peripherally in the pons, in contiguity to the blood-vessels. None are observable in the cerebellum.

Pancreas.—The proper substance of the gland is quite gone, and nowhere are to be found either ducts or alveoli. The mass is made up of loose connective-tissue trabeculæ, with large tracts intervening. These meshes contain groups of large irregular nucleated cells, interspersed with smaller cells and nuclei. The latter are often crowded together, appearing like lymphoid tissue, among the fibres of the trabeculæ. There can be little doubt as to the carcinomatous nature of the growth.

Mesenteric Gland.—Scattered amongst the lymphoid tissue are the same large, irregular nucleated cells, singly or in masses.

Liver.—The liver cells are comparatively small, and the intercellular spaces large. In places there seems an inflammatory increase of the connective tissue.

Kidney.—There is great hypertrophy of the intertubular connective tissue, with dense inflammatory infiltration, and some fatty degeneration in parts. The tubular epithelium appears for the most part unhealthy—sometimes broken up, and often with the nuclei not taking the stain.

Lung.—Portions of hepatised patches of lung were examined. The usual appearances of pneumonia are present, proliferating epithelium, and masses of round cells occluding the alveoli. The blood-vessels are filled with blood-cells or with coagula; but there is no evidence of fatty embolism.

Heart Muscle.—The fibres are rather granular, but without fatty degeneration.

ART. XX.—*Brachial Monoplegia with Anæsthesia.*^a By C. J. NIXON, M.B., LL.D., Dubl.; F.K.Q.C.P.; Senior Physician to the Mater Misericordiæ Hospital.

THE following are the notes of a case of left brachial monoplegia occurring in a patient whom I have the honour of exhibiting to the Section. The case is a remarkable one in some respects, especially in the irregularly distributed area of cutaneous anæsthesia which exists:—

CASE.—Margaret O., aged nineteen, a domestic servant, was admitted into the Mater Misericordiæ Hospital on the 23rd of October last, com-

^a Read before the Medical Section of the Academy of Medicine in Ireland, December 14, 1883.

plaining of loss of power in the entire of her left arm. She had been in good health up to the 23rd of last May, had never suffered from any form of menstrual derangement, and was quite able to do her work as housemaid and laundress with efficiency. Her family history was satisfactory; both her parents are living and healthy, and her brothers and sisters, in all ten in number, are free from nervous and other diseases. On the morning of the 23rd of May she states that after washing clothes in hot water for some time, she put her hands and forearms into cold water; she did this without any assignable reason. Immediately afterwards, on returning to the wash-tub, she found to her surprise that she could not feel the hot suds with the left hand. Alarmed at this, she proceeded to pump some cold water on her hand, but after a lapse of about five or six minutes she found that the feeling of numbness which had seized the hand extended up to the elbow. During the evening there was some weakness of the forearm, though not to any marked degree. She was able to milk ten cows, but she had some difficulty in holding any heavy weight in the hand. There was no pain of any kind experienced. On the following morning she found on awakening that the entire arm was cold and stiff, and that the feeling of numbness had extended up to the shoulder, but she still retained sufficient power in the arm to get through her morning work. After milking some cows the arm became powerless; she felt it as if it were frozen, and she was obliged to carry it in a sling. About a week afterwards the numbness extended backwards around the left shoulder, and in the course of twenty-four hours it spread over the entire of the left side of the thorax, and as far downwards as the crest of the left ilium. Over all these parts she had the disagreeable sensation of coldness, though not to the same extent as in the arm. Seven weeks after the beginning of the attack the numbness extended to left side of the neck, face, and part of the left ear, but in these parts there was no sensation of coldness experienced. From the beginning of her illness she was put under medical treatment. She had been a patient in the Union Hospital for three weeks, but, not finding any change in her condition, she desired to come to Dublin, and was sent to me by Dr. Ryan, of Limerick, under whose care she had been. She states that after leaving the Union Hospital she remarked that on taking the least exercise, and sometimes whilst lying in bed, the parts affected with numbness perspired freely, whilst the unaffected parts remained perfectly dry.

Her present condition, which has not altered materially since admission to hospital, I have tabulated under the following headings:—

Motor Function.—There is considerable paresis of the entire of the left arm, and the position in which it is held by the patient indicates great powerlessness. She cannot in the least degree open out her fingers, though she can fairly well extend the hand upon the wrist. The grasping

power registered by the dynamometer is only 7 lbs. She can with difficulty flex and extend the forearm upon the arm, but the movements of the shoulder are weaker and more limited than those effected at the wrist and elbow. There is no rigidity whatever evinced on any movement of the arm. The electrical contractility of the muscles to the continuous and faradic currents is normal. There is no evidence of motor paralysis anywhere except in the left arm.

Sensory Function.—The patient has still the feeling of coldness and numbness in left arm and left side of chest and abdomen, and she states it is increasing in area. Over the parts mentioned there is complete absence of tactile sensibility. She can bear without feeling the severest pinching of the skin, the application to the surface of a needle heated to redness, and the passage through the skin of a secondary induced current of great intensity, given with the brush rheophore. On the left side of the face tactile sensibility is lost as far as the mesial line, but common sensibility is not impaired to the same extent as in the arm. The completely anæsthetic parts show no tendency to bleed; a needle passed through the skin of the hand produced not the slightest oozing of blood.

