PLEASE GRADE PASS/FAIL

T H E C O N S T R U C T I O N

O F R E A L I T Y :

A N I N T E R P R E T A T I O N

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Historically, perception was viewed as a passive intermediary through which a fixed reality was communicated to the individual. The philosophical implications of this view were profound. Because perception was regarded less as a process and more as a given, the world could be interpreted in an absolute fashion: the nature of reality was fixed, discoverable, and open to independent confirmation by the senses. Visual data was regarded as irrefutable.

However, scientific investigation into the process of perception has led to the rejection of this model. The discovery of visual paradox, illusion, and distortion has suggested a modern view of perception which is active and constructionist, rather than passive. Instead of merely transmitting information, the visual process is seen as engaging in problem-solving, hypothesis-testing, indeed in a primitive form of thought (cf. the title of Gregory's book).

Certainly the evidence seems to confirm this point of view. While there is a striking discrepancy between the distal object and its proximal representation on the retina, our subjective impression of the world corresponds much more closely to the former than to the latter (see Shepard, lecture #2). Indeed, in direct vision, unlike viewing a picture, we do not simultaneously experience both the pattern and its interpretation. Although the retinal image is the only thing which <u>actually</u> exists on the eye, we do not experience it at all. Instead of perceiving what we see, we perceive only what we believe we see.

This suggests that the brain must form certain object-hypotheses, based on information (possibly innate - as posited by the Gestalt psychologists - or learned) stored in the brain. Although the two-dimensional, partial data we receive is open to countless three-dimensional interpretations, usually we are able to decide in favor of one solution. Decisions are based on the existence of certain perceptual cues (such as linear perspective or gradients of texture) through which we make inferences about the distance, orientation, size, shape,

and color of the object. Paradoxes such as the Necker cube and figure-ground reversal suggest the existence of equally likely problem solutions. That such changes in perception occur spontaneously, independent of eye movement, implies that the decision-making process occurs in the brain, and is not dependent on additional input based on a shift in retinal image.

Thus, far from being an accurate representation of reality, a retinal image is more analogous to words on a page. We rarely see words as simply a pattern; rather, we interpret them automatically as meaningful symbols. Similarly, we tend to see meaningfully. The development of such a skill has obvious survival value. Language and writing are a means of rapidly processing vast quantities of information. Perception operates in much the same way. We are not forced to duplicate the outside world through our visual process. Rather, we can rely on cues, often as ambiguous as word symbols, which we are able to interpret without waiting for more complete information.

The above discussion attempts to justify a view of perception as functioning much like language, in a symbolic rather than an actual fashion. What are the implications of this position? If perception is a form of thought, especially inductive rather than deductive thought (see the Gregory discussion), it must be treated as such. Thought is never perfectly reliable, but is subject to certain fallibilities and rigidities. Some analogous flaws in perceptual "thought" are discussed below.

1) To the extent that perception is learned, i.e., based on the development of a storehouse of object-hypotheses, the experience of reality contains a significant subjective component. Thus, individual perception is an inadequate tool in making generalizations about reality. 2) Our perceptual process encourages us to select the most likely object-hypothesis. This means that we will not necessarily see what is there, but what is most likely to be there (cf. Bruner and Postman, 1951, subject perception of a red ace of spades as a red ace of hearts). Thus vision tends to give us a conventional, probabilistic view of the world. 3) Worse, perception cannot always correct its errors after input from other sensory or cognitive sources. For example, a three-dimensional Necker cube will still reverse

visually although held immobile tactilely; and granted that our cognition informs us that the moon is over 200,000 miles away and 2,000 miles wide, it still appears as a much closer and much smaller two-dimensional disc. Our perceptual interpretations can be alarmingly tenacious. 4) Our perceptual process of hypothesis-testing even allows us to experience things which do not exist - the so-called impossible objects. Although such objects have no reality except a perceptual one, it is difficult to convince our vision of this fact.

Such evidence indicates that, in a rational, deductive-hypothetical world, the human perceptual process is painfully fallible. It can no longer be regarded as a supreme, absolute arbiter when considering the nature of reality. With the development of scientific thought and measurement, certain checks have been imposed on a purely perceptual interpretation of the world. We have come a long way since believing that what we see shows us what is.

Certainly such a modification of assumptions about perceptual reliability and validity was necessary. However, it is possible to speculate whether our Western world has not gone too far in this direction. There is a tendency to discount perception as unreliable, limited, and primitive. Without denying the limitations of perceptions, it also seems important not to lose sight of the creative aspects inherent in any mode of thought. Perception may thus be conceptualized as a creative process, whose construction of reality may be at times irrational, illogical, excessively tolerant of ambiguity and paradox. Such characteristics may be inimical to a rigorous scientific analysis of the world, while at the same time providing a fundamental basis for a spiritual or aesthetic interpretation of reality.

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Overall judgment of paper ~~(Mean of scores and comments)~~: 9

Organization

+ Clear statement of purpose

+ Conciseness of presentation and argument

+ Arguments clearly set forth

+ Ease of transition from point to point

+ Clear statement of conclusion

Ideas

✓ Ambitiousness

+ Manageability of topic

✓ Psychological importance of topic

✓ Interest of ideas

+ Clarity of statement of ideas

✓ Depth and originality of thought

+ Use of class and book material in developing ideas

Development, discussion, and argumentation

+ Awareness of what is relevant

− Sensitivity to possible objections

✓ Ability to develop and sustain an argument

+ Knowledge of positions one is defending or attacking

−/ Ability to represent opponents' views accurately and fairly

+ Ability to stick to the point and avoid dead ends

✓ Ability to use technical vocabulary accurately and usefully

✓ Ability to make useful distinctions

+ Effectiveness of argumentation

Style

J Spelling and grammar

✓ Typographical neatness

✓ Literary style

✓ Punctuality

Comments:

A very good paper whose main asset is its abundance of examples and high concentration of useful ideas!