

The Glasgow Meeting of the British Medical Association.

THE ninetieth annual meeting of the British Medical Association was held in Glasgow on July 25-28, under the presidency of Sir William Macewen, and its proceedings included much of interest to men of science outside the circles of medical specialism. In his address delivered on the evening of July 25 in the Bute Hall of the University, after welcoming the Association to Glasgow and referring to some of the great names associated with the University of Glasgow during the 471 years of its existence, the president put in a strong plea for a broader scientific outlook with less concentration on purely human phenomena. He referred to the want of scientific training and scientific habits of thought in the general community, and pointed out how this had led to the neglect of discoveries of the greatest practical importance. It had now been discovered that such a disease as syphilis was a preventable germ disease, which could be stamped out by means made known to them: "If this generation did not stop the disease it committed a crime against posterity." The main part of the address dealt with the enthralling subject of brain-surgery, of which the speaker is one of the most distinguished pioneers, and of which he is still an acknowledged master.

On the following three days the Association met in separate sections, housed in the medical and scientific departments of the University, and in various of these papers were read and discussions held which were of wide scientific importance. In the section of pathology an interesting discussion took place on "Animal and Vegetable Pathology in Relation to Human Disease," the openers being Prof. Hobday and Prof. Lang. The former dealt mainly with the importance of diseases communicable to man, such as glanders, rabies, anthrax, and tubercle. Prof. Lang discussed in a more general way the relations of vegetable pathology to animal, tending on the whole to sound a note of caution against the assumption that the principles underlying the processes of disease and healing are identical in the two kingdoms. He discussed the case of crown gall, on which important recent work had been done by Smith and Townsend, and by Robinson and Walkden. In this case tumours developed in relation to wounds such as those made in grafting, and it had been shown that the new growth was due to infection by a specific microbe *Bacterium tumefaciens*. The fundamental differences in organisation between the higher animal and the higher plant should, in Prof. Lang's opinion, be carefully borne in mind before instituting close comparisons between such tumours caused by *B. tumefaciens* and the malignant new growths of man. The probability was that the pathogenic processes of plants and animals had begun to diverge from one another at a very remote period of evolutionary time, and the value of the study of plant pathology to the human pathologist (and incidentally to the student of medicine) lay rather in its broadening the outlook than in its providing the bases for direct inferences from one subject to the other. In the course of his paper Prof. Lang referred to the fact that the study of ancient plants obtained from the Old Red Sandstone of Scotland had disclosed injuries, due apparently to irritating gases, and healing processes, bearing the closest similarity to what may be observed in modern plants after exposing them to irritating vapour. This fact is obviously of extraordinary biological interest as being the most ancient case of pathological reaction which has been subjected to histological investigation.

The discussion just mentioned had its supplement

on the following day in the new but highly successful section of micro-biology, sitting under the presidency of Dr. R. M. Buchanan, when Prof. V. H. Blackman opened a discussion on "Some Similarities and Dissimilarities in the Micro-biology of Plant and Animal Diseases." Prof. Blackman also was inclined to emphasise the differences rather than the resemblances between the diseases of plants and animals. He gave an interesting general review of the relations of parasite and host in the parasitic diseases of plants. The immunity of plants towards hostile micro-organisms was a natural immunity: the acquired immunity so characteristic of many human diseases and forming the basis of modern serum-therapy was quite unknown in relation to specific diseases in plants. Immunity was often of a passive kind, such as is provided by a resistant cuticle or cell-wall, successful invaders in such cases making their way in through natural openings such as the stomata, or through special perforations made by their own activity. In other cases the immunity was of an active kind, involving a distinct physiological reaction on the part of the plant. Thus in cereals immune to "rust" the cells have developed a hyper-sensitiveness to the proximity of the fungus, dying upon its approach, before they can be penetrated by the parasite. In other cases the host imprisons the invading parasite in an envelope of impermeable cork cells. Prof. Blackman also directed attention to the existence amongst plants of diseases due to so-called ultra-microscopic organisms. Two diseases of this type occurring in the potato had recently been found to show a further analogy with diseases of a similar type occurring in animals in that they were insect-borne, being transmitted by aphides or green-fly.

The "ultra-microscopic" or "filter-passing" organisms were also to the fore at other meetings of the section of micro-biology. On Wednesday, July 26, Dr. F. d'Herelle, of the Pasteur Institute, opened a discussion on his theory of "Bacteriophage"—a theory formulated to explain the fact that among the contents of the alimentary canal there always exists a "something" which possesses the power of dissolving bacteria of certain definite types, e.g. in the case of man bacteria of the coli-typhoid-dysentery group. This "something," sometimes called an enzyme, sometimes given the more definite name bacteriolytin, is of uncertain origin. The balance of probability would probably appear to most biologists to be in favour of its being formed by the activity of the host, its formation being part of the general defensive mechanism of the body. Dr. d'Herelle, however, believes it to be formed by an ultra-microscopic enemy of the bacteria, which he names *Bacteriophageum intestinale*, and he supports his theory by a mass of striking arguments. Dr. Twort, of the Brown Institute, gave an account of his earlier work, in which he determined the existence of a similar bacteriolytic substance in cultures of *micrococcus*. A point of much interest emphasised by Dr. Twort, but usually ignored by biologists, is the probability that ultra-microscopic organisms exist in abundance free in nature, and are not confined to a parasitic existence.

In the discussion on Thursday, July 27, upon the "Bacteriology of Influenza," an important rôle was again assigned to the ultra-microscopic type of organism. Dr. Mervyn Gordon recalled that a large number of diseases, such as measles, mumps, small-pox, were now attributed to these organisms, measuring under 0.5μ in diameter, to which Prowazek had given the name Chlamydozoa. Strong evidence had recently been adduced that the real causative agent

of common cold was an organism of this type, measuring $0.2-0.3\mu$ in diameter. Dr. Gordon gave an account of his recent researches, which are entirely confirmatory of the view that influenza is similarly due to organisms of this type, which can be obtained from the nasal and pharyngeal secretion during the first three days of the disease, though not later.

