woman of 42, the sight of both eyes had been very weak since early youth; both optic nerves were decidedly smaller than usual. Behind the chiasma there was thinning of both sides. The corpora quadrigemina were flatter than usual. The corpora geniculata were smaller and greyer, and the grey matter of the cortex was thinner where the occipital fossa runs up to the median fissure over a spot about the circumference of a two franc piece. This thinness extended as far as the sulcus hippocampi.

Dr. Huguenin promises the description of another case where there was deafness with atrophy of the first temporal convolution.

A Microcephale.—Dr. Virchow ("Verhandlungen Berliner Medicinischen Gesellschaft," Band ix., Berlin, 1879), showed a microcephalous girl, seven years of age, to the Berlin Medical Society. She was a sister of Helena Becker, who died ten years ago, and of whose body Bischoff published so careful a dissection. The parents were healthy, and had seven children. Helena was the eldest, then followed a daughter, and two years after a son, then three microcephales, viz., the girl shown, to the Society, a boy four years of age, and a girl that died a few days after birth. The last child, apparently healthy, is a year old. The cranium of the microcephalous girl was broad at the base and tapering towards the crown; the forehead low and slanting; the occipital region broad.

The learned pathologist stated his belief that microcephaly was a pathological defect, and not an example of atavism. A microcephale could neither keep himself alive nor propagate his race. The girl had the character of a child that had just begun to show its intelligence. The attention could be aroused. The child was capable of occupying itself with some object. Speech was well nigh confined to the word mamma. She had none of the instinctive activity which characterises the psychical life of the anthropoid ape.

Tendon Reflex.—Dr. Berger (in the "Centralblatt für Nervenheilkunde," Nr. 4, 1679), discusses the value of the failure of tendon reflex as an early sign of the presence of tabes dorsalis. Out of nineteen cases in which there was no derangement of co-ordinating power in the lower limbs worth speaking of, there was, in seventeen cases, complete failure of reflex action of the tendons of the patella and Achilles.

In three other cases where the tendon reflex failed, there were shooting pains in the legs, without any spinal or head symptoms and in two of these the symptoms progressed into tabes dorsalis. Thus, the want of tendon reflex was one of the earliest symptoms.

On the other hand, he had seen two patients who had a high degree of ataxia of the lower extremities, with other characteristic symptoms of tabes dorsalis, yet the reflex could be brought out in the tendons of the patella and Achilles.

Out of eighty-two cases of well-marked tabes dorsalis, the reflex of the tendon of the patella was absent in 2·4 per cent. But of these eighty-two observations, there were four instances where the reflex failed only on one side, three times in the left, and once in the right side. In order to ascertain how often this action failed in healthy people, he tried it in 1,409 cases, with the following results:—

I. The vigour of the action of the patella tendon reflex varies within very wide limits. In numerous cases the reaction is so slight that it requires great care to bring it out at all. Thus, in many individuals, it appears entirely to be wanting, but in the end was brought

out. In many cases, on the other hand, the reaction was so lively, that a light tap with the tip of the finger was sufficient to call out a powerful jerk, and not unfrequently, instead of a single muscular contraction, there were several movements of flexion and extension rapidly following upon one another. Here we succeeded, through the methods of investigation recommended to be used by Erb and Westphal, to demonstrate the clonic form of reflex of the patella tendon. It does not appear correct to speak of the pathological increase or diminution of the reflex action of the tendo patellæ. It is only the absolute failure of the reflex, with some rare exceptions, and the demonstration of a lively reflex in some other muscles in which the action is not usual, that show a morbid condition.

II. The patella reflex failed in twenty-two healthy people, that is 1·56 per cent. In these individuals it was repeatedly tried, and under all possible precautions, but in no case was any trace of the phenomenon perceived. They appeared to be all healthy people; thirteen of them were soldiers. Nothing abnormal about the knees, and the mechanical and (when tried) the electrical excitability of the quadriceps muscle seemed to be as great as usual. Dr. Berger was thus obliged, against his previous experience, to admit that the reflex action might fail in quite healthy people. In no instance did it fail on one side only.

