Contributions Towards a Unified Concept of Information

Abstract

The present thesis is to be a contribution towards a unified concept of information. Its aim is to achieve, within the framework of a new and interdisciplinary information theory, a coherent treatment of issues such as the ultimate information carrier, the information element, the appropriate unit of measurement or the general characterisation of information, which have so far been treated in contradictory ways. Two ideas form the basis of this theory. First of all, the various requirements for an information carrier can only be met by the very general concept of the thing as a unit in perceptual and conceptual reality, and not, as often suggested, by the concept of the sign as proposed by the semiotician Charles W. Morris. This entails a new interpretation of the semiotic terms syntax, semantics and pragmatics. In the new framework that I want to propose, these no longer stand for fundamentally separate relations between things, but designate only the context dependent features which any directed relation has. The second idea is based on the insight provided by modern neurobiology that 'things' are merely the constructs of an organism's brain. After this discovery, similarities between the neuronal structure of the brain, the structure of knowledge and the structure of perceived reality no longer come as a surprise. Thus the foundations for a new formal information theory can be laid, enabling me to postulate, in conclusion, a 'law of information theory' that shows marked similarities with the second law of thermodynamics.