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Illusions and Sampling Environmental Cues

Leibowitz *et al.* (*1*) have demonstrated that the Ponzo illusion may be related to phenomena of size constancy and have suggested an explanation based on differential sampling of environmental cues. However, a closer inspection of their stimulus displays, procedure, and reasoning indicates the need for further inquiry before their conclusions are accepted.

When one inspects the photos for which judgments were obtained, one finds abundant perspective and textural cues. Since neither the degree of texture nor perspective was determined for either photo, it is impossible to conclude that: "perspective is a relatively stronger cue than texture . . ." Clearly, unless cue weights are determined in some fashion (stimulus analysis or scaling studies), their conclusion is unwarranted. Others (*2*) have attempted to untangle this difficult problem.

In attempting to explain the differences between judgments made by Guamanian and Pennsylvanian students, the authors rely solely on an assumed "poverty of experience" theory. Although they state that short vistas, hilly terrain, and the absence of railroads on Guam may be the ecological source of the judgmental differences obtained in their study, the experiences of Guam students with still and motion pictures, streets and roads, telephone and electric wires, rooms, hallways, and so forth were not considered. Nor were possible cross-cultural differences in response bias mentioned.

I think crucial stimulus and subject factors responsible for intra-cultural and cross-cultural differences in estimation of size need further exploration.

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It would be of great value if a system were available which would permit assignment of meaningful quantitative values to various monocular depth cues. However, the absence of such a specification system does not preclude the possibility of an ordinal classification in which one stimulus configuration emphasizes perspective and the other emphasizes texture cues as was the case in our study. We would agree with Schiff that our photographs, as well as any full-tone photographs of natural environments, do not isolate only one cue or the other. In the interest of broadening the base of perceptual research, the environments were selected as particularly rich in monocular depth cues. It would be unnecessarily restrictive to confine one's research to stimuli which have been quantitatively scaled or presented only in their abstract form. As we pointed out in the original paper, no theoretical values were assigned to the functions obtained. Rather, the terms perspective and texture were used to label obvious differences in the particular photographs employed.

The possibility of biased responses due to different interpretations of instructions is a well known problem and every effort was made to avoid it. The instructions, which were designed to be as unequivocal as possible, were identical throughout the study. There was no language problem as instruction at the University of Guam is in English. Intellectually and educationally, the subjects were essentially equal. In addition, a scale was used to assess the extent to which subjects might desire to put themselves in a socially desirable light and thus please the experimenter. The group means and variances were the same for the Guamanian as for Pennsylvanian students (*1*).

We do not suggest that Guamanians have no experience with perspective, but rather that familiarity with these cues in three-dimensional real-life situations is richer for the Pennsylvanian than for the Guamanian subjects. There are no railroad tracks on Guam, most roads are winding with the telephone wires following the roads, the buildings, which are constructed to take advantage of the tropical climate, do not have long hallways. There is, of course, no control over experience with perspective in two-dimensional situations.

We would strongly agree that cross-cultural research presents special methodological problems. Our choice has been to take every precaution with the objective of determining the extent to which results of abstract laboratory studies are applicable to the more familiar natural situations which provide the basis for the majority of our perceptual experiences.

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Flare Identification Associated with Coronal Disturbances

It has come to my attention that an incorrect identification has been made concerning the causal nature of the Pioneer 6 Faraday rotation events observed by Levy *et al.* (*1*). They observed three large-scale transient phenomena and associated these with type III dekametric solar radio bursts. Table