III. Of all other reflex actions in tendons, we can, in general, most easily bring out that of the tendo Achilles, but it was found that this failed in 20 per cent., and often could only be demonstrated on one side. It was found that the peculiar foot phenomenon (the characteristic reflex action) is quite exceptional in healthy people. He had seen it only in three young men, though in a very decided measure; one of them had formerly suffered from convulsive tic. None of the three were surprised at the remarkable action, since they knew from childhood that they had a trembling of the leg whenever they sat down and touched the ground even with the point of the foot. Dr. Berger tried the reflex of the adductors and the biceps and triceps of the arm, in 364 persons. He found the reaction of the first muscle only in 5 per cent. In two of these instances the reaction was one-sided, and in one there was a contraction in both legs with the stimulus only in one side. In the biceps he found the reflex in 35 per cent., in the triceps in 25 per cent. Examination of other tendons led to no distinct results.

IV. Several times on the mechanical stimulus being applied to the tendon of the adductors, there was a contraction of the quadriceps, and on one occasion a contraction in the adductor region on percussion of the tendon of the patella of the opposite side. Dr. Berger has described a similar reaction in hemiplegia.

Strychnia increases and morphia lessens the liveliness of the reaction. In his last paper on the subject, Westphal has advanced the opinion that the failure of tendon reflex is especially valuable as a

pathognomonic symptom in those cases in which the tabes begins with spinal amaurosis, the so-called atrophia alba optica. The failure or presence of the reflex of the tendon of the patella is here the characteristic sign of a distinct disease, or the first stage of sclerosis of the posterior spinal column.

Dr. Berger has a patient, a woman of 27, who has been blind for seven years. She had no trace of spinal disease, but there was total failure of reflex of the tendon of the patella. Dr. Berger thinks that it is possible that spinal disease may yet follow, which seems a needlessly pessimist view of the case. Out of 84 blind men in the Blind Asylum of Breslau, Dr. Berger found 9 suffering from atrophy of the optic nerves, and in two of these the tendon reflex was absent, whilst in the other 75 cases of blindness it only failed once. In four cases of diphtheritic ataxia, after paralysis of the pharynx, he found an entire absence of the patella reflex, the cutaneous and muscular sensibility being unaffected; but, on complete recovery from the ataxia, the tendon reflex also returned. The want of co-ordinating power in the legs resembled the ataxia from disease of the cerebellum, rather than that of tabes dorsalis, reminding one of the gait of a drunken man. In a case of cerebellar ataxia, which came under Dr. Berger's observation, the patella reflex action was very marked.

Dr. Westphal, in a communication made to the Berlin Medical Society ("Verhandlungen," Band ix., Theil 2, page 32), gives his latest views as to the value and significance of tendon reflex. He considers it one of the earliest symptoms of tabes dorsalis, *i.e.*, the grey degeneration of the posterior columns of the cord. It is a valuable means of diagnosis where simulation is attempted. In ataxia of the lower extremities, where the sensibility to the interrupted current is heightened, the reflex reaction is greater than usual. Dr. Westphal doubts whether the reaction of the ligamentum patella is ever found wanting in healthy individuals. He always has found it present, and in one case of reported failure, he had no difficulty in bringing it out. He uses a percussion hammer, and recommends that the knee should be laid bare, and the quadriceps not held too rigid.

Stimulation of the Renal Secretion by Electricity.—Julius Glax has published several cases in the "Deutsches Archiv. für Klin.-Med.," in which, through electricity, he was able to cause the fluid of ascites to disappear, by the application of the interrupted current to the abdominal walls. In a patient suffering from pulmonary emphysema, with insufficiency of the mitral valve, the volume of the urine rose from 900 c.c. to 2,900 c.c. The electrodes were applied to the motor points of the abdominal muscles, and from fifty to one hundred contractions excited.

