

# PHILOSOPHIA NATURALIS

Archiv für Naturphilosophie und die philosophischen Grenzgebiete  
der exakten Wissenschaften und Wissenschaftsgeschichte

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Herausgegeben von Joseph Meurers

*Sonderdruck aus*

**Band 16, Heft 4**  
**4. Vierteljahr 1977**



1977

VERLAG ANTON HAIN – MEISENHEIM/GLAN

# Organic and Inorganic Logic and the Foundations of Mathematics

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## I The concept of organism

1. There has been in recent times enough discussion about the foundations of Mathematics and its connections with Logic, Philosophy, etc. Some time ago we discussed the problem of the meaning of Mathematics in History and Culture (1); now we want to look to this question from the point of view of the Theory Knowledge and its relations with Logic. Our approach to these ideas is somewhat different from that usually considered in the mathematical community and our main goal in this paper is a first attempt to introduce a different method for studying the Foundations of Mathematics.\*

2. Let us start with some notions from the Theory of Knowledge. There seems to exist a general agreement that Knowledge, in its broadest meaning, consists of the perception of the existence of other beings, of the relations among those perceptions and of the intuition of new processes and does not mean only that *one knows* but also that one is able to *express* oneself in some way. Among men, the usual means of communication or expression is Language, although Painting, Dance, Music, etc. are also common ways of manifestation, perhaps even older than Speech. A great number of thinkers have given careful attention to this problem. In particular we recall the name of Aristotle, the father of Logic, whose foundations we can find in the "Organon". On the other hand, the History of Art points to the existence of another discipline dealing with the problem of expression, namely Aesthetic. Naturally, the question of the relation between Aesthetic and Logic has always been treated with passion by philosophers, historians of art, scientists, etc. and at the bottom of all their studies lie again the concepts of Expression, Intuition, Knowledge, which we shall treat here in so far as they are related to the Foundations of Mathematics.

Our considerations will be grounded on the concept of *Organism* and on the concepts of *Organic and Inorganic Logic* which we shall substitute, with advantage, for the old Aesthetics and the intransigent Logic.

3. We call *Organism* an object possessing the following characteristics:

\* I acknowledge Professor N. Lane for his suggestions and criticism.