

VISUAL PERCEPTION

INTRODUCTION

1. This study has been prepared with a view to the needs of those who design materials for teaching. Working in schools that operate in a social milieu which is dependent on the spoken rather than the written word, and attempting to communicate with non literate adults both school teachers and adult educators urgently need illustrations and visual materials of all kinds. Over the last two decades as teachers and field workers have become aware of the fact that the pictures and diagrams they were using failed as communication channels, so have the research workers followed in their wake, trying to determine the factors that affect the way visual statements are interpreted.

2. In a paper appearing in Teacher Education in New Countries 1969, Vol.10, No.2, Howard Poole observes that research over the last decade has indicated that Africans south of the Sahara suffer from certain perceptual deficiencies in terms of successful adaptation to modern society which result from their not organizing the perceptual world as people in Western society do. Pupils in schools in many parts of Africa experience difficulty in perceiving patterns, in visualizing and orientating figures and in three dimensional perception. They also respond differently to certain optical illusions. There is evidence that some of these difficulties are experienced by other non-Western cultural groups though most of the experimental work published in English has been carried out in African countries. On this I have drawn heavily and occasionally I have drawn on data from non-Commonwealth countries when the material has illuminated or reinforced a particular generalisation I wished to make.

3. The papers reporting the findings of experimental work that have been consulted in preparing this collated study are listed with brief annotations at the end of this essay. The studies fall into two main groups:

(1) studies of perceptual abilities related to the attempts to convey meaning compared with a European "norm", (2) studies of perceptual problems of special interest to research psychologists in an attempt to determine if certain attributes such as the perception of optical illusions are race linked, or culture bound. Meaning in the latter case is of no consequence except in so far as that, by extrapolation, the application may be found. The studies of perceptual abilities have been grouped in such a way that conclusions may be drawn which, I hope, will throw light on problems of the designers and users of visual means of communication such as book illustrations, wallcharts and diagrams, posters. This grouping constitutes the framework of this essay.

4. The first problem in any visual presentation (other than a work of art, in which the artist wishes to convey feeling and tone as well as descriptive statement) is that of recognition by the viewer of the objects depicted which may be presented with varying degrees of realism.

5. The second problem is connected with the viewer's ability to assign meaning to a picture when two or more objects are placed in relation to each other. Interpretation of the meaning of a scene, leads on to the problem of connecting one scene with another, as in a filmstrip or a film or a television story. The ability to follow a sequence of statements of this kind is a

function of mental maturity and some research workers such as Zazzo* suggest that only at the age of about 12 years can a child connect a sequence of events in a film.

6. The third class of problems is concerned with the ability to understand or read schematic visual presentations such as maps, flow diagrams, hierarchical and organizational charts. The ability to find meaning in topological statements and diagrams of relationships is not unconnected with the existence of a conceptual framework or 'schema' in the mind of the viewer, on to which such diagrams can be fitted.

7. An extension of this class of schematic presentation, in essence a visualized abstraction, is the instructional diagram for performing a manual operation. Some studies have been carried out which suggest that the ability to 'read' such manuals is an acquired skill, based on practice in the interpretation of three dimensional representations.

8. The fourth category is more difficult to define in that it involves the use of visual statements in a symbolic manner, for example a picture of a mother holding a baby intended to symbolize motherhood. Characteristically posters rely on the interpretation of particular objects to stand for the general class.

9. To the fifth and final section I have assigned those studies that have some relevance in that they examined perceptual abilities, but their application to the solution of the illustrator's problems is not immediately apparent.

* Zazzo, R. in Revue Internationale de Filmologie Paris, 1952, Vol.9, pp. 26-36.