ECOLOGICAL REALISM

Organized by Klaus Landwehr and Onno Meijer

A Realist Account of the Perceived Order in Nature

Alf C. Zimmer
Department of Psychology, University of Regensburg, Federal Republic of Germany

The Realist position in epistemology is regarded as a theory about the relationship between the world 'out there' and the world that is known or perceived. In the Idealist position, implicitly held by cognitivists such as Fodor and Pylyshyn, there exist only singular objects and events, while natural categories and causes are imposed by the mind of the perceiver. For a Realist, the phenomenal order reflects something about the world 'out there', not only about the mind in which the phenomena become conscious.

The concept of order in nature is equivalent to predictability: Ordered states are stable or change only smoothly. In one sense 'Prägnanz' (saliency) refers to stability in form or state, thus, to order which is not imposed but inherent (Köhler, 1920; Kanizsa & Luccio, 1986; Freyd, in press). Köhler's field theory applies to forms that need a minimal amount of energy to remain what they are. The alternative conception of 'Prägnanz' is that of singularity where a configuration is extremely sensitive to any changes (Goldmeier, 1982). This leads to the asymmetry (Metzger, 1968) between forms that exhibit 'Prägnanz' and forms that do not (for an experimental demonstration, see Zimmer, 1982).
In most environmentally valid situations, one can observe both aspects in combination, especially where stability depends on keeping balance. In such cases, equilibrium is defined for a singular point only and any small disturbance may lead to loss of stability. However, if the object in question is well-formed, that is, exhibits symmetry, closure, etc., it is immediately perceptually given where the singularity lies and what has to be done to achieve stability in balance. The well-formedness or stability of the internal configuration of the object determines uniquely the singular stable coordination between it and its environment.

One can assume that the sensitivity of organisms for stability and singularity is the result of evolutionary processes (Koffka, 1935): Picking up symmetry is not the result of an inborn sense for the aesthetic but of the advantage it gives the organism to infer stable states from bilateral symmetry. From a statistical point of view, stable states are rare and order is an exception. For organisms, however, these states are of the utmost importance. Why order has emerged as a natural category becomes clear in Shepard's "(1) The world appears the way it does because we are the way we are; and (2) we are the way we are because we have evolved in a world that is the way it is."

In the light of this interpretation, self-organization is important to model organism-environment interactions. Due to the interactions of stability and singularity, traditional linear models in science cannot fit and approaches have to be used such as Haken's Synergetics.

The Natural Categories of Ecological Reality

William M. Mace
Department of Psychology, Trinity College, Hartford, CT, U.S.A.

Zimmer's paper has much to agree with. It is obvious that we share many of the same sympathies. The study of self-organizing systems surely is an essential component of our enterprise. However, for doing ecological psychology, or more generally, ecological science, it is important to remember what makes the work ecological: Animals acting in an environment. The entities and properties that make an animal's life possible must, for example, reflect light if they are to be seen. From this standpoint, abstract entities like 'order' do not seem so natural or so knowable (per-ceivable).

As a matter of emphasis, I draw attention to specific cases of ecological reality that have been proposed and investigated. I note that Zimmer refers to 'Realism', not Ecological Realism, and 'perceived order', not, say, perceived affordances (or even surfaces). A fully fleshed out ecological psychology must do justice to the specifics of animal existence, coming to grips with the historical accidents of evolution emphasized by Stephen J. Gould and Howard Pattee, as well as the generic order and structure referred to by Zimmer.

As key examples, I will begin with the occluding edge and horizon, then move to affordances, using the work of Dick Coss and Don Owings on ground squirrels to focus on more specific points. Using ideas from Dretske on laws and the notion of 'complex particular', I will examine contrasting approaches to generality and the structure of ecological entities that I assert are real and can be known (perceived).

Illusions and Knowing What is Real

John M. Kennedy, Christopher Green, Andrea Nicholls, and Chang Hong Liu
Psychology Department, University of Toronto, Ontario, Canada

How can observers circumvent illusory appearance to discover what is real? Spatial transformations were applied to geometrical illusions of length and area (Sander parallelogram and Jastrow C-shapes). The transformations do not destroy the illusions. Rather, the illusions can be present at full strength. Nevertheless, the transformations provide information for the true length and areas of the key parts of the illusory figure. Subjects detect and use this information, despite the illusory appearance of the figures. The information allows observers to finesse problems of illusion. We conclude that illusions are problematic when the vantage point and the components of the display are frozen. Only then will the observer be unable to distinguish what is real and what is illusory.

We use the results of the studies to consider the argument from illusion, which is an important basis for the contrast between Realism and Idealism. The argument concludes there is an impassable veil of appearance. We argue for perceptual information despite illusion. We compare our use of perceptual information to the denial of appearance in some positions stressing organism-environment mutuality. We note that Zimmer—while proposing the organism and the environment are each, separately, 'well-formed', stable, and singular in some states—does not employ perceptual information.

