Periscope

In the repair of a wound, leucocytes attracted to the site of injury manufacture directly or indirectly the substances that determine the multiplication of fibroblasts and epithelial cells. If they are prevented from coming, no cicatrisation takes place. The growth of cancer is due to the special properties of malignant cells. These cells have the power, through the secretion of proteolytic ferments and acid formation, of producing substances which automatically compel them to multiply in an unlimited manner. In most of the cases, a resumption of cell activity within the adult organism must be attributed to the presence in the tissues of embryonic proteins or of polypeptids.

Although the body is composed of elements that are potentially immortal, it is, and will always be, subject to senility and death. Cells living as part of an organised community do not find in such an environment the conditions required for immortality. The only living forms enjoying eternal youth are the colonies of unicellular organisms which eliminate their metabolic products directly into the outside world. When an animal is composed of a mass of cells organised as a closed system, the process of ageing necessarily takes place. Immortality is incompatible with organisation. But organisation is necessary for the development of a highly differentiated nervous system and for the appearance of mental processes. Death is the price we have to pay for the possession of our brains. This price is not excessive, because the mysterious energy which is created by the cerebral cells, or expresses itself through them, is after all the greatest marvel of this Universe.

In spite of the fact that higher animals will never reach immortality, there is some hope that the duration of their life may be artificially increased. The solution of this problem, as well as of the far more important one of improving the quality of living beings, rests on the future progress of cell physiology and of the chemistry of nutrition. It is for this reason that I have considered it appropriate to lay before the members of this Conference the results obtained by one of the most powerful methods created for the investigation of cell functions. Through these experiments the immortality of animal tissues, and some of their fundamental properties, have been revealed to us. For the present, those findings are only of theoretical interest. But we know, as Claude Bernard has aptly said, that the knowledge of nature always leads to its mastery.

ALEXIS CARREL—Address at the Third Race Betterment Conference, Battle Creek, Michigan, 1928.

FORCED GRASPING AND GROPING.

Diagnosis of frontal tumour of the brain is rarely made with the confidence that sometimes attends localisation in other regions, because we possess few unequivocal signs of disease confined to this area.

Periscope

The authors of this paper discovered a definite sign in three cases, which they describe at length, which they are convinced is unequivocal evidence of a frontal tumour. They have collected ten further cases from the literature.

This special sign was found in the upper limb of the side opposite to the diseased frontal lobe and consists of the presence of involuntary grasping and groping movements. These are elicited by stroking gently across the palmar surface of the finger tips when the fingers make a slow grasping movement most obvious in the thumb and index finger. The movement is a combination of flexion and extension. If an object be placed in the open palm the hand closes firmly on it, and on attempting to gently withdraw it, the grasp tightens promptly and increases in power as the observer uses more and more strength to overcome it, until the grasp is so firm that the patient may be lifted from the pillow and dragged across the bed. The movements occur without the patient's knowledge, and even when his attention is drawn to them he is unable to inhibit them. No difficulty may be experienced in quickly opening and closing the empty hand. It occurs where there are no psychical disorders, where sensation is intact, and before any weakness or altered tone can be detected. It is not a manifestation of apraxia. The memory is unimpaired. The will to open the hand is there, the extensors are innervated powerfully but the flexors fail to relax.

The clue to this symptom is found in a study of grasping in the infant. The new-born infant shows reflex and persistent grasping. Later it begins to grope and reach for objects, but only closes the hand in response to contact. Later still it learns to pick up objects but is unable to relax the hand; finally both opening and closing movements are performed with ease. The earlier automatic and immediate reactions of early infancy come later under the control of a mechanism on a higher physiological level. When this control is removed by injury or disease, a reappearance of reactions analogous with those of an earlier type of development may be expected.

W. J. ADIE and M. CRITCHLEY (*Brain*, 1927, l., 142-170).

A. N. B.

TOTAL CYSTECTOMY FOR VESICAL CARCINOMA.

Papillary carcinoma of the urinary bladder remains intrinsic throughout the greater part of the course of the disease. In most cases, indeed, the actual death of the patient results not from metastases but from obstruction of the ureteral openings by the growth of the tumour and secondary bacterial infection of the kidneys. As local