

SENSATION

Sensation : Its attributes

Sully defines sensation as a simple psychical phenomenon resulting from the stimulation of the outer end of an afferent nerve (i.e., in-carrying nerve), when this is propagated to the brain. A sensation, thus, arises by the interaction of three factors, viz. (1) the stimulus, (2) the body or the nervous system, and (3) the mind. When we see a rose, the light waves emanating from it, which are the stimuli in this case, excite the outer end of the optic nerves and the excitation is carried inwards to the brain. We have then a change in our consciousness and we have sensation of the colour of the rose.

A stimulus may also be defined as a force or any agent which excites a sense-organ or the outer end of a sensory nerve.

A sensation, on analysis, is found to involve the following characteristics :—

(1) Sensation is the simplest unit of knowledge. It supplies the raw materials of knowledge.

(2) Sensation is aroused by the interaction of an external stimulus and the sense organ.

(3) Hence, every sensation implies a *not-self* as its cause.

(4) Sensation gives us the knowledge of the external world.

(5) Sensation is a comparatively *passive* state of the mind. We do not create sensation. Sensation is forced upon us. When there is a sound, we cannot help hearing it.

(6) Sensation is an *objective* mental state. A sensation of colour, though a mental state, refers to the qualities existing in an object.

Attributes of Sensation : The attribute of sensation may be broadly divided into two,—*quality* and *quantity*. One sensation may differ from another in quality. Sensations of colour, sound,

taste, smell, heat and cold differ from one another in quality. *Qualitative difference is difference in kind.* Quality of sensations may be again *generic or specific.* All sensations due to stimulation of the same sense organ form one genus and have the same generic quality. All sensation of sound have the same generic quality, so do all sensations of vision, all sensations of taste and all sensations of smell. Thus the difference between one class of sensation and the other is called *generic difference.* Again the difference between the various sensations arising from the stimulation of the same sense organ is called *specific difference.* Sensation of red differs from the sensation of blue in specific quality.

Quality of sensation includes *intensity, duration, or protensity, extensity and local character.* Sensations thus possess quality, intensity, protensity, extensity and local character.

Sensations belonging to the same quality may differ in *intensity.* A bright light produces intense sensation of light, and a dim light produces a faint sensation of light. The loud report of thunder differs from a whisper in intensity. The former is more intense than the latter. All sensations differ in intensity. The intensity of sensation depends on the intensity of the stimulus.

Sensations of the same quality may also differ in *protensity or duration.* Every sensation lasts for some time. A sound sensation may last for a longer or shorter period. The whistle of a factory lasting for a minute feels different from a sound lasting for a few seconds. Here the two sensations differ in duration. Generally, the duration of a sensation depends on the duration of stimulus. In some cases, however, the sensation lingers even after the disappearance of the stimulus.

Sensations have another attribute of *extensity.* Extensity means *voluminousness or spread-outness.* Extensity of sensation depends on the quantity of the area of sense organ stimulated. Extensity of sensation is clearly discernible in the case of visual and tactual sensation. Dip your finger in cold water, you have a cold sensation. But when you dip your hand in the cold water you will get a cold sensation more extensive than the former.

Sensations are found to possess another attribute which is known as *local sign* or *local character*. Local sign is a peculiar attribute which distinguishes a sensation arising from one part of an extended sense organ from the same sensation arising from another part of the same organ. Different localities of the same sense organ yield different sensations. This attribute is also mainly discernible in visual and tactual sensations. Without opening our eyes we can say what part of our body has been touched. If a person touches your cheek, forehead and back with a pencil point with equal pressure, your tactual sensation will differ in local sign. Each part of the sense organ gives us a sensation with a local colouring.

According to some, sensations are often found to have a *hedonic tone*. Each sensation, according to these thinkers, is either pleasant or unpleasant. A dazzling light on the eye is unpleasant ; and moderate light is pleasant. But it is not admitted by everybody that sensations always have a hedonic tone.

What is Perception ?

By the term 'perception' we generally mean 'seeing something with our eyes'. But 'seeing' and 'perception' are not the same thing. 'Seeing' is possible only with the eyes, but 'perception' may take place through all the sense organs. Sensation gives us the materials of knowledge, but these materials are not knowledge. Knowledge arises out of the interpretation of these materials, i.e., sensations. When a friend of mine calls out my name, I hear a sound. This sound, in itself, is not knowledge. The sound waves merely disturb my consciousness. When I interpret this change of my consciousness, which is the sensation, it becomes knowledge. The process of interpretation, on analysis, is found to involve the following factors :

(1) When the sensation of sound attracts my attention, I *discriminate* it from the sensations of other kinds and also from other varieties of sounds. I know that the sensation is not that of smell or colour, or taste or touch and it is also different from the barking of a dog or from the whistle of an engine. Hence the first factor involved in perception is *discrimination*.

(2) After discrimination, I assimilate this sensation with other like sensations I experienced before and I come to know that the sound heard at present in the voice of a man. This factor is called *assimilation*. It is due to this automatic assimilation we can recognise the object.

(3) Previously, when I heard the voice of my friend, I also looked at his face and shook hands with him. The things which are experienced together become associated in our mind and have a tendency to recall one another by association. The present sound sensation *implicitly* revives the appearance and the touch of my friend by association. It should be borne in mind that this revival is not explicit. The implicit reproduction of other

sensations has been called by some psychologists 'complication'. This factor of revival is known as *association and reproduction*.

(4) The fourth factor involved in perception is *objectification and localisation*. The presently heard sound, together with the revived sensations, is referred to an object existing outside my mind. Thus I say that the sound is the voice of my friend standing outside my room.

