degeneration, while those with their cells of origin above have a normal appearance; therefore, secondary degenerations, whether occurring as the result of experiment or disease, may be considered of traumatic origin and arising from conditions outside the neurone, very frequently due to vascular occlusion and local softening.

2. Primary degenerations are clinically and pathologically quite different from secondary. They arise as a result of altered conditions of the blood and lymph, due generally to the introduction or generation within the body of poisonous substances, and are insidious in origin, progressive in character, and generally fatal in termination. They are influenced by hereditary or acquired tendency to nervous degeneration, and election of the particular system or systems of neurones not only constitutes definite groups of clinical phenomena, which admit of empirical classification into definite diseases, but also show that certain poisons have elective affinities for particular systems of neurones; but the election of certain structures may also be determined by occupation and habits, which induce stress on some particular system of neurones; or vascular conditions may lead to circulatory disturbances, which will determine the appearance of degenerative changes earlier and their more rapid progress in certain parts of the nervous system than in others. In connection with the latter contributory factor, we have already referred to the reason why certain portions of the brain should show more atrophy and degeneration in general paralysis than others.

Again, I have found the left hemisphere, which presumably is used more than the right in all right-handed people, more often atrophied in general paralysis. The two hemispheres in this disease seldom weigh equally, and the left hemisphere in two-thirds of these cases weighs less than the right. We know that the speech affection is one of the most characteristic and earliest clinical phenomena of this disease; possibly this difference in the weights may be the result of excessive activity of the left hemisphere while in a process of decay. At the same time, this tendency of the left hemisphere to waste more rapidly than the right might be explained on mechanical principles, for venous congestive stasis might take place more easily in the left hemisphere than in the right, owing to the fact that the blood in the internal jugular vein on the right side has a more direct course to the right auricle than the left.

NOTES.

¹ Exner's method is as follows: Small pieces of brain, 1 c.cm. in size, are placed in 1 per cent. osmic acid for 5 to 10 days: cut in alcohol with a wet knife; after sticking on cork with shellac, the sections, which must be very thin, are mounted in glycerine. If they are allowed to remain in alcohol they spoil; they are best transferred on a section-lifter in a drop of strongly-ammoniated water. The preparation should be examined at once; the essential in this process is the use of the ammonia, whereby the neuro-keratin supporting structure is swollen up into a homogeneous mass. The finest fibres of the cortical layers are demonstrated remarkably well by this method. ² Liebreich and Diakonow considered that protagon was a mixture of lecithin and cerebrin, but numerous researches by Gamgee, Blankenhorn, Baumstark, Kossel, Freytag, and Ruppel have shown that protagon is a single chemical substance, without, however, its precise constitution being determinable. Noll, in an interesting paper refers to these researches and describes a method for the quantitative estimation of protagon. By this method he was enabled to show that protagon rapidly diminished in quantity in degenerating nerves, and finally completely disappeared. He made comparative quantitative estimations of the two sciatic nerves after cutting the nerve on one side in dogs and horses. The protagon diminished in quantity, until on the twenty-eighth day it had completely disappeared. In one case he examined the central ends of the sciatic nerves, and found a considerable diminution on the side of section. He also did an experiment relating to phosphorus, and his results, he states, are in agreement with our results with regard to the splitting up of lecithin. Choline can be detected chemically in the blood and cerebro-spinal fluid in the following manner: The blood or fluid is mixed with two or three times its volume of absolute alcohol. The filtrate is evaporated over a water bath to dryness. The residue is taken up with absolute alcohol and again filtered; the filtrate is evaporated to dryness and treated with 15 per cent. alcohol in distilled water and a drop of platinum chloride solution added. Octahedral crystals of the double salt of choline and platinum chloride are formed.

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ANTISTREPTOCOCCUS SERUM IN ERYSIPELAS.

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As antistreptococcus serum has not yet established itself as an efficient remedy in erysipelas, and as notes of cases treated with it, whatever the result, are useful in indicating its efficacy or the reverse, I offer no apology for the following brief account of a case treated by it.

