

INNATE AND LEARNED BEHAVIOUR

OR

ANIMAL BEHAVIOUR

INTRODUCTION — In this vast arena of living universe, starting from the simple and unicellular protozoans to the most complex and multicellular mammals.

With the purpose of survival, animals exhibit their varied activities, i.e. locomotion, reactions, change in posture etc. All such varied activities in general are known as behaviour, and the branch of science which deals with study of animal behaviour is known as ethology.

Since the day of evolutionary wizards Charles Darwin, Lamarck and Spencer, it has become increasingly possible to explain the role of the behaviour in survival and reproduction of animals. Loeb and Morgan explained the behaviour of animals on the basis of physico-chemical properties. Just as an animal's eyes, ears, legs or wings can be consid-
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as mechanisms designed to enable the animal to cope with its particular mode of life. Similarly there can be certain controlling factors of behaviour.

The scientific study of animal behaviour has been revived mainly due to the findings of Lorenz and Tinbergen.

TYPES OF BEHAVIOUR — It can be divided into two types

1. SPECIES CHARACTERISTIC BEHAVIOUR —

It includes the stereotyped behaviour patterns distinctive of particular species.

For example, courtship and copulations of many animals.

2. INDIVIDUAL CHARACTERISTIC BEHAVIOUR —

It includes the behaviour learned by an animal during its life time. For example, the tricks performed by individual dog.

An act of behaviour must be seen as the result

of an interaction between individual genetic constitution and its environment certain fundamental processes enter into an animal's behaviour. These include —

(i) **REFLEX ACTION** — It is simple act of behaviour in which some kind of stimulus evokes a specific, short lived response.

For example, if you enter into a garden where hundreds of worms living on the ground, if you touch one, it quickly disappears in burrow. Even a slight vibration of the ground is sufficient to cause it to happen. The escape response of the earth worms is clearly adaptive to circumstances in which it lives.

(ii) **ORIENTATION** — In the case of orientation response the organism takes up a particular position in relation to a stimulus. This kind of behaviour is obviously

important in the natural environmental for it enable organism to move towards desirable stimuli and away from harmful one.

For example, green flagellate towards the light and spermatozoa towards the female eggs.

Frederick and Green (1940) proposed a system of classification which is supported by recent workers such as Hinde (1970), Adler (1971). The orientation is further subdivided mainly into two-

(a) **KINESIS** — This type of behaviour occurs when an animal is subjected to an unpleasant stimulus acting from no particular direction under the circumstances the speed of random locomotion is increased. This results in the organism quickly getting back to a region where the noxious stimulus is less intense. The speed of movement

It then decreases so that it tends to remain in the more agreeable situation. This kind of behaviour can be seen very clearly in wood lice.