accounted for, and the possibility of larvated attacks of malaria must be considered. Kraepelin's general conclusion is that the natives of Java show none but recognised forms of insanity, modified in development of symptoms even as the people's mental development is at a lower stage. Dr. John Warnock in his annual report on the Egyptian Government Hospital for the insane[9] draws attention to the character of lunacy among the Egyptian native population. The characteristic insanity of the people is that due to *haschish*, a vegetable drug, allied to Indian hemp, which the natives consume in large quantities; and although the importation of it is forbidden by the Egyptian Government large quantities of it find their way into Egypt. Of 495 patients admitted to the Cairo Asylum during the year, 74 were "hasheesh insanities," in the form of maniacal excitement, delirium and intoxication, melancholic depression, weakmindedness, and chronic dementia. Pellagious insanity was responsible for 52 cases, and general paralysis of the insane for 35. The proportion of haschish patients yearly is steadily decreasing, and this is attributed to the price of the drug having steadily risen. Thus the percentage of cases was 32⅔ in 1897, 25 in 1898, 23½ in 1899, 25 in 1900, 21 in 1901, and 22 in 1902, while it had fallen to 18 per cent. in 1903.

[6] Cornell Univ. Studies, Dept. of Neurol., 1904. [7] Deuts. Zeitch. für Nervenheilk., Bd. 22, H. 4. [8] Centralb. für Neur. und Psychiatrie, July, 1904. [9] Report of the Egyptian Government Hospital for the Insane, 1904.

DISEASES OF NERVES AND ELECTRICAL TREATMENT.

Paralysis of the Palmar Branch of the Ulnar.—T. Patmore[1] records an instance due to a blow on the hand. The patient could grasp large objects but not small ones such as pins. Besides the usual wasting of the muscles of the hand, the clawing of the inner fingers, and the inability to separate or adduct the fingers, it was noted that the thumb was adducted chiefly by the action of the extensor secundis internodii, and that sensation nowhere seemed to be lost.

Brachial Plexus.—Much discussion has taken place as to the formation of the different cords of this plexus and the spinal representation of the arm muscles. R. T. Williamson[2] describes two cases of paralysis affecting not only the deltoid, biceps, brachialis, and supinator longus, but also the triceps and the extensors of the wrist and fingers. Now Erb's paralysis from lesions of the fifth and sixth cervical roots affects the first four muscles, and he suggests that this wider paralysis is due to a lesion of the upper cord when composed of the cervical nerves five, six, and seven, or a lesion of all these nerves separately. Wilfrid Harris has, however, shown that variations occur in the position of the plexus, and that it may be shifted up or down as much as half a root (prefixed or postfixed). Thus the above paralysis may be due in a prefixed plexus to a lesion of roots five and six only. It may be noted that Harris, in his original paper, insisted that Erb's paralysis is due to a lesion of the fifth nerve only and in two cases he cut across the fifth root and sewed it into a lower and intact one, the sixth, and obtained a cure. L. Pierce Clarke[3] considers that this "brachial birth palsy" is due chiefly to tension on the fifth and sixth cervical roots, but it may include the seventh and even the eighth and first dorsal; there is rupture of the nerve fibres and overgrowth of connective tissue between the torn ends. This generally occurs through forcible depression of the shoulder, while the head is bent to the opposite side and rotated. It is desirable to operate and suture the sound nerve ends as early as possible. This should be followed by electrical and similar treatment. Terriberry pointed out that many cases were not a result of stretching the nerves, and referred to one produced by pressure of the blades of the forceps upon the nerve roots, which completely recovered. In another, a breech presentation, there was double Erb's paralysis, also due to pressure, and this too improved rapidly. The question of the actual nature of the lesion in each case is important, and also the time at which an operation should be undertaken. As other speakers remarked, though on purely surgical grounds it might be desirable to operate within the first few months of life, yet many cases improve and at present the risk of operations in early life is very great. Cases of brachial neuritis involving the fifth and sixth nerves have been reported by Simon, and another by C. J. Cattle.[4] The latter was in a miner, and not due to traumatism, but probably to continuous work with the arms raised above the head causing contractions of the scalenus medius through which these nerves pass. The paresis at first took the usual Erb's type, but the flexors of the elbow quickly recovered. Cattle points out that the fifth nerve first gives a branch to the rhomboids, which, however, probably consists of fibres derived from the fourth nerve. Then a branch, joining one from the sixth, supplies the serratus magnus. Afterwards it can be divided into an upper and a lower fasciculus, the former supplying the shoulder muscles and the latter the elbow muscles. The injury here seems to have chiefly affected this upper fasciculus on the left side, for the deltoid and spinati remained wasted after six months of galvanic treatment. On the right side the infra-spinatus remained in the same state, and the serratus magnus also failed to recover which pointed to an injury somewhat higher up. Other writers have noticed the frequency of injury to these nerves among miners, as a result of the cramped position in which they work.

High-frequency Currents.—J. A. Codd[5] has employed high-frequency currents in severe or intractable neuralgias and myalgias. He connects the bottom of the resonator to the condensation plate and directs the effleuve to the diseased part, and in some cases gives autocondensation as well. The pain in severe sciatica or lumbago usually ceases for many hours after the first sitting, and as the applications are continued the intermissions are longer and the severity decreases till it ceases altogether. In some cases of tinnitus aurium very good results followed, but success was not invariable. Improvement was noted in diabetes, pruritus ani and piles, and two cases of vomiting from anorexia nervosa were cured. T. J. Bokenham[6] claims that Doumer's high-frequency treatment is very successful in sphincter fissures, and in the small fissures

associated with piles, and in relieving pruritus. It is most valuable, too, for piles in the early stages, but when acute conditions or much thickening from old-standing trouble exists the results are less certain and rapid. The writer uses a high-vacuum electrode and a small current of 100 to 150 milliampères. With a metal electrode, currents three or four times as strong may be employed. In 13 cases of simple fissure all were quickly cured, and in 25 cases of recent piles 14, while 9 were relieved from all discomfort. Fifteen instances of pruritus ani were also cured promptly. The cure of the piles could not be due to stretching, because the electrodes used were too small to act in such a way—viz., from 3 to 15 millimètres in diameter.