(5) Lastly, perception involves *belief in the reality of the object*. The sound of the voice that has been heard is not unreal or the creation of my mind. It really comes from my friend. This belief in the reality of the sensation distinguishes perception from hallucination.

Taking all these factors together, we may define *perception as the process of interpreting a sensation by discriminating it from unlike and assimilating it with like sensations, by reproducing the associated sensations and by objectifying and localising the sensation together with a belief in its reality*.

Perception has two aspects—*objective and subjective*. The latter aspect is more important and valuable than the former in determining the trend of perception.

(a) Perception is an *active process* of the whole organism. This activity is due to *some change in the external environment*. The question of perception would not arise if there were no change in the outside world.

(b) Though the outside world influences the perception, it is not a fact that we perceive everything that happens in the world. We select only some from the manifold of objects according to our interest, attention, emotion etc. In spite of many stimuli acting on our senses at the same time, we perceive only those which serve our interest or feed our emotion. Perception is, therefore, *selective*.

(c) The arrangement of the objects in the external world is rearranged into a new form by the perceptual process. Perception is a *combining process* which helps us to perceive *definite patterns or figures* which have some meaning for us. This process of forming a pattern has been greatly emphasised by the Gestalt psychology. The rearrangement of materials is deter-

mind by our *outlook*, and it will be different according to the difference in outlook.

(d) The way we will explain the materials obtained through sensation is, to some extent, determined by the *past experience, education, social outlook and attitude*.

Hence, we find that perception is a complex process. It is set in motion by a stimulus and ends in putting a new explanation of sensation. Thus the object of perception is not the external object in its entirety, nor is it wholly mental. Titchener aptly pointed it out by defining perception as a "*complex of sensory and imaginal elements*."

Relation between sensation and perception

Both sensation and perception are dependent on the stimulation of the sense organ and both refer to some object. Neither sensation nor perception is possible without the action of the stimulus on the sense organ. But in spite of this similarity, there are important *points of difference* between the two.

(1) The primary consciousness due to the contact of the stimulus and the sense organ is the sensation. When this undifferentiated sensation is interpreted, it becomes perception. Perception is sensation plus its interpretation. Perception is meaningful while sensation is not.

(2) Sensation is not knowledge. Sensation is the material of knowledge ; whereas perception organises these materials into knowledge proper.

(3) According to James, sensation is mere *acquaintance* with an object and perception is the *knowledge* of the object. When a sound wave travels into my ear I have a mere sensation of sound. But it becomes perception when I understand that it is sound of the voice of my friend.

(4) Sensation is the consciousness of the quality of an object. Sensation, for example, does not give us any knowledge of the red flower ; it only gives us the consciousness of redness. Perception,

an account of the Gestalt theory of Perception

The Gestalt school of psychology has contributed a great deal to the study of perception. Perception organises the sense-field. But much controversy has raged over the question whether this tendency to organise the sense-field is innate or learned by experience. The Associationists are of the opinion that what we

perceive is only a chaos of atomic sensations.) We group some of these discrete sensations together by experience and thus see them as forming a whole. William James characterised the perception of an infant as a "booming, buzzing confusion". By this he meant that in the perceptual field of the infant nothing takes any definite form.

This view was, however, criticised by Stout. But (it was subjected to severe criticism by a group of German psychologists known as the *Gestalt* school. The fundamental tenet of the Gestalt school is that awareness of pattern or the tendency to organise the sense field is *innate*. Even a totally unfamiliar object will appear to an infant as a form or figure, i.e., as a *Gestalt* (a German word which is very difficult to render, in English. It has been translated as "form", "pattern" or "configuration"). According to the *Gestalt* school, *the perceptual field is an organised whole is not a mere aggregate of parts*)

We perceive an object as a *Gestalt*, a whole, a pattern or unit. With the growth of age, man reacts to the relations of things rather than to the things taken separately. Classical psychologists attempted to reduce psychology to a kind of "mental chemistry". They assumed that any complex mental entity could be known by reducing it to its component elements. *Gestalt* school opposed this atomistic approach. It will be ridiculous to analyse a tune into its separate notes. We may do so, but it will destroy the internal structure on which the nature of the tune as a whole depends.

(According to the *Gestalt* psychologists, the very nature of the perceptual process is to form a *figure* in a *ground*. All perception is done against a background. Whenever we perceive something we perceive it as a *figure against a ground*. The perception of an infant is not "booming, buzzing confusion." When the infant sees its mother, it may not perceive the mother as it would perceive her some years later. But even at this early stage, the figure of the mother stands out in bold relief as a single harmonious figure against the background, viz., room)

Another principle stressed by the *Gestalt* psychologists is that

of "closure". There is an inherent tendency toward "from" in all our perceptions. This tendency is so strong that whenever there is any incompleteness or confusion in the external object, we strive to complete it and we are dissatisfied until this can be done. There is an inherent tendency in us to perceive a complete figure, by disregarding the gaps. This is called "closure." Closure is a special case of the law of "*Pragnanz*" or *principle of equilibrium*. According to this law, every experience tends to complete itself and be "as good as possible."

(For the organisation of the perceptual field, the *Gestalt* school have mentioned some *conditions* which are stated briefly :

(a) Things which are *alike* tend to form a whole and are perceived as a whole, e.g., men in uniform—fall into squads.

(b) *Proximity* is another condition. Things which are close to one another in space or time tend to be grouped together as a unit.

(c) *Continuity* is a condition of organisation. A continuous line forces itself into a figure. If some dots are so arranged that they may form a vertical and a horizontal line, we perceive them as a vertical and the other as horizontal line. Here the perceptual field is organised into two lines though the dots are not really connected).