

The motion pictures,
the frame rate was



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The film is simply a series of still photographs (frames), each slightly different from the preceding. The frames are projected on the screen in rapid succession, with dark intervals in between. The rate at which the frames are presented is critical. In the early days of the motion pictures, the frame rate was 16 per second. This was too slow, and, as a consequence, movement in these early films appeared jerky and disjointed. Today, the rate is usually 24 frames per second, even at this rate the picture would appear to flicker because of the fine temporal resolution of our visual system; this perceived flicker is avoided by flashing each frame on and off three times while it is being presented. Experiments performed on the stroboscopic movement of this type have led psychologists to offer various explanations, none of which appears to be conclusive.

The most accepted one at present outlines the brain mechanism involved in the movement as follows: The brain obtains information from different parts of the retina exactly in the manner it gets it when an image of the physical object moves across the retina. Following a physical movement, an object is first seen in one place and then in the another as the retinal image shifts. In stroboscopic movement, probably the same thing occurs, because two identical objects seen on the retina at one point appear at the other point in a few hundred milli-seconds. The stroboscopic movement, may, in point of fact, be the result of information processing by the brain, which is exactly identical with the one which we find in the real movement.

(ii) Autokinetic Movement:

Another type of apparent movement is seen when you fixate a small bright spot in complete darkness. This movement is known as autokinetic effect.

Muzaffer Sherif (1936) carried out some pioneering studies on this phenomenon.

For example, in a completely dark room if you concentrate on the tip of lighted “agarbatti” or a candle, you would observe the tip of the light to be moving. It has been found that an autokinetic movement is considerably influenced by suggestion and the movement of the head, which stimulates the adjoining points on the retina, thus, creating an impression of the movement of the bright spot. The mechanism involved here do not seem to be any different from those in real movement.

(iii) Induced Movement:

We have often seen the moon racing backward through the clouds or trees when seen through the window-frame of a moving train. In fact, the moon is stationary even then we get the illusion of movement.

Induced movement occurs if a stationary spot or object is perceived as moving when its frame or background moves.