Disease of the Spinal Cord through Sudden Diminution of Atmospheric Pressure.—Dr. E. Leyden (Archiv, ix., Band 2, Heft.) describes three cases of this kind, which occurred at St. Petersburg. In order to build a bridge, some workmen were employed in diving

bells, under an additional pressure of one to two, and sometimes three, atmospheres. The workmen remained in the air bells at shifts of six hours, working twelve hours in the twenty-four. During a period of seven months 160 men were employed in this manner; 157 applied for medical treatment, and 38 were taken into the hospital. The principal complaints were rheumatism, catarrh of the lungs and of the bowels, and otitis. Of the 38 received into the hospital, eight suffered from catarrh of the bowels; eight from bronchitis; 42 from typhus; seven from injuries of different kinds; three from what was called rheumatism; four from the symptoms of hyperæmia of the brain. Pains in the ear often supervened on going into the air bell or coming out. The workmen also suffered from pains in the joints, which were of moderate intensity, and generally disappeared when they returned to the air bell. Salicylic acid, in doses of 10 grammes, had a very good effect. In the cerebral attacks those affected fell down, and could neither walk nor stand, the pulse fell to 50 or 55, but they generally recovered in two days.

On increasing the atmospheric pressure from 30 to 36 ounces upon the square inch there were attacks of paraplegia, three of which fell under the observation of Dr. Lewess, and are well described. Two of them recovered, one in six weeks, the other in about a month, but the third case died after an illness of fifteen days, and an examination of the body was made eleven hours after death. All three patients exhibited the symptoms of acute myelitis, situated between the cervical and lumbar enlargement of the spinal cord. In all, while the upper extremities were unaffected, the lower extremities showed a high degree of paraplegia of motion and sensibility, with an affection of the bladder (retentio urinae). In the two first cases there was a speedy improvement, which, in from fourteen days to three weeks, led to recovery. In the last case there was a bad purulent cystitis and nephritis, as often happens in severe forms of myelitis, which was the immediate cause of death. On opening the spinal canal of the man who died, the veins of the cord were engorged, but in spite of the severe symptoms and rapid course of the disease, the spinal cord to the naked eye seemed to be quite healthy. There was no discoloration or remains of hæmorrhage, and it was only when the spinal cord was hardened that pathological alterations were recognised. The spinal cord was prepared for two months in Müller's fluid. There were rents or cracks found in its substance which are very minutely described. Dr. Leyden believes them owing to the sudden development of oxygen or carbonic acid gas, rupturing the delicate tissues of the spinal cord. Around these rents there were traces of inflammation, but no perceptible infiltrations of the blood. This sudden outburst of gas is believed to have been owing to the diminished atmospheric pressure in stepping out of the diving bell.

Nystagmus in Miners.—Dr. Nieden ("Centralblatt für Nervenkrankheit," Nr. 4, 1879) has studied 40 cases of Nystagmus,

occurring amongst miners. He finds that it follows an enfeebled condition of the nervous system, and is confined to those who engage in digging or hewing minerals in dark mines with a fluctuating light.

Athetosis.—Dr. Rudolf Knauck has a paper on primitive Athetosis (Achiv., ix. Band, 2, Heft.) He admits that in most cases this symptom accompanies hemiplegia, epilepsy, progressive paralysis, atrophy or tumours of the brain, and other diseases of the nervous system; but in a small number of cases it constitutes a distinct disease. As the results of his study he gives the following conclusions :—

1.—Athetosis is an independent affection, recognised by characteristic symptoms. It is an independent form of disease attacking some individuals.

2.—It can appear either on one side or both; hemiathetosis is strictly confined to one side.

3.—Athetosis appears in the hands and feet, and frequently in the face, and consists in peculiar spasmodic motions, which are involuntary, incessant, slow, and rythmical.

