

these patients is invaluable to the nurse. As a well-known author says, "Here she is given the opportunity to see certain behaviour mechanisms under the magnifying glass of disorder." She must be able to understand the elementary facts of behaviour if she wishes to be able to predict and control the behaviour of mentally normal patients.

Historical.

For the sake of simplicity we must commence at the beginning and confine ourselves to essential facts. Psychology is not a new subject. It is new as a science. Many hundreds of years ago the Greeks and Romans were conversant with the principles of Psychology. In those days, however, it was combined with its sister, philosophy, and was used more or less as a means of relaxation and a plaything. It was not put to any practical use. Aristotle, one reads, conducted psychological experiments.

The development of Psychology on a scientific basis dates from the year 1875, when Wundt of Heidelberg started the first laboratory for psychological investigations. In more recent years the subject has proved to be of universal value. The conversion of bare facts into practical use is the task of applied Psychology. The understanding of human nature enables the psychologist to be of assistance to mankind, and we find men of the most varied occupations calling to him for help. The *advertiser* uses Psychology to modify the behaviour of the general public so that after reading his advertisements they will buy his goods in preference to other people's. The *Socialist leader* uses it to convince a body of otherwise well-behaved and law-abiding citizens that his principles necessitate the stagnation of industry and the wholesale destruction of property. *Controllers of traffic* are able by its aid to predict the behaviour of crowds. In the sick room and ward there is also behaviour to be controlled. There is the patient who refuses his medicine. His behaviour needs modification. There is the sleepless patient with the sedative habit. All he may need is a nurse who is capable of using Psychology. Any one with nursing experience can add to these innumerable instances.

Definition.

"PSYCHOLOGY IS A SCIENCE WHICH ENABLES US TO UNDERSTAND, CONTROL, AND PREDICT THE BEHAVIOUR OF INDIVIDUALS."

Our present knowledge of the subject has been gained by two methods, both of which are based on that most reliable faculty, Observation. Observation may be of two kinds, namely (1) of one's own personal experiences. This is known as *Introspection*. (2) On the other hand, we can examine the experiences of other people by studying their behaviour. We arrive at the conclusion that there is a strong similarity between our own behaviour and that of other people under given conditions. We have, however, to study the behaviour of the lower animals in order to provide ourselves with our foundations. We have to remember that the behaviour of the simplest organism is comparable with, and essentially similar to, our own, except in as far as complication has taken place during Evolution. The basis for the complex behaviour of many is to be found in the various relations which exist between organisms and their surroundings. It is essential to have a clear understanding of this *Biological Basis of Behaviour* before attempting to control and predict the behaviour of human beings.

Dr. Forsythe then described the structure, appearance and habitat of the Amoeba, one of the simplest living creatures which, nevertheless, displays phenomena comparable with those of the most highly developed creature—Man. Illustrating these phenomena by diagrams on the blackboard, he said:—

These phenomena are directed towards preservation

of the organism itself, and preservation of the species to which it belongs. All activities tend in this direction.

Functions of the Amoeba.

1. METABOLISM. Nutrition, conversion to energy, excretion of waste products.
2. REPRODUCTION. Binary fission.
3. SENSITIVITY. To touch, chemicals, light, heat, etc.
4. CONTRACTION. Movement.
5. CONDUCTION. Stimulation of one part produces movement of another part.

In the higher animals such as Man, these five characteristics are present in practically all the body cells. The tissues of the body in which irritability is most marked are the nerve tissues.

Attributes of Mental Life.

I want to ask you now to regard the behaviour of the amoeba from another point of view. We have observed the reaction of the organism to stimulation. It has been aware of a change in its surroundings; the psychologist calls this awareness *Cognition*. It appreciated an unpleasantness in its changed surroundings. This feeling is known as *Affect*. And in response the amoeba moved away from the source of annoyance. In this it showed a striving or, as we know it, *Conation*. These three attributes, Cognition, Affect and Conation, form the foundations of all mental processes, and we shall be able to distinguish them over and over again as we pursue the study of human behaviour.

Tropic Action.

The most prominent function of the Amoeba is *Movement*. This movement is not aimless; it is essentially *purposive*. It is not passive; it is active. It goes away from an unpleasant thing, *e.g.*, from salt put into the water in which it swims, or towards a pleasant object, *e.g.*, a food particle. This type of behaviour is characteristic of certain other animals, and it is also exhibited by plants. It has been described as *Tropism*, and is either *Positive* or *Negative*, according as whether the movement is one of attraction or repulsion. Certain plants exhibit positive tropism towards light. That is, they turn their leaves to the sun. The object of this mechanism is obviously to allow the plant to derive the most benefit from direct sunlight upon which it thrives. When an organism is repelled by harmful chemical influences, it is said to display negative tropism.

Tropic behaviour is, therefore, protective, and compensates for the lack of a nervous system.

Proceeding now to a higher grade in the animal scale, we are not surprised to find a more complicated system of behaviour present. There is an immense gap in our knowledge of what took place in the interval between unicellular life such as we have just been considering and the mammalian era. This gap probably represents millions of years in the evolutionary process.

We suppose then that during this dark period appeared a form of life which possessed a rudimentary nervous system. Its behaviour, however, must have been of a more advanced order than that of the unicellular organisms.

Reflex Action.

Now the type of behaviour exhibited by this pre-mammalian type of life depended solely on Reflex Action. Physiology tells us that this is "*An immediate involuntary response to a stimulus*," and postulates a certain anatomical basis. Reflex action is *unlearned* and is carried out by a mechanism already laid down when we are born. These actions are largely mechanical; there is no more thinking necessary for a reflex action than the trap needs to think when the mouse steps into it. You may be aware of a movement *after* it has taken place, but it can take place without any control from the higher centres in the brain, and indeed it often occurs in spite of one's efforts to avoid it.

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