The concept of capillary permeability being dependent on pores of varying sizes is discussed and repudiated.

Modern work using radioactive isotopes to measure capillary permeability is reviewed and reasons advanced for considering endothelial permeability as being comparable to cell membranes in general.

PSYCHOLOGY AND THE LAITY

THE century between the two great Exhibitions has seen the emergence not only of the science but also of the profession of psychology, and this is the keynote of the presidential address of Prof. C. A. Mace to Section J (Psychology). A 'ministry of the mind' has been created which is in many respects parallel and co-ordinate with the 'ministry of the soul' and the 'ministry of the body'. The acceptance of responsibilities by the psychologist in education, in industry and in the personal lives of men might seem to constitute a challenge to the vested interests of sagacity and experience, and to threaten yet further restrictions on individual liberty.

The surest defence against the danger, if danger there be, lies in the education of an understanding but critical laity. It is, indeed, upon the existence of such a laity that the success of the new profession must depend. The psychologist works indirectly, since when principles of psychology need to be applied it is almost always the layman who has to apply them. If reassurance be needed, it may be found in some measure in the history of the science in Great Britain. It has its roots in British natural history. The story of its growth could almost be told through the lives of three generations of the Darwin family. Erasmus Darwin was the first of the moderns to conceive the science of psychology as an integral part of biology. His grandson Charles applied the methods of the experimental naturalist to psychological problems. The other distinguished grandson of Erasmus, Francis Galton, could fairly be described as the founder of modern experimental psychology, since in his work, more than elsewhere, may be found the beginnings of so many of the most vital contemporary lines of research. He was the first of the experimental human naturalists—a psychologist of the field as well as of the laboratory. Among our near contemporaries, Charles Myers belongs to the same intellectual lineage.

In this tradition two features are outstanding. Erasmus Darwin, Galton and Myers did much to bridge the chasms that divide the arts, the sciences and the technologies. All were men of science who worked in close association with the scientific laity. The future of psychology, perhaps more than that of any other science, depends upon the preservation of this British tradition—since it is both *by* the layman and *to* the layman that psychology is in the main applied.

There is, accordingly, a distinctive approach in psychological research. The need for 'multidisciplined operational research'—the combined attempt of many specialists to solve practical problems in a scientific way—is now widely recognized. But in psychological research the layman who possesses special and relevant experience is an essential member of the research team. In many such cases this relevant experience may be in the field of the arts or the technologies. This approach is important in so many of the problems of technological education. It is important, too, for the solution of the problems of 'consumer assimilation' of the results of scientific research in every field. The piling up of the unapplied findings of scientific research is due in the main to the lack of machinery for co-operation between those who make discoveries and those who can apply them. The problem is especially acute in the field of the human and social sciences. We need a new conception of the function of a psychological laboratory or institute for psychological research. Such an institute needs to combine the features of a laboratory with those of a field station—to which intelligent amateurs will come, not for ready-made solutions to their problems, but for working hypotheses to test in their lives and daily work.

The need for co-operation between professionals and the laity gives additional significance to the current demands that scientific findings should be expressed in the common language of all educated men. The psychologist most of all needs to be bilingual—using whatever technical terminology he prefers in his purely professional circles, but speaking also in the language of the common educated man. The demand is not exacting; because although psychology is a very difficult subject, it has nothing in it which cannot be expressed in language which an intelligent fifth-form schoolboy can readily understand. Psychologists do not write cryptic prescriptions. They have no secret remedies. All they know they can and must tell. The function of the professional psychologist is not to cultivate a mystery but to communicate understanding, first of all to parents, then to teachers, and then to all who in any way are concerned with the supervision and management of men. So to report the facts of science is in the British tradition. It is in virtue of this tradition that the British Association is a British association—an association of professionals and laymen.

MYCOLOGY OVER A CENTURY

A REVIEW of the advance of mycology over the past hundred years, which constitutes Prof. W. Brown's presidential address to Section K (Botany), must be to all intents and purposes a review of the whole subject as a branch of science. Taxonomic mycology had taken shape in the early part of the nineteenth century, at least as regards the larger fungi; but any scientific treatment of the much larger number of microfungi (including bacteria) was impossible so long as it was held that such small organisms arose by spontaneous generation. A little less than a hundred years ago Pasteur established the biological theory of fermentation and disease, and the parallel work of de Bary and the Tulasne brothers laid the foundations of modern mycology.

The earliest researches took the form of mapping out the life-cycles of fungi, with the ultimate object of fitting the group into the scheme of Hofmeister, which had already been shown to apply to all groups of plants from the Bryophytes upwards. The task was difficult, on account of the reduction and even elimination of sex organs in the higher members of the fungal series, and it was only towards the beginning of the twentieth century that advances in cytological technique made the complete elucidation of certain life-cycles possible. These studies form the basis of the modern classification of fungi and of views regarding their evolutionary descent.

Much work has arisen from the discovery of heterothallism in fungi. Many of them exist in two