Death from Electric Shock.—T. Oliver [7] discusses the dangers of the live rail in electrical railways, and describes the case of a man who fell upon one at Wallsend. The patient was convulsed and remained unconscious for two hours. The right foot was burned and deep ulcers formed, which showed no tendency to heal a month after the accident. Grange in 1885 held that death is due to hæmorrhages in the medulla. D'Arsonval thought that destruction of the tissues and inhibition of the nerve centres took place, and in the latter case death would be due to arrest of the respiration. Tatum, on the other hand, showed reason for referring it to paralysis of the cardiac wall, but in electrocutions at New York under alternating currents of 1,500 volts the heart was found to beat and respiration to continue after short contacts. Oliver himself in 1898 found that the heart usually stopped first, though with very high voltages there might be simultaneous arrest of both the heart and breathing, but he never succeeded in producing primary arrest of the respiration. Prevost and Battelli confirmed this with regard to currents of moderate tension, and R. H. Cunningham concluded that the respiratory centre was not destroyed but that the left heart was chiefly affected. The voltage fatal to human beings depends more on the conditions of contact than on its amount. Contact with 2,000 volts has not been fatal, while in the Lambeth bath case contact by wet hands caused death though the current was only 250 volts. The danger is greatest when one part of the body is in contact with the earth and another with the live rail. There is also a great difference between the effects of continuous and alternating currents. After an accident, artificial respiration for half an hour should be carried out, and Cunningham recommends transfusion of defibrinated blood.

[1] Brit. Med. Jour., Mar. 12. [2] Lancet, Aug. 13. [3] Jour. Nervous and Ment. Dis., Oct. [4] Brit. Med. Jour., Mar. 12. [5] Ibid, July 23. [6] Lancet, July 2. [7] Lancet, Aug. 20.

DISEASES OF THE BLOOD AND BLOOD-VESSELS.

Arterial Sclerosis.—Savill [1] defines arterial sclerosis as a chronic generalised thickening or degeneration of the arterial walls, in which after death the lumen does not collapse as usual, and the walls are harder and less elastic than normal. Histologically the condition may occur in any one or more of the three coats of an artery. Atheroma is a condition quite distinct from intimal sclerosis; it is a patchy, fibroplastic infiltration of the intima prone to undergo necrotic changes, and is visible as raised yellow spots on one side of an artery, which can be felt as beaded thickenings during life; it affects chiefly the aorta and larger arteries of the trunk and brain. On the other hand, sclerosis of the intima is a more or less uniform thickening all round the lumen of an artery without alteration of colour and without any tendency to necrosis; it gives a vessel a hard smooth feel like whipcord, and it affects arteries of any size, but is more common in medium and smaller vessels. Atheroma is of no serious pathological importance provided the cardio-vascular system is otherwise fairly healthy. In many cases chronic adventitial and intimal sclerosis is secondary both in time and in importance to changes in the media, or to dilatation of the arterial lumen. Sclerosis of the intima may affect a particular territory only, *e.g.* the renal vessels, and not be a general change. The muscular coat of the arteries is, relatively to the other coats, by far the most important, and in the arteries and arterioles forms about half the thickness of the vessel wall; the intima is only a limiting membrane, the adventitia only a supporting structure. The most important constituent of incipient old age is the loss of the regulator function of the arteries in maintaining the blood-pressure relatively constant. Many morbid changes are met with in the muscular coat; thus a slight degree of atrophy may be found in wasting disorders. Hypermyotrophy is of very frequent occurrence, and supervening on this cloudy swelling, granular degeneration, dilatation and necrosis may occur. The consequences of arterial hypermyotrophy, cloudy and granular degeneration—the generalised changes—are primarily disturbances of the dynamics of the circulation, whereas the effects of necrosis, if unaccompanied by compensatory adventitial or intimal changes, lead to rupture and hæmorrhage. They probably exist in a large proportion of cases of cerebral hæmorrhage. Arterial hypermyotrophy is a distinct clinical and pathological condition, characterised in the first stage mainly by postural vertigo, in the second by evident thickness of the arteries, cardiac hypertrophy, and sometimes cerebral and other hæmorrhages, and in the final stages by circulatory and nutritional disturbances. Sometimes, but not necessarily, it is associated with chronic renal disease, which is only one of its many causes. High arterial tension, sometimes intermittent, but usually persistent, existed in all the cases before arterial degeneration or dilatation occurred, and in many cases after this had taken place, and is the main cause of the condition. Thus of 17 cases there was a history of alcoholic excess in seven, of gout in two, of passing gravel or lithates in six, of chronic renal disease in three. Alcohol plays the leading *rôle* in producing the disease. The three conditions apt to be confused with arterial hypermyotrophy are old age, granular kidney, and other forms of arterial degeneration. In treatment, nitroglycerine has a marked effect in the early stages. If one could prevent hypermyotrophy one could prolong life, for it is the first step to senile decay.

[1] Lancet, Sept. 24.

(*To be continued.*)