3. Cross-Cultural Studies of Perception

Some of the earliest fieldwork in anthropology and cross-cultural psychology focused on perception. During the famous British expedition to islands of the Torres Straits (near what was then British New Guinea) in 1895 W. H. R. Rivers tested the hypothesis, then under debate, that members of different cultures differed in perceptual acuity. His work was far from conclusive (though subsequent work suggests that such differences are at best small), but it got the ball rolling. Later, in claims that bear directly on relativism, various social scientists argued that members of cultures with different quite color vocabularies would perceive colors differently. As we will see in our discussion of linguistic relativism, there appears to be some influence of this sort, but not a great deal.

By way of example we consider a meticulous series of experiments by Segall, Campbell, and Herskovitz (1966). They studied subjects from three European and fourteen non-European cultures and tested three hypotheses about the effects living in certain types of environments on susceptibility to various visual illusions. One hypothesis was that living in a “carpentered world” -- the common environment in Western societies where rectangular shapes, straight lines, square corners abound -- would affect susceptibility to the Müller-Lyer illusion and illusion and the Sander Parallelogram illusion.

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**Müller-Lyer Illusion**

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**Sander Parallelogram Illusion**

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The researchers hypothesized that people living in highly-carpentered environments would learn to interpret oblique and acute angles as displaced right angles and to perceive two-dimensional drawings in terms of depth. This would lead them to see the two figures in the Müller-Lyer illusion as a three-dimensional object. If the figure on the left were thought of as, say, an edge of a box, it would be the front edge while the figure on the right would be the back edge. This would mean that the figure on the left was larger, as we indeed see it. Similar sorts of issues arise with the Sander parallelogram illusion.

Would similar results be obtained with people living in uncarpentered environments where rectangles and right angles are less common? The Zulu, for example, live in round huts and plow their fields in circles rather than rows. And they turned out, as hypothesized, to be less susceptible to these illusions but more susceptible to some others. (For more recent discussions of the influence of culture on perception see D'Andrade, 1995, Ch. 8.)
3.1 Comprehension Checks

Segall, Campbell, and Herskovitz employed a series of comprehension checks to make sure that they and their subjects agreed about enough things so that subjects' responses could be sensibly interpreted, and it was only after the native informant had passed comprehension checks, ensuring that communication was taking place, that the experiment began. Here is the third comprehension check (1966, p. 109).

Comprehension Check Item 3

It was only after the informant correctly identified which line of a pair was longer, more slanted, and the like that the experiment began.

4. Perceptual Relativism

Many writers have argued that the way we perceive the world is strongly influenced by our concepts (or our words) and beliefs. In a number of prescient passages the American philosopher Charles Sanders Peirce noted such examples to argue that perception was in fact a type of interpretation or inference (as Helmholtz had urged earlier).

...it is not necessary to go beyond ordinary observations of common life to find a variety of widely different ways in which perception is interpretative (CP, 5.184).

In all such visual illusions of which two or three dozen are well known, the most striking thing is that a certain theory of interpretation of the figure has all the appearance of being given in perception. The first time it is shown to us, it seems as completely beyond the control of rational criticism as any percept is (CP, 5.183).

The point is often linked quite explicitly to relativistic themes. Thus Ruth Benedict tells us that “no man sees the world with pristine eyes” (1934, p. 2), while Edward Sapir urges that "even comparatively simple acts of perception are very much more at the mercy of the social patterns called words than we might suppose" (1929, p. 210). And here is Whorf:

We dissect nature along lines laid down by our native languages. The categories and types that we isolate from the world of phenomena we do not find there because they stare every observer in the face; on the contrary, the world is presented in a kaleidoscopic flux of impressions which has to be organized by our minds …We cut nature up and organize it into concepts, and ascribe significance…. We are thus introduced to a new principle of relativity, which holds that all observers are not led by the same physical evidence to the same picture of the universe (1956, pp. 213-14).

The anthropologist John Beattie tells us it is an “epistemological commonplace” that people see what they expect to see, and that the categories of their perception are largely if not wholly determined by their social and cultural background. So members of different cultures may see the world they live in very differently. And it is not just a matter of reaching different conclusions about the world from the
same evidence; the very evidence which is given to them as members of different cultures may be different (1966, p. 75).

Here is Nelson Goodman:

Perception depends heavily on conceptual schemata. “There is no innocent eye.” The raw material of vision cannot be extracted from the finished product. Our schemata may change and evolve, be revised or replaced, be suggested or informed, by factors of all kinds; but without some schema there is no perception (1972, p. 142).

The influence of concepts and beliefs on perception was also cornerstone of the new philosophy of science that emerged in the 1960s. In a typical passage Thomas Kuhn tells that various visual illusions (of the sort described above) suggests that

…something like a paradigm is prerequisite to perception itself. What a man sees depends both upon what he looks at and also upon what his previous visual-conceptual experience has taught him to see (1970b, p. 113).

In a sense that I am unable to explicate further, the proponents of competing paradigms practice their trades in different worlds…. Practicing in different worlds …[the proponents of competing paradigms] see different things when they look from the same point in the same direction (1970b, p. 150).

And Paul Feyerabend:

Given appropriate stimuli, but different systems of classification (different ‘mental sets’), our perceptual apparatus may produce perceptual objects which cannot be easily compared (1993, p. 166)

The recurring theme in such passages, which are easily multiplied, is that our concepts and beliefs, language and culture, can exert a strong influence on how we perceive the world.

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