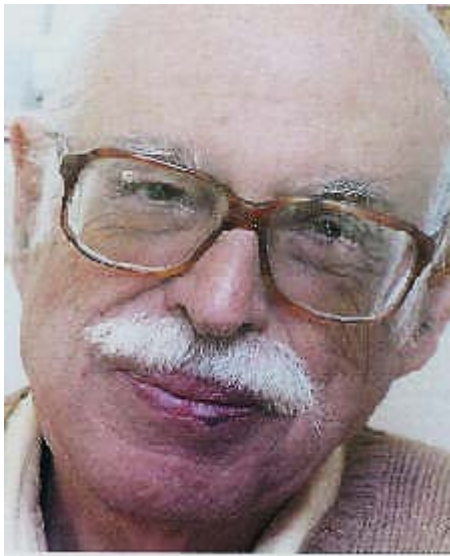# PROLEGOMENON TO AN INFORMATIONAL PHILOSOPHY IN REALITY

Joseph E. Brenner and Abir U. Igamberdiev

PHILOSOPHY OF INFORMATION

- Two Streams of Endeavor: Information Science → Foundations of Information Science Initiative. Marijuan and Hofkirchner

- Information Philosophy → Metaphilosophy. Wu Kun

- Metaphilosophy of Information → Revolution in Philosophy

- New Synthetic Approach: Dialectics, Logic → Meaning, Consciousness, Communication

Philosophy in Reality: Scientific Discovery and Logical Recovery

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Abstract: Three disciplines address the codified forms and rules of human thought and reasoning: logic, available since antiquity; dialectics as a process of logical reasoning; and semiotics which focuses on the epistemological properties of the extant domain. However, both the paradigmatic-historical model of knowledge and the logical-semiotic model of thought tend to incorrectly emphasize the separation and differences between the respective domains vs. their overlap and interactions. We propose a sublation of linguistic logics of objects and static forms by a dynamic logic of real physical-mental processes designated as the Logic in Reality (LIR). In our generalized logical theory, dialectics and semiotics are recovered from reductionist interpretations and reunited in a new synthetic paradigm centered on meaning and its communication. Our theory constitutes a meta-thesis composed of elements from science, logic and philosophy. We apply the theory to gain new insights into the structure and role of semiosis, information and communication and propose the concept of 'ontolon' to define the element of reasoning as a real dynamic process. It is part of a project within natural philosophy, which will address broader aspects of the dynamics of the growth of civilizations and their potential implications for the information society.

Keywords: dialectics; epistemon; information; logic in reality; natural philosophy; ontolon; semiotics

1. Introduction

Philosophy, science and logic are systems of thought devised by human beings to describe their world and what it means to exist in it. In the classical West and to a certain extent in the East, throughout history, there was no separation between the disciplines. However, the value of philosophy, especially today in the West, has been diminished by several major errors: the work of Aristotle and other classical Greek, and later Western European thinkers has been misused and misunderstood, without the proper attention paid to necessary corrections and extensions made possible by modern science. The value of dialectics as the basis of reasoning, and the need for a logic based in science rather than language are major examples. In the last 100 years, phenomenology and semiotics have been proposed to bridge the gap between knowledge and reality, but all suffer from reliance on the epistemic principles of classical linguistic logic. Dialectics, in particular as expressed by Hegel, was diverted from its initial objectives and used to support limited political-economic idealism and ideologies.

The objective of this paper is to define a philosophy of and in reality that effects a 'rejunction' with some less familiar insights of Aristotle and recovers them to serve the current social objectives of the emerging information society. Rapidly, there is in Aristotle the basis not only for modern bivalent linguistic logic, but also for a logic that refers to actualizations and potentialities in a physical world of processes. We will propose an extension and development of and to the second logic of Aristotle

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Time and Life in the Relational Universe: Prolegomena to an Integral Paradigm of Natural Philosophy

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Abstract: Relational ideas for our description of the natural world can be traced to the concept of Anaxagoras on the multiplicity of basic particles, later called "*homoiomeroi*" by Aristotle, that constitute the Universe and have the same nature as the whole world. Leibniz viewed the Universe as an infinite set of embodied logical essences called monads, which possess inner view, compute their own programs and perform mathematical transformations of their qualities, independently of all other monads. In this paradigm, space appears as a relational order of co-existences and time as a relational order of sequences. The relational paradigm was recognized in physics as a dependence of the spatiotemporal structure and its actualization on the observer. In the foundations of mathematics, the basic logical principles are united with the basic geometrical principles that are generic to the unfolding of internal logic. These principles appear as universal topological structures ("geometric atoms") shaping the world. The decision-making system performs internal quantum reduction which is described by external observers via the probability function. In biology, individual systems operate as separate relational domains. The wave function superposition is restricted within a single domain and does not expand outside it, which corresponds to the statement of Leibniz that "monads have no windows".