4.—These motions are of a peculiar kind, and do not alter when the body is in repose. During exercise of any kind they are increased, so that they sometimes pass into intermittent muscular contractions. The will has scarcely any influence on these motions, but they stop, during sleep, of themselves.

5.—The shoulder, hip, and arm do not take part in the affection.

6.—The sensibility is generally normal, though sometimes it is increased.

7.—Athetosis is, if central, for the most part of cerebral origin, owing to stimulation of the motor centres or motor conducting tracts.

Hallucinations of Vision in a Blind Man.—Dr. Kowalewsky received into the Asylum of Charkoff a patient who was quite blind from amaurosis (atrophia nervorum opticorum). The hearing was very acute; the pulse was quick; the temperature high, but on account of his unquiet condition it was impossible to make a thoroughgoing examination. The man, a Russian peasant, was in a state of the utmost terror, believing that he saw Turks everywhere. In order to escape from them he dashed himself against the walls, doors, and window, crying out at the same time for help and rescue. During these panics he refused all food. The fits were periodical, generally lasting the whole day, and were succeeded by a period of stupor. The paroxysms lasted ten days, at the end of which he fell asleep, and wakened in the morning quite well. He had totally forgotten the fearful experiences which he had gone through, and was quite astonished when told of his frantic behaviour. The treatment consisted of iodide of potassium and bromide of soda, with prolonged warm baths, and ice on the head. The author regards it as a case of psychic epilepsy, taking an intermittent form.

Metallotherapy.—Dr. Franz Müller ("Centralblatt," Nr. 2, 1879) is

surprised that English physicians seem generally agreed in putting down the results obtained by Charcot to expectant attention, or other mental influences. Dr. Müller himself visited for three months the Salpetrière, and was able to ascertain that the application of plates, made of non-metallic substances, was followed by no result. He has seen patients successfully treated for hemia-anæsthesia blind-folded, and without knowing the nature and object of the treatment. He has found that the action of magnets is more efficacious than that of plates of metal. Dr. Müller has carried on independent experiments in the hospital at Gratz, with the same results as at Paris. This article is a valuable contribution to the subject.

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2. *American Retrospect (continued).*

By D. Hack Tuke, M.D., F.R.C.P.

Passing from the "Journal of Nervous and Mental Disease," we notice several separate pamphlets and reports.

The Curability of Insanity. By Pliny Earle, A.M., M.D.

Having referred to the original article in the "American Journal of Insanity" in our Retrospect, October, 1878, we need do little more than repeat here, in regard to this pamphlet, which is published by the New England Psychological Society, of which Dr. Earle was President, that the views put forth by the author, and the statistical facts collected together, deserve the serious consideration of all concerned in the preparation of asylum reports in all countries.

Were we to take exception to any part of this paper, it would be to the too discouraging effect possibly left on the mind of the young alienist, in regard to the utility of drugs, when Dr. Earle says—"The years of a generation have passed since the time of Pinel and Esquirol, and in the course of their progress, remedy after remedy, before untried, have come up, viz., with the word of promise to the hope, but essentially breaking it to experience. Hashish was experimentally tried, proved a failure, and is now nearly forgotten. Chloroform and ether have become convenient and useful to a certain extent, but they have no curative power previously unknown to other remedies. The same may be said of chloral and the bromides. Electro-magnetism, upon which great hopes were placed, is very beneficial in a few cases of abnormal nervous action, but hitherto has proved itself powerless to correct those cerebral functions, the abnormal operations of which constitute insanity."

That Pinel, who despised drugs in the treatment of insanity—nay, more, that Dr. Tyson, the physician to Bethlem Hospital from 1684 to 1703, should appear to have been quite as successful in their cures as the superintendents of the best asylum at the present day, is doubtless a startling and, indeed, a depressing fact. It ought to set us thinking;