

action of the vasoconstrictor nerves, but it is now shown that probably there is a reduction of the general vasodepressor reflexes which arise from the carotid sinus and the cardio-aortic region. The evidence rests on the fact that severance of the reflex arcs results in increased venous flow and cardiac output, while circumstances which reduce vagus activity also reduce the activity of the general vasodepressor reflexes. Thus just as the vagus may be looked upon as determining the range of cardiac activity, so the depressor reflexes determine the amount of blood available for the heart.

Hitherto, it has been considered that these two mechanisms are concerned primarily with the maintenance of a mean arterial pressure, but several facts suggest that in exercise the loss of their sustained activity is of more importance than their maintenance. These are their great variability in different animals and under different experimental conditions, the profound effect of loss of the vagus on efficiency in exercise and the fact that the arterial blood pressure rises in spite of these mechanisms.

### The Patterns of Experience

THE controversies in which psychologists are now engaged are a sign of life and progress in the science, but an eclectic position is reasonable, provided that one maintains a point of view sufficiently unifying to avoid the danger of becoming a mere collector of odds and ends of fact and theory. Such a point of view appears to be afforded by the hypothesis of mental schemata, originally suggested by Sir Henry Head, and since advanced in other connexions by Prof. F. C. Bartlett and Mr. A. W. Wolters, who has chosen this topic for his presidential address to Section J (Psychology).

At the Norwich meeting of the British Association, Prof. E. Rubin demonstrated that there are predetermined 'ways of seeing', and that perception can be shaped by factors extrinsic to the material experienced. Under the influence of such factors, the mind actively patterns its experience, so informing the sensory material as to make the percept consistent with certain subjective principles. This implies that the patterns of experience are already latent in the subject's mind as he confronts the world. How they can so exist is partly explained by a consideration of the patterns of behaviour as exhibited in instincts and skills. The first necessity of every organism is to remain alive, and this task requires that it should master its environment and make it manageable. To this end it develops skills, which are qualities of the organism in virtue of which it is prepared to deal

more adequately with situations of a particular kind, though prepared only in an outline, flexible manner. Such a preparation for reaction, dependent upon the integrated effects of previous experience, has been termed a *schema*, and it now appears that Rubin's 'ways of seeing' can be brought under the same conception. Thus perception, memory and conceptual thinking have been brought under common principles. They are reactions preliminary to further behaviour, and depend upon the existence of pre-formed schemata.

The same conception can be applied to problems of social psychology, for society is only actualized in its impact upon individual lives. Society becomes a psychological datum because it exists immanently in the minds of its members. A social group exists as such in virtue of conative tendencies developed by individuals in the course of accommodating their behaviour to each others', so that an observable group pattern is the product of the skill-characters, or behaviour schemata, of the constituent members. Often the schemata are not open to inspection or description, having been developed for other purposes. The difficulty of stating the principles underlying the English Common Law is psychologically explicable if it is considered that they are the ways of living together developed by a nation.

The subject-matter of psychology is taken to be the activities of the individual organism striving to maintain its full integrity. To obtain control of its universe it must organize the material of experience into patterns manageable by it. To this end it develops skills which we have termed schemata, and the system of a person's schemata embodies all his experience up to the present moment, and determines the direction and pattern of his future experiencing. Thus in outline the 'ways of seeing' and the 'ways of living' are reducible to a common psychological genus.

### Uses of Fungi

IN his address to Section K (Botany), Mr. J. Ramsbottom deals with many of the ways in which fungi have proved useful to man.

Edible fungi have been known from the earliest times, but only three species have been successfully grown on a large scale—the common mushroom (*Psalliota campestris*) in Europe and America, shiitake (*Cortinellus Shiitake*) in Japan, and *Volvaria volvacea* in many parts of the tropics.

Wood infected with fungi is used for various purposes, the green wood of Tunbridge Ware being the best known—the colour being due to the mycelium of the discomycete, *Chlorosplenium aeruginosum*; 'brown oak', much valued by