On the Relational Nature of 'Ecological Realism'

Jan W. I. Tamboer and Peter Heij
Department for the Theory and History of Human Movement Sciences,
Faculty of Human Movement Sciences, Free University, Amsterdam, The Netherlands

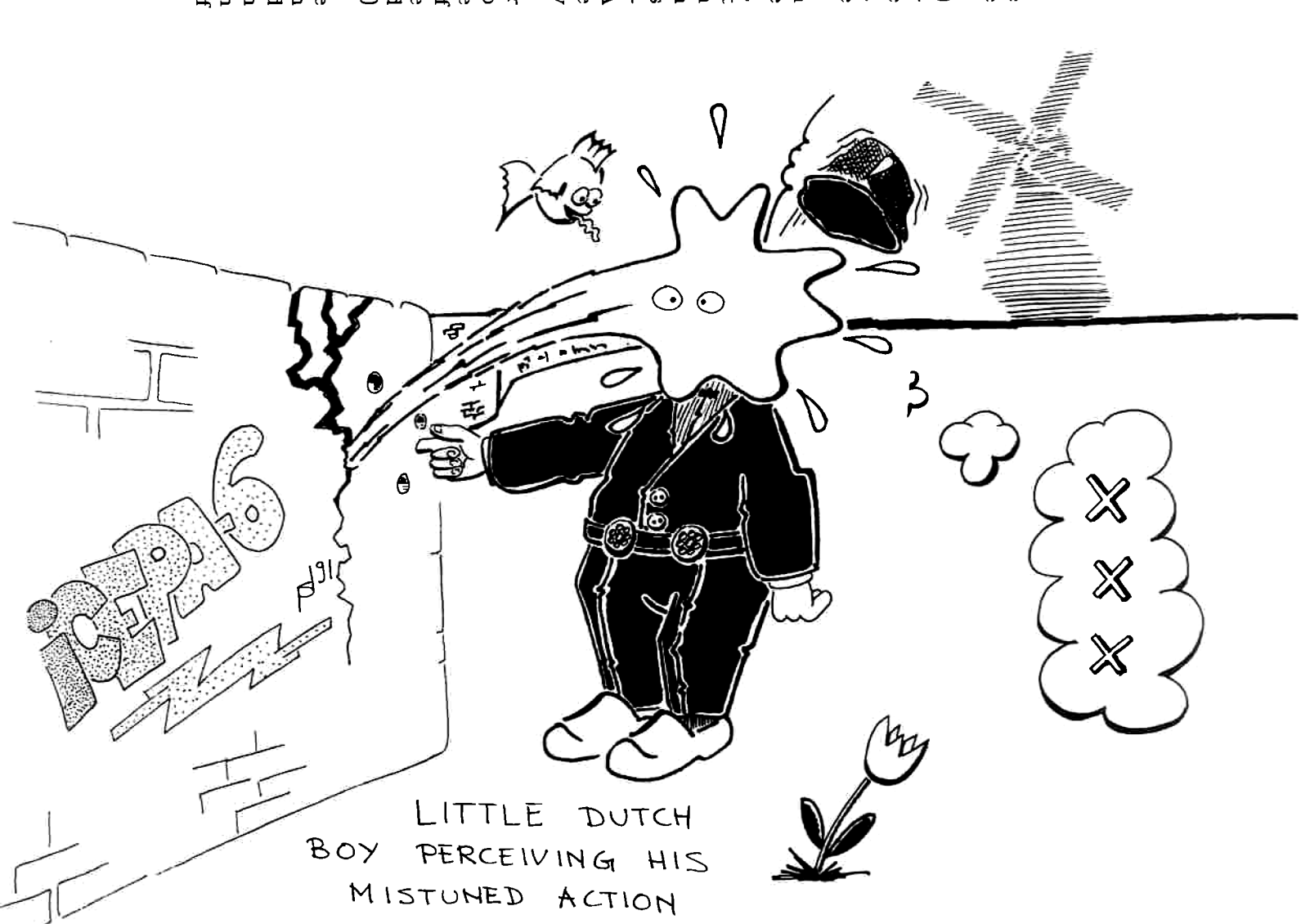
In post-medieval philosophy, ontological Realism denotes the view that the world 'out there' exists independently of thought (or observation). The opposite claim is found in so-called Idealism.

In his "*A Realist Account of the Perceived Order in Nature*" Zimmer (1991) addresses epistemology, rather than ontology. The Realist position in epistemology starts with the apparent order in nature, to subsequently ask how the order as known or perceived has become coordinated with the order 'out there'. As such, epistemological Realism presupposes ontological Realism, i.e., the assumption that a 'world out there' exists independently of the perceiver.

To what extent can one discern the same ontological assumption in 'Ecological Realism' as championed by J. J. Gibson? Emphasizing, on the one hand, the mutual implication of the concepts 'animal' and 'environment', Gibson, on the other hand, holds the view that "the environment does not depend on the organism for its existence" (1979, p. 129). Also in an assertion such as "the object offers what it does because it is what it is" (p. 139), one can discern a commitment to ontological Realism. Reading Gibson, one often gains the impression that his keen philosophical criticism of Idealism (and 'subjectivism'), leads him 'automatically' into the opposite camp, i.e., that of Realism. A philosophical argumentation in support of Realism, however, can hardly be found. Furthermore, Gibson's affinity to Pragmatism does not necessarily imply an adherence to a Realist ontology (Rorty, 1986).

In line with Merleay-Ponty, it will be argued that Gibson's plea for 'Ecological Realism' puts a strain on the animal-environment mutuality, so strongly advocated by himself (cf. Lombardo, 1987). Merleau-Ponty holds the view that the acceptance of that mutuality implies a rejection not only of Idealism, but of Realism as well. From a philosophical point of view, the information which specifies the affordances cannot consistently be proclaimed to be pre-existing in the environment, only there to be 'discovered' by (human) animals.

In the analysis of this 'discovering' (or picking up) of information, some reference to the intentionality of the animal is always implied. If, in line with Merleau-Ponty, intentionality is first and foremost understood as 'embodied intentionality', then expression can be given to a relational ontology which transcends the Idealism vs. Realism controversy. Ecological theory needs such an ontology and should not define and articulate its basic notions in terms of Idealism's direct opposite.



LITTLE DUTCH BOY PERCEIVING HIS MISTUNED ACTION