

## DOKUNMA İLLÜZYONLARI

### ILLUSORY DISTORTIONS BY TOUCH

By

B. TOĞROL

**Institute of Experimental Psychology, University of Istanbul.**

*Üç basit görme illüzyonunun klişeleri üç kör deneye dokunma yoluyla yoklatılmıştır. Tecrübede bu kör deneklerin elleriyle bu illüzyonları hissettikleri tesbit edilmiştir. Bu netice, illüzyonların şimdiye kadar zannedildiğinden daha genel bir yapıyı ilgilendirdiğine işaret etmektedir.*

*Three simple illusion figures were transferred on tin plates and were explored by hand by three blind subjects, All three subjects experienced the illusions by their hands. These results indicate that illusory distortions are probably more general and basic than is usually accepted.*

Literature on the reactions of blind subjects to illusory distortion figures is very scant. Gregory\*(1966) points that there is some evidence for illusion figures to give rise to distortions of size as judged by touch, which is apparently also true of blind people touching these figures. However, he accepts, that the evidence for this is primarily on the arrow illusion which is perhaps not the best one to consider, for error of judged length in this figure could be due to the limited spatial acuity of the sense of touch tending to place the end of the line beyond the corner in the outgoing fins figure and before the corner in the ingoing fins figure - so lengthening the first and shortening the second.

\* R. L. Gregory. Eye and Brain. World University Library, London, 1966.

The present investigation was made to determine whether blind subjects would sense illusory distortions by touch when presented by visual illusion figures other than the Muller-Lyer illusion. The visual illusion figures used were the well-known Ponzo, or railway lines illusion (Figure 1), the square illusion (Figure 2) the Hering of Fan illusion (Figure 3). These Figures were transferred on tin-plates such as used by the printers by an expert cliché-maker. The sizes of these plates were such that they could be easily be handled by either one or two hands. (125 mm x 125 mm)

Three male blind students from Istanbul University with a mean age of 21.5 were used as subjects. One of the subjects was congenitally blind and two had become blind as infants about the ages of two and a half and three. They were all right-handed. The experiments consisted of putting one of the plates in random order to the left hand of the subject and to ask him to explore it with his right hand and to describe the figure in the middle. In spite of the instructions all three blind subjects used both of their hands to explore the object before starting to give their descriptions. It took almost about 10 sec, for all three subjects to explore and describe figures 1 and 2. Figure 3a and 3b was a harder task for these subjects and took about 3 min on the average before they started to give their descriptions. The descriptions of the subjects to the illusory distortion figures were as follows :

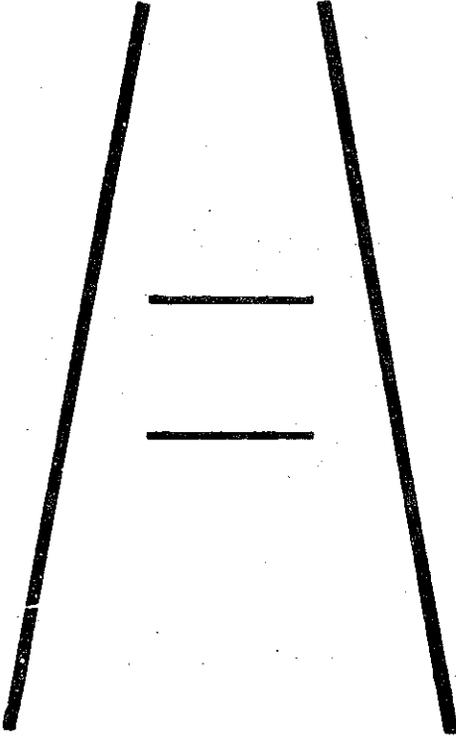


Fig. 1. Ponzo Illusion.

**Figure 1, Ponzo Illusion.**

Subject No. 1 (N. Ç.).

» No. 2 (K. E.).

» No. 3 (I.G.G.).

There are two parallel lines in the middle. The one at the top is longer.

There are two lines, the top line is longer.

The line at the top is longer and nearer to the side lines.