The section of physiology met on two days only, each being taken up mainly with an interesting discussion. The first, on the "Etiology of Rickets," opened by Dr. Leonard Findlay and Prof. Mellanby, was mainly of medical interest, but it left two distinct impressions on the lay mind: (1) That there is still much difference of opinion in regard to the cause of this blot on the health of our great cities, and perhaps too great a tendency to the belief that one single factor is responsible rather than a complex of factors; and (2) A strong impression of the valuable return which is bound to accrue to the community through the activities of the Medical Research Council under the guidance of its present secretary.

The other discussion in this section had for its subject "Basal Metabolism," *i.e.* the metabolism during complete rest. In his interesting opening address Prof. Cathcart incidentally emphasised the extreme complexity and elusiveness of the phenomena grouped under that blessed word metabolism—facts which are liable to be accorded insufficient weight by biological writers and teachers.

One of the most important features of the Glasgow meeting was the discussion which took place on Friday morning, July 28, in the section of medical sociology upon "Alcohol as a Beverage in its relation to certain Social Problems"—a discussion which stood out in strong relief from most discussions on this much discussed subject from its including moderate and calmly reasoned statements from scientific investigations of recognised status. The discussion was opened with an admirable introductory statement by Prof. Mellanby, of Sheffield, in which he laid down the basic facts regarding the physiological action of alcohol. As a drug it was to be regarded as a narcotic, acting on the cells of the cerebral cortex and slackening its control and discipline over the lower nerve centres. It was as a narcotic drug that alcohol in small doses found its usefulness in human life, dispersing temporarily worries and troubles, and so facilitating bodily functions that were known to be interfered with by anxiety. As a food the value of alcohol in moderate amounts rested on the fact that it is rapidly absorbed and to the extent of about 98 per cent. oxidised so as to set free heat. Experiment showed that as much as 40 per cent. of the heat lost from the body during a given period could be supplied by alcohol, but the practical utility of this was to a great extent neutralised by the poisonous drug action. Under abnormal conditions, however, such as those of Diabetes mellitus, the food value of alcohol in small doses could be utilised to take the place of sugar. Dr. J. T. MacCurdy, of Cornell, speaking as a psychiatrist, emphasised the fact that "the Alcoholic is, before he ever touches a drop, an abnormal person," and also emphasised the great difficulty in carrying out a just

comparison between the two evils of such abnormality finding expression in alcoholism or in some other form of vice or crime. From the purely scientific point of view one of the most interesting contributions to the debate was that from Prof. C. R. Stockard, of Cornell Medical College, which told of his experiments, extending over a long series of years, on the influence of alcohol in causing abnormalities of developing eggs and embryos. His experiments on mammals (Guinea-pig) were of particular interest in demonstrating how heavily dosing the parents with alcohol produces marked effects in diminishing fertility, in increasing pre-natal and early post-natal mortality, and in causing defectiveness of the offspring. If we are justified, as no doubt we are, in extending Stockard's results to man, we are afforded incidentally a fine illustration of natural selection at work in the civilised community—for these individuals that are afflicted with the particular form of "unfitness" that finds its superficial expression in drunkenness are seen to be subjected to a severe process of weeding-out during foetal and infantile life which works in the direction of keeping up the standard of the surviving stock.

It must not be thought that the proceedings of the sections exhausted the activities of the meeting. An admirable "Museum" was got together by Prof. Teacher, while Dr. Dunkerly arranged a microbiological exhibition, which included beautiful series of Leishmania and of Spirochaetes exhibited by Sir Wm. Leishman, and Dr. Connal's series of developmental stages of *Loa loa* in the body of the transmitting fly. Numerous interesting demonstrations were given at the afternoon meetings of the various sections, and the meetings concluded on Friday evening, July 28, with the "popular" lecture—entitled "The Physician—Naturalist, Teacher, Benefactor"—delivered to a large audience by Prof. Graham Kerr.

The gold medal of the Association was presented to the Right Hon. Sir. T. Clifford Allbutt and to Lieut.-Col. A. Martin-Leake at the general meeting on the evening of July 25. The presentations were made by the president on behalf of the association. The medal for distinguished merit was instituted by the association at its annual meeting in Manchester in 1877. The medal is awarded on the recommendation of the Council to some person who shall have conspicuously raised the character of the medical profession by scientific work, by extraordinary professional services, or by special services rendered to the association. On this occasion the medal was in each case accompanied by a testimonial or address stating the grounds of the award.

The Stewart Prize of the Association was presented to Dr. J. C. McVail at the same meeting on July 25. The prize was founded by the late Dr. Alexander Patrick Stewart, who was among the earliest to give attention to sanitary questions and also to distinguish between typhus and typhoid fever. The primary object of the Stewart Prize is to afford recognition of important work already done or of researches instituted and promising good results regarding the origin, spread, and prevention of epidemic diseases.

Broadcasting in America.

MR. A. P. M. FLEMING, manager of the research and education departments of the Metropolitan-Vickers Electrical Co., Ltd., who has been closely identified with the development of radio broadcasting in Great Britain, recently attended a conference of the American Institute of Electrical Engineers at Niagara Falls as a representative of the

British Institution of Electrical Engineers and the British National Committee of the International Electrotechnical Commission. He took advantage of the opportunity while in America to make a close investigation of the position of radio telephony extending over a period of two months, and, in addition, studied the trend of public taste and opinion