

Communication

Animal communicate with each other and informations of various sorts passes between them. Actually it is a signal which may transmit information about the outside world, as in the chirping of crickets, roaring of tigers, singing of birds, monkey calls, barking of dogs, distinctive smell of urine of cats and dogs, coloured feathers of birds and beautiful wings and fins of butterflies and fish.

Communication :

- (1) Biological communication is defined as action on the part of one organism that alters pattern of behaviour in another organism.
- (2) Communication is transfer of information from one individual (producer or signaller) to another (receiver) that influences the listener's behaviour.
- (3) Communication involves an action on the part of one animal that alters the behaviour of another (Wilson 1975). After receiving the signal, the second animal modifies its own behaviour accordingly.
- (4) Communication is a fundamental property of all social systems. It occurs at several levels between individuals, among members of groups and societies and among societies that live in the adjoining territories.
- (5) Communication-according to Scheflen (1964) includes "all behaviours by which a group forms, sustains, mediates, corrects and integrates its relationship."
- (6) Communication is mutually beneficial transfer of information between signaller and the receiver when they have the same interests.
- (7) Communication occurs when signals are given out by one animal which are used by another to predict the behaviour either of the first animal or of something else in their environment, after perceiving the signal, the second animal modifies its own behaviour accordingly.

Components of communication

Communication among animal is complex and can be analysed into following components:

1. **Sender:** The member which gives off a signal.
2. **Receiver:** The individual who is affected by the signal.
3. **Channel:** It is the pathway of passing signal.
4. **Noise:** Background activity which is emitted, transmitted and received along the signal.
5. **Context:** It is the particular setting in which a signal is emitted, transmitted and received.

6. **Signal:** The information in question.

7. **Code:** It includes complete set of language of possible signals and contexts.

Advantages of Communications

- (1) It prevents agonistic interactions and promotes the establishment of social status between conspecifics.
- (2) It facilitates social animals to herd at dusk or at the time of danger.
- (3) It helps in recognition of species, individuals, neighbours, castes (social insects), kin, and demes.
- (4) It facilitates courtship and mating between males and females of same species through acceptance or rejection.
- (5) It accelerates coordination among hunting animals.
- (6) It plays crucial role during parental care.
- (7) It alerts kins in a social group through alarm calls.

Types of Communication

According to the type of signals the following type of communication have been recognized :

Auditory communication

Animals make different sounds to communicate. Sound is the most used form of communication in animals. Sound signals are very specific. A particular function is associated with a specific signal. Proper vocalization in vertebrates and noises made by invertebrates using special structures are included in this category.

Crickets, birds, amphibians, bats, whales, primates all have extensive use of sound (Acoustics). The deer give alarm calls for approaching tiger; male frogs call to attract females; bats use echolocation as a form of communication as well as for hunting. Bird song serve both territorial and courtship functions Other animals use sounds to communicate danger, reproductive readiness, and species recognition.

Sounds are waves of alternating pressure changes that pass through a medium; air, water or solid. The intensity or volume of sound is measured in decibels (dB).

Visual communication

Changes in posture and colour are the main ways that animals communicate through channel. Light signals detected by the eyes come into this category. Gestures, postures, and facial expressions, courtship and aggressive displays in many birds, fish, amphibians and mammals, raising of hair and colour change are some of the good examples of visual communication.

There are two types of visual communication.

1. Badges: This involves, morphology. They are structural adaptations. This includes the colour and shape of the animal.

2. Displays: They are the acts animals do to communicate. They are behavioral adaptations. Visual communication is most used during agnostic behaviour and in courtship. Wolves and dogs use visual behaviours such as lowering their tails and lying on their backs to show submission. Male stickleback fish change colours dramatically during breeding season.

Some animals have exceptional colour vision, others have poor colour vision. Some have exquisite night vision, others have poor night vision.

Visual communication is best seen in monkey and apes and certainly the best described and understood. Visual signals in non human primates include.

- (1) Postures
- (2) Gestures (including facial expressions)
- (3) Movement of tail
- (4) Pile-erection.

Chemical or Olfactory communication

The olfaction (i.e. smell, pheromone) as a signal of communication is generally used between sexual partners, between predator and prey, in locating food and water resource and also in the advertisement of the information among members of a society. Substances that can be picked up by the sense of taste or smell are **pheromones**. They are produced by special ducted glands and are proteinaceous in nature. Found widely in insects and mammals.

Olfactory signals are the primitive form of communication among animals. Pheromones are powerful, a few pheromone molecules released into the air or water through urine, sweat, or other bodily secretions are enough to influence another animal's behaviour. Unlike visual, sound, or tactile signals, pheromones can persist in the environment for a long time. This is important for many **cat species**, for instance, because females release pheromones signalling fertility without knowing when the males will receive them. Because of their long duration, scent has the great advantage that it can be left to transmit information while the animal that made the signal goes away and does something else. It is, however, a relatively slow form of communication. Territorial marking is a very good example of this type of communication.

Tactile communication

Communication resulting from actual physical contact are through tactile signals. Many invertebrates and few vertebrates have been found to transfer message

through physical contacts. They are used extensively in social bonding, infant care, grooming, and mating. Elephants use tactile signals during courtship. The trunk plays an important role. The type of signal most frequently used by a particular species is directly correlated to the sensitivity of their receptors. Tactile Communication is when animals use touch in one or the other ways to communicate something to each other. In our day-to-day life we see a cat rubbing its body against ours or our pet dog offers us its paw this way they are communicating their affection towards us. Preening, grooming are the consequence of this form of communication.