



## Factors that Influence Perception

One of the central assumptions of the **constructivist** approach to perception is that perception is not determined entirely by external stimuli. As a consequence, it is assumed that emotional and motivational states, together with expectation and culture, may influence people's perceptual hypotheses and thus their visual perception. This notion that perception is influenced by various factors is often referred to as **perceptual set**. This is "a perceptual bias or predisposition or readiness to perceive particular features of a stimulus" (Allport, 1955). Basically, it is the tendency to perceive or notice some aspects of the available sense data and ignore others. The factors that influence perception and *create* perceptual set are discussed below.

### ➡ The Influence of Motivation on Perception

There are suggestions that the extent of our motivation will affect the speed and way in which we perceive the world. For example, there are suggestions that bodily needs can influence perception (so that food products will seem to be brighter in colour when you are hungry). Bruner & Goodman (1947) aimed to show how motivation may influence perception. They asked rich and poor children to estimate the sizes of coins and the poor children over-estimated the size of every coin more than the rich children. Solley & Haigh (1948) asked 4 - 8 year olds to draw pictures of Father Christmas at intervals during the month before Christmas and the two weeks after Christmas. They found that as Christmas approached the pictures became larger and so did Santa's sack of toys! After Christmas, however, the toys shrank and so did Santa! This suggests that motivation (higher before Christmas than after) influenced the child's perception of Santa and his toys making them more salient before Christmas and less salient after.

### ➡ The Influence of Expectation on Perception

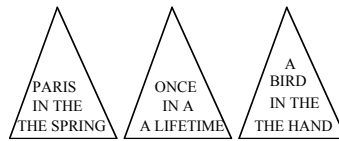
This is the idea that what we see is, at least to some extent, influenced by what we expect to see. Expectation can be useful because it allows the perceiver to focus their attention on particular aspects of the incoming sensory stimulation and helps them to know how to deal with the selected data - how to classify it, understand it and name it. However, it can distort perceptions too. Some experiments (e.g. Minturn & Bruner, 1951) have shown that there is an interaction between expectation and context. Look at the stimuli below:

E D C B A

16 15 14 B 12

The physical stimulus '13' is the same in each case but is perceived differently because of the context in which it appears - you expect it to be the letter 'B' in the letter context but the number '13' in the number context.

Expectation affects other aspects of perception - for example, we may fail to notice printing errors or writing errors because we are expecting to see particular words or letters. For example - "The cat sat on the map and licked its whiskers" - could you spot the deliberate mistake? How about the stimuli below?



In each case what you perceived and what was physically present was probably different. Another classic example, which suggests that previous experience affects perception is Leeper's young woman/old crone. Expectation certainly influenced perception.

### ♥ The Influence of Emotion on Perception

Many researchers suggest that our emotional state will affect the way that we perceive. For example, there is a term "perceptual defence" (McGinnies, 1949) which refers to the effects of emotion on perception - findings from a number of experiments show that subliminally<sup>1</sup>-perceived words which evoke unpleasant emotions take longer to perceive at a conscious level than neutral words. It is almost as if our perceptual system is defending us against being upset or offended and it does this by not perceiving something as quickly as it should. McGinnies (1949) investigated perceptual defence by presenting subjects with eleven emotionally neutral words (such as "apple", "broom" and "glass") and seven emotionally arousing, taboo words (such as "whore", "penis", "rape"). Each words was presented for increasingly long durations until it was named. There was a significantly higher recognition threshold for taboo words - i.e. it took longer for subjects to name taboo words. This suggested that perceptual defence was in operation and that it was causing alterations in perception.

### ➡ The Influence of Culture on Perception

In the Western world rooms are nearly always rectangular and many objects in our environment have right-angled corners and sharp edges. Such things as roads and railways in our world are common, presenting long parallel lines which seem to converge because of perspective. In the Western world we have a visual environment rich in perspective cues to distance. Do people in other environments where there are few right angles and few long parallel lines see the world in the same way as we do? Are they as susceptible, for instance, to the illusions that are said to be associated with perspective, such as the Muller-Lyer & Ponzo illusions?

A large comparative study was carried out by Segall et al (1963). They compared Africans, Philipinos, South Africans and Americans on various illusions. They found

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<sup>1</sup> Subliminally presented stimuli are those presented below the threshold of consciousness. Such stimuli are usually presented for a very short period of time, too quick to **consciously** notice.

that with the Muller-Lyer illusion the Africans and Philipinos were much less susceptible than the other two groups. To explain such findings, Segall suggested the "carpentered world" hypothesis saying "We live in a culture in which straight lines abound and in which perhaps ninety percent of the acute and obtuse angles formed on our retina by the straight lines of our visual field are realistically interpretable as right angles extended in space". In other words, we tend to interpret illusion figures such as the Muller-Lyer in terms of our past experiences - this means that in the Western world we add a third dimension (depth) which is not actually present in the drawing.

Studies of people in dense forest have been carried out because such people do not experience distant objects as they live in small clearings and do not get the chance to see wide open spaces. When they are taken out of the forest and shown distant objects they see them not as distant but as small! So, show them an elephant 100 feet away and a mouse 6 inches away and they will say that the mouse is bigger than the elephant. For example, Turnbull (1961) studied the Bambuti pygmies who live in the dense rain forests of the Congo. They have a closed-in world without open spaces. Turnbull brought a pygmy out to a vast plain where a herd of buffalo was grazing in the distance. The pygmy said that he had never seen one of those insects before! When he was told that they were buffalo he was very offended - so Turnbull drove his jeep towards the herd and the pygmy was amazed when they began to "grow" into buffalo in front of him. This is a good example of a lack of size constancy.