Vasomotor Function and Temperature.—The left hand and forearm present a marked contrast in appearance to those of the right limb, being of a dusky red colour, which at times amounts almost to lividity, whilst the temperature is sensibly lowered. Within the past week some evidences of trophic disturbance have shown themselves in the form of localised, red, dense patches on the fingers, like in character to chilblains.

Special Senses ; Sight.—A very careful examination of the patient's field of vision was made by Mr. Story. He found it somewhat limited, but not to any marked degree. There was no evidence of colour-blindness. The conjunctiva and cornea of the left eye were completely anæsthetic. No reflex closure of the lids followed touching the cornea with the finger, though the touch produced a secretion of tears. There was no difference, in this respect, between the left and the right eye.

Taste.—The sense of taste is normal. The application of vinegar to the left side of the tongue is followed by a free secretion of saliva from the sublingual gland. There is no anæsthesia of the mucous membrane of the mouth or palate.

Hearing.—There are no signs of any implication of this sense.

Smell.—The sense of smell appears to be diminished equally in both nostrils. The patient could not at all distinguish the smell of vinegar, but she could recognise the odour of strong ammonia, which at once caused her to sneeze. There was complete tactile anæsthesia over the left anterior naris.

I may further add that the patient has no evidence of any disturbance referable to the generative system; there is no ovarian tenderness, and the menstrual function is in all respects normal. The girl is of a quiet,

retiring disposition, and is apparently most anxious to get cured, so as to be able to resume her former occupation.

The point of interest in the case lies obviously in the determination of the cause of the existing phenomena. It is, I conceive, impossible to fix upon any definite local lesion in the brain or spinal cord that would account for the motor and sensory paralysis which is present. The sensory paralysis involves a portion of the fifth nerve, the cutaneous nervous distribution on one side of the neck and thorax, part of the left side of the abdomen, and the entire of the left upper limb, whilst there is a very complete motor paresis of the arm and forearm. No local implication of the peduncular fibres or the fibres of Gratiolet by any lesion that we know of can explain this distribution of motor and sensory paralysis, whilst the mere assumption that the case is one of hysterical paralysis affords no explanation except we admit some morbid anatomical basis to satisfy the conditions which exist. The phenomena of hysteria have been accounted for by the assumption that the irritability of the cells in the cortex of the brain may be increased, diminished, or altogether lost, though we cannot as yet determine what it is that leads to their altered conditions. Most probably they are due to alterations in the circulation: thus any disturbance in the circulation through the middle cerebral artery would be liable to affect the function of the motor area, whilst if the posterior cerebral artery was implicated the sensory area in the cortex would have its nutrition disturbed. It must, however, be admitted that this view of the pathology of certain hysterical phenomena is purely hypothetical, quite as much so as the view that they may be accounted for by reflex or inhibitory influences. One fact seems to have been established by Charcot, that coarse morbid anatomical changes in the nerve centres may follow hysterical manifestations—as, for instance, in the case recorded by him where symmetrical lateral sclerosis was found to follow prolonged hysterical contraction of the limbs.

I may remark that the case is interesting, if it belong to the class of hysterical paralysis, because the train of symptoms most usually present in hysteria was absent. There were no evidences anywhere of hyperæsthesia, no disturbance of the uterine functions, no ovarian tenderness, and no psychical disturbance of any kind. The girl was most unobtrusive in manner, and gave no evidence of any morbid craving for sympathy or the existence of depraved ideas of any kind. The possibility of the case being one of neuritis,

commencing in the brachial plexus and extending to the cervical plexus and to the intercostal nerves, is suggested by the way in which the lesion commenced, and by the evidences of trophic disturbances which showed themselves on the fingers of the paralysed hand. This view, however, cannot account for the partial implication of the sensory division of the left fifth nerve, except, indeed, we were to admit the possibility of an extension of the neuritis *per contiguitatem* to some fibres of the fifth nerve which communicate on the face with branches of the cervical plexus.

ART. XXI.—*On Some Antiseptic Experiments in a Mortuary Vault.*^a By CHARLES A. CAMERON, M.D., F.R.C.S.I.; Vice-President of the Institute of Chemistry of Great Britain and Ireland, &c.

THE antiseptic properties of the mortuary vaults of the Church of St. Michan, Dublin, are well known. The bodies of persons placed in them appear to undergo a species of desiccation rather than of putrefactive fermentation and decay. There are mortuary vaults in other parts of the world in which a similar partial preservation of bodies takes place.

It has not been proved that the antiseptic properties of the vaults of St. Michan's Church are due to the excessive dryness of their atmosphere, or to the nature of the soil, or to any other assumed or suggested cause. I am not now going to discuss this question further than to suggest that the antiseptic properties of the vaults may be due partly to their undoubted dryness, partly to the great freedom of their atmosphere from dust. Some years ago it occurred to me that it would be desirable to ascertain whether or not the fermentation of unstable infusions of organic matter would take place as readily in these vaults as in ordinary places. Accordingly I made the experiment, of which the following are the details and results:—

An infusion of melon in distilled water was prepared; a portion of it evaporated to dryness left a solid residue amounting to 0·84 per cent. This liquid was introduced into eighteen of Tyndall's tubes, and the contents of the tubes were sterilised. This process was effected in the following manner:—The tubes were immersed for half an hour in a paraffin bath heated to 300° Fahr., and whilst

^a Read before the Sub-Section of State Medicine of the Academy of Medicine in Ireland, Thursday, April 10, 1884.