

Abstract

# The Challenge of Understanding—From Protozoa to Ecosystems <sup>†</sup>

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**Abstract:** We live in the information age, but we still do not fully understand how the surrounding nature exchanges, collects, and manages information—both at the ecosystem and cellular levels. Still, it is crucial to possess a dynamic and developing comprehension of the functioning of nature in order to understand the phenomena occurring in our ever-changing world. Sometimes we encounter an attitude that there is no need to investigate anything further, as everything has already been researched. This is a very dangerous attitude. Without information, we should not actually talk about the age of information, and it is worth reviewing some knowledge that is deeply ingrained in us from time to time. Occasionally, it is worth taking a step back and considering whether we ourselves may have become trapped in dogmas that may hinder our understanding. This presentation focuses on various aspects of understanding nature, starting from single-celled organisms and ending with ecosystems. The topics that will be discussed among others are (1) infochemicals (how do they actually affect the biota?); (2) the remarkable process of cellular computation (does this imply that cellular materials can show a primitive intelligence?); and (3) the ability of plants to influence wind patterns and bring in more moisture from the ocean (what will happen to us when we excessively deforest?).

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