

a circumscribed area of what were normal into cancerous cells, either under the influence of unknown causes in the body itself or through the mediate intervention of diverse external chronic irritants, which may be actinic, chemical, bacterial, mechanical, in short, are legion; the other factor is the constitutional condition of the living body, which may favour or hinder growth of the limited number of altered cells into a tumour. Extensive observations on in-breeding stocks of cancerous mice show that in-born pre-disposition plays only a very subsidiary, if any, part in determining both the one and the other; both are acquired. Cancer is a foe to all men, and the liability to it being in all probability acquired may ultimately be found to be avoidable.

A sudden revolution of all former views on the nature and treatment of cancer has not been effected. Much of the knowledge inherited can be utilised, much of it must be discarded. I have not dwelt on the initiative, the sacrifices, and the patient toil of my colleagues Bowen, Cramer, Gierke, Haaland, Murray, and Russell, nor on the enlightened and generous encouragement of the executive committee of the Imperial Cancer Research. It will be evident to all who read my colleagues' papers in the report how much they have contributed to raise the British national investigations of cancer to the premier position among similar institutions abroad. I have not made reference to work by other distinguished investigators, but full credit is given to them in the report itself. Slowly feeling the way from one certain step to another has often simply meant being met by new and unsuspected difficulties. Each hitherto unsuspected difficulty when overcome has, however, brought us more nearly face to face with the realities of cancer genesis, cancer growth, and the natural means by which the body protects itself against them; they all are better comprehended and nearer solution to-day than ever before.

E. F. B.

STUDIES IN ANTHROPOLOGY.

THE growing interest in the study of anthropology as a branch of university teaching is illustrated by the publication of the Proceedings of the Anatomical and Anthropological Society of Aberdeen, of which Prof. R. W. Reid is chairman, for the years 1906-8. The most important contribution in the volume is a report by Dr. G. A. Turner on the natives of Portuguese East Africa south of latitude 22°. The habits, customs, and mode of life of the three chief races in this territory, the Myambaams, Mtyopis, Shangaans, and Lourenço Marques Boys, are described chiefly with reference to the principal forms of disease which appear in their kraals. Incidentally, some remarkable customs of much interest to the anthropologist are discussed. Thus, if a man dies of a disease like consumption, which causes constant gasping for breath, the officiant at the burial has to open the thorax of the deceased in the middle line and remove both the lungs and heart. These are so placed in the grave that they will not slip back into the thorax when they are laid upon it. The rite is obviously a piece of sympathetic magic intended to save the person conducting the interment from contracting the disease.

Full details are given of the remarkable habit of the Mtyopi women, who produce, by means of cicatrization, lumps varying in size from that of a walnut to a pea along the breast, abdomen, and legs. The males of the same tribe file their teeth in the form of pegs, of which the rather doubtful explanation is suggested that it is a mark of primitive cannibalism, because they would be better able to tear human flesh if their teeth were filed. The existence of the practice, however, among tribes who are not cannibals seems to indicate that it is more probably one of the savage's misguided attempts at personal ornamentation. Witchcraft is common among these races, and the witch is much dreaded and often shamefully treated. Some natives, we are told, were in the habit of bringing suspected women for examination by the Portuguese commandant, who was asked to report on their alleged possession of supernatural powers. Finally, to put an end to such proceedings, he shrewdly gave as his verdict that while he was unable to detect anything extraordinary

in the women, he could not speak with such confidence of their male companions. This opinion abruptly brought the investigation to a close. The methods of circumcision are fully described, the most remarkable feature in the operation being the extreme cleanliness enforced upon the performer of the rite, a precaution which usually obviates the risk of septic poisoning.

Local anthropology is represented by a paper by Dr. W. R. Macdonell on the physical characteristics of the medical students at the University, a summary of a long series of measurements which have been taken with the utmost care. For the purpose of comparison the subjects were divided into two groups, those of pure Scotch descent on both sides and those where one or both parents were foreign to Scotland. The general result is that in physical characteristics the two groups are practically identical. They closely resemble Cambridge students and graduates in length and breadth of head, but they are slightly lower in stature. In all three characters they are uniform with the rural population of Aberdeenshire. The average growth between the nineteenth and twenty-third year of age is about 1¼ per cent. in all characters except auricular height, in which it is about 3 per cent. There is practically no difference between honours and pass men in length and breadth of head, and the Aberdeen head is not larger than that of other classes of the community.

HYGIENE—PERSONAL AND ENVIRONMENTAL.¹

THREE well-printed and well-filled volumes containing all the addresses and papers read at last year's School Hygiene Congress in London, and a summary of many of the important discussions, have been published recently. On a more leisurely and comprehensive review than was possible at the congress itself, one cannot but be struck with the small amount of irrelevant matter. School hygiene, involving, directly or indirectly, the whole series of systems of modern education, lends itself to the fanatic, the crank, and every other type of abstractionist. It is, however, with agreeable surprise that one finds here a large number of papers full of concrete experience, presented in a well-ordered way. Like the four volumes of the first congress (Nuremberg), these three form a most convenient conspectus of school hygiene at the present day. There are signs that the movement has become more mature, for the studies are in many respects more detailed. It is difficult to select papers for special observation, but there are many that will repay reading and re-reading. The general address by Bishop Wellton on "The Effect of School Training on Mental Discipline" contains many well-loaded aphorisms, but it is disconcerting to read:—"But, at whatever cost, the habit of unquestioned obedience must be created in the young. When I was headmaster of Harrow School, I used to say to my young colleagues, 'Begin by making the boys feel that you are prepared, if need be, to grind them to powder; then you may safely grant them as much liberty as you will.'" This is one ideal, but it is not the ideal of Froebel, of Pestalozzi, of Herbert Spencer, of Earl Barnes, of Stanley Hall.

The discussion on duration of lessons, sequence of subjects, and seasons of the year as affecting school work, contains good papers by W. H. Burnham (Clark University, Mass.), by M. Chabot (Lyons), who enters into much exact detail, and by Dr. L. Burgerstein (Vienna), whose well-known handbook on school hygiene is a standard. Another "set discussion on the lighting and ventilation of class rooms" contains a careful paper by MM. Courtois and Dinet. The general conclusion is that class rooms in France have too little cubic space, and that the air should be slightly warmed and free from dust.

Griesbach's method of estimating fatigue by the æsthesiometer was discussed by Dr. Altschul and others. Obviously, the method needs to be applied with skill, but, on the

¹ Second International Congress on School Hygiene. London, 1907. Transactions, Vols. I., II., III. Edited and arranged by the Ordinary General Secretaries, Dr. James Kerr and E. White Wallis. Price 5s. each volume; complete in three volumes, 12s. 6d.; bound 15s. net. Vol. I., pp. xxiv+351; vol. II., pp. xv+401-848; vol. III., pp. vi+849-1008. (London: Royal Sanitary Institute.)