WHAT IS FORM?

The contributions of psychology to an old epistemological problem

Let chaos storm!
Let cloud shapes swarm!
I wait for form.

Alexander Pope

1. INTRODUCTION: THE INTRICACIES OF THE FORM VERSUS MATTER DEBATE

One of the central topics of discussion in Western philosophy has been the precedence of form over matter, or vice versa. For this reason the question ‘What is form?’ has a strong traditional flavour and I have to admit that also my tentative answer from the vantage point of psychology, or to be more precise: from that of perceptual processes, is deeply rooted in philosophy. Democritus (fragment 13) distinguishes between genuine qualities in nature, like weight and size, and those which only emerge if nature is perceived, like colour and taste. In modern parlance,¹ this is the distinction between objects as they are and objects as they are seen from a specific point of view. In my opinion, the discussion about the primacy of either form or matter, especially in the Aristotelian tradition of thought, misses one important point: in perception neither objects are seen as isolated in space nor as spatial arrangements or geometrical projections unrelated to the projected objects. What is perceived are objects in situations or events which, except for very specific situations, are phenomenologically unique. Two examples can serve to illustrate this point. In Figure 1 an erratic line (A) is shown in two different contexts: while in (B) the oscillations are accidental and what is seen is a free-hand drawing of a brick, in (C) these same oscillations determine the meaning, namely, an undulating plane with one vanishing point – in a way, what is accidental in (B) is substantial in (C), but in both cases the percept is unique.

The degree to which a frame of reference determines the perception of an object is shown in Figure 2: the ‘true’ motion of the two points is given by two perpendicular vectors meeting in one point; however, what is perceived are two points colliding head-on while the scene is shifted orthogonally to the collision course. Actually, from the viewpoint of vector algebra (and from that of classical mechanics) both descriptions are equivalent but the perceived event corresponds only to the second – and that is phenomenologically unique.

The question ‘What is form?’ and the concomitant matter-versus-form debate can also be regarded as a classic case of preventing insight by dissolving a complementarity into two mutually exclusive alternatives. In what follows, perceptual processes will be presented which show the intricate interaction and interdependence of objects ‘as they are’, corresponding to the Aristotelian ‘substance’, and ‘as they are seen’, that is, ‘accidental’ in his terminology. One could argue against equating these concepts, saying that it is misleading because everything that is perceived is only represented in what Democritus termed ‘matter of opinion’ as opposed to the ‘matter of objects’. However, this would imply a Radical Constructivist point of view which disregards the fact that perceptual processes have evolved subject to the constraints of the ‘matter of objects’. Without going into too many details of this evolutionary process, I want to mention two examples for the naturalness of perceptual processes. One concerns sensory processes while the other concerns ‘higher’ perceptual processes. The sensitivity of the eyes of nearly all animals corresponds to the energetic maximum of electromagnetic waves on the surface of the earth, if