Mrs. H., aged 26, was taken ill on April 11th, 1900, and complained of headache, backache, sore throat, and pain in the limbs. The next day, when I first saw her, the temperature was 104.6°, the pulse 130, the same symptoms persisted, and the nose was red, swollen, and blocked up. I diagnosed facial erysipelas, gave a saline aperient, and ordered 20 minims of liquor ferri perchloride with 2 gr. of quinine, to be taken every four hours, and the face to be covered with a mask of cotton wool.

The next day (April 13th) there was no doubt of the diagnosis, the eruption having spread on to the cheeks. That night, however, the face being very painful, the patient threw off the mask, and had the face constantly bathed with butter milk. The next morning she was much worse, the temperature 105°, the face a deep red, and the eruption had spread to the eyelids and forehead. I prescribed an ointment consisting of equal parts of lanolin and ichthyol to be smeared over the face, and ordered 4 grs. of quinine to be taken every six hours, alternating with half a drachm of liquor ferri perchloride, which was also taken every six hours. The diet consisted of peptonised milk and Brand's beef essence (plain milk caused vomiting).

On April 15th the submaxillary region was involved, and the iron was dropped, as it caused vomiting and diarrhoea. The patient was delirious, and half an ounce of brandy was given every four hours. By April 16th the patient was so unconscious that all the excretions were passed under her, and half an ounce of brandy was being administered every hour. On April 22nd, the temperature being 104° and the pulse 120 and very thready, digitalis and strychnine were given with the quinine, the hair was cut short, and an icebag applied to the head, the delirium being of a low muttering character. A bed sore had formed over the sacrum and another on one buttock.

On April 24th she was practically moribund; the pulse could hardly be felt and could not be counted. At 10 A.M. I injected 20 c.cm. of Burroughs and Wellcome's antistreptococcus serum under the skin of the abdomen. At 2 P.M. she became conscious for a time, though she became delirious again. At 6 P.M. the temperature had come down to 103°, and the pulse was of better tone. I injected another 10 c.cm. of the serum. Next morning the temperature was 99.6°, the pulse 98, and decidedly stronger. I gave another 10 c.cm. of serum. She was quite sensible, and complained of the prick of the hypodermic needle. She had another 10 c.cm. of serum the same evening. The next day she was not delirious, had some tea and toast, and asked for the bedpan when she needed it. This day and the next two days she had a daily dose of 10 c.cm. of serum, and on April 27th she sat up and ate boiled fish for dinner. From this time onward convalescence was uninterrupted, and the temperature remained normal, except for a rise to 102.6° on May 6th, when she complained of pain in her joints. This was entirely subdued by 15 grs. of sodium salicylate every four hours, the temperature next morning being 99°.

One noteworthy feature of the case was the almost entire lack of sleep. At various times the following doses were given: Dover's powder, 15 grs.; sulphonal, half a drachm; potassium bromide, 2 drachms; sulphonal, 35 grs., with ½ gr. morphine; trional, 1 drachm; none of these drugs produced more than twenty minutes' sleep, until the temperature had reached the normal point.

I have no hesitation in saying that the antistreptococcus serum, of which she had 80 c.cm. in all, saved the patient's life; as, in my opinion, when it was administered, she could not have lived more than twenty-four hours without it.

IMPACTION OF A BEAN IN THE AIR PASSAGES TRACHEOTOMY: EXPULSION THROUGH THE WOUND: RECOVERY.

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THE following case of a foreign body in the bronchus presents several features of interest:

A boy, aged 12, when playing with haricot beans, had his elbow accidentally jerked upwards, with the result that a bean which he had been holding in his hand was shot into his mouth; coughing and retching instantly commenced. Attacks of coughing and retching recurred at intervals of a few minutes, and a little blood-stained mucus was coughed up. There was no evident laryngeal stridor, but the boy was greatly alarmed, and repeatedly sought to relieve his distress by cramming his fingers down his throat, an act that at once induced noisy retching; a period of comparative calm invariably followed.