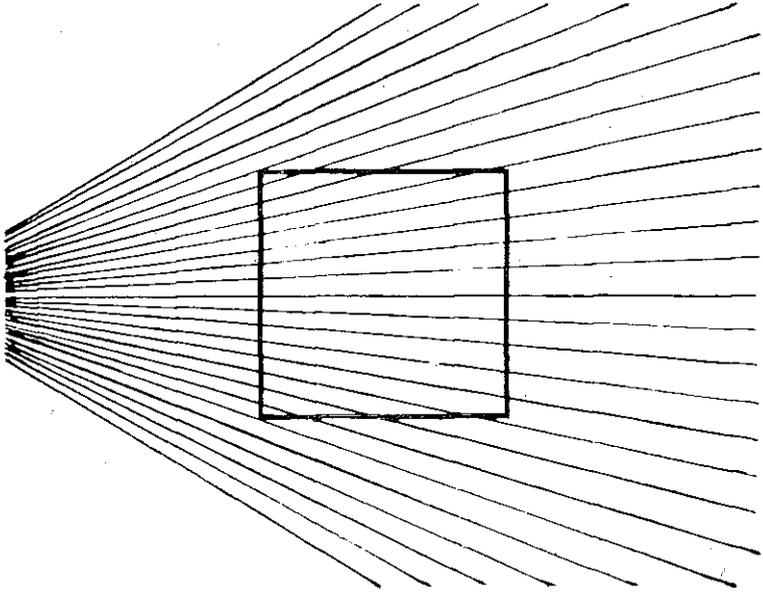


Fig. 2. The Square Illusion.

**Figure 2, The Square Illusion.**

Subject No. 1 (N. Ç.).

Looks somewhat like a square, but more like a trapezoid. In a square all four sides should be straight. This is more like a trapezoid.

» No. 2 (K. E.).

A figure like a trapezoid. Two sides are parallel.

» No. 3 (I. G. G.).

A square, but one side wider than the other.

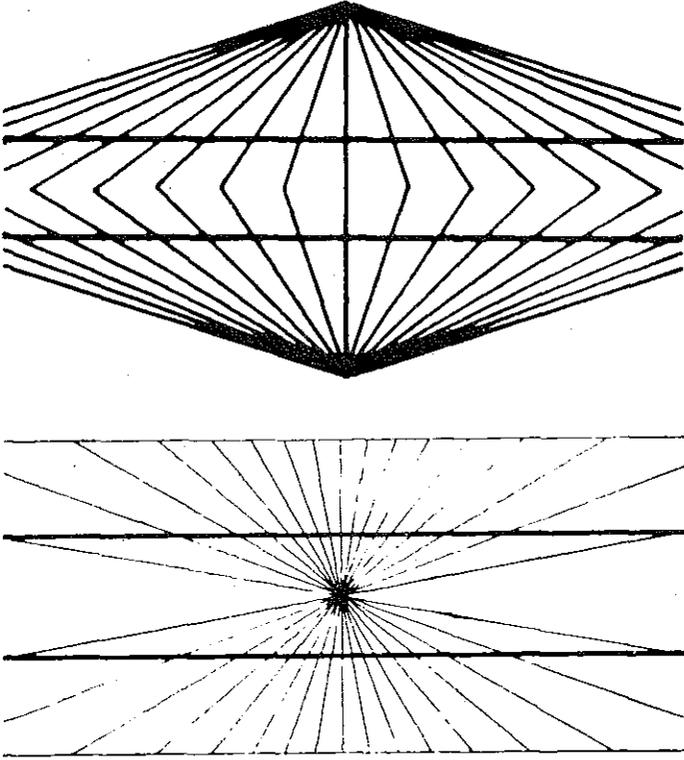


Fig. S 3a and 3b. Hering's Fan Illusion.

**Figure 3a and 3b, Hering, fan illusion.**

Subject No. 1 (N. Ç.).

**3a.** Two lines that are not parallel. More towards the sides. The lines in the background make it very difficult for

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- me to follow these lines clearly.
- » No. 2 (K. E.).
    - 3b. Two lines that are wider in the middle, closer at the ends.
    - 3a. Two lines somewhat parallel to each but closer in the middle.
    - 3b. Two parallel-like lines.
  - » No. 3 (I. G. G.).
    - 3a. Two lines, right lower one is wider.
    - 3b. Two lines : the top line is curved downwards and the bottom line is curved upwards.

These reports by the blind subjects clearly illustrate that they all experienced illusory distortions by touching these figures with their hands which was identical with the visual illusory ones. These preliminary results indicate that illusory distortions are probably more general and basic than is usually accepted.