Keywords: Leibniz; monad; internal quantum state; relational biology; reflexive psychology; self

1. Introduction: Relational Ideas in Philosophy and Science

After Thales (c. 624-546 BC), who formulated the concept of substance and is recognized as the first philosopher, Anaximander (c. 610-546 BC) became the founder of scientific thinking [1]. His definition of the primary substance as *apeiron* introduced the idea of potentiality in philosophical thought. According to Anaximander, "things are transformed one into another according to necessity and render justice to one another according to the order of time" [1]. Time orders things by separating them in a way that the simultaneous contradiction is avoided. While Pythagoras (c. 570-495 BC) is regarded as the founder of mathematics, and Parmenides (c. 540-470 BC) was the founder of logic, Anaxagoras (c. 510-428 BC) can be considered as the founder of the relational science. Anaxagoras claimed the multiplicity of "seeds" called later by Aristotle *homoiomeroi*—the particles having same nature as the whole [2]. *Nous* (mind) in the philosophy of Anaxagoras orders all homoiomeroi and can be related to the philosophical idea of pre-established harmony. Later, the relational concept of knowledge was developed in detail by Aristotle (384-322 BC) who, in his tractate *De Anima (On the Soul)*, attributed the notion of self to the internal determination within living systems [3], and introduced two types of time in *Physica*, one which is measured and one by which we measure, suggesting that our visible world is generated by a reflexive loop that involves these two types of time [4]. This loop assumes the minimum action that cannot be further divisible, which provides a possibility of the

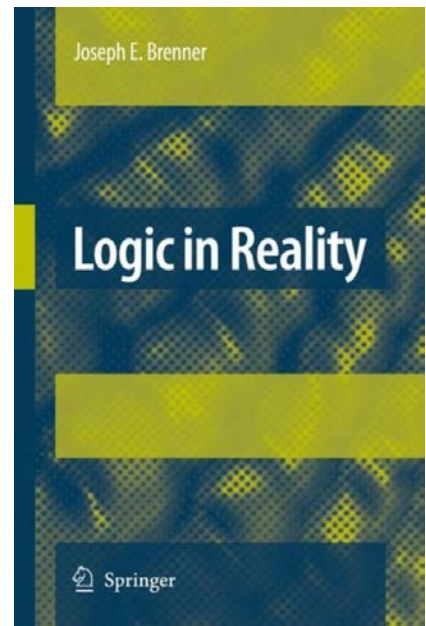# Being-in-the-World
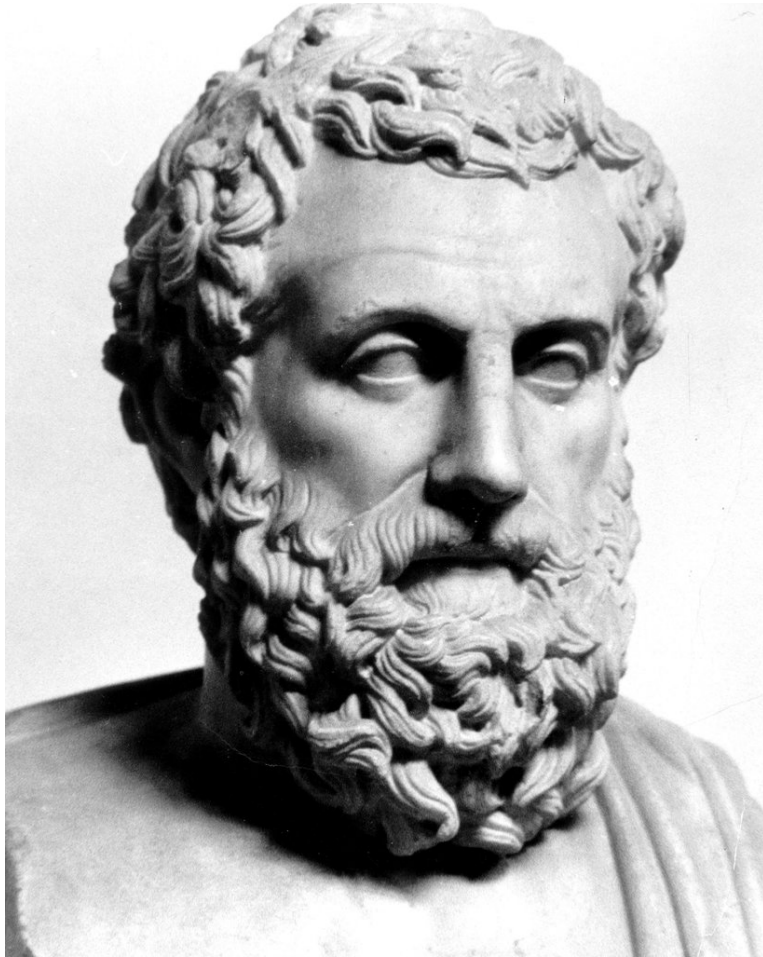
**Aristotle (384-322 BC)**

Heidegger (1889-1976)

Heidegger's influence on natural sciences including physics is much less pronounced than it could be. He admitted that his "*Sein und Zeit*" is a completely imperfect attempt to enter into a temporality (Zeitlichkeit) of being (Dasein) after Parmenides.

LOGIC IN REALITY

- Non-standard, non-propositional Logic, discussed at previous ICPI's

- Describes the dynamics of the evolution of real processes

- Dialectic aspects of logic; logical aspects of dialectics

- New approach to Natural Philosophy

DIALECTICS

Becoming

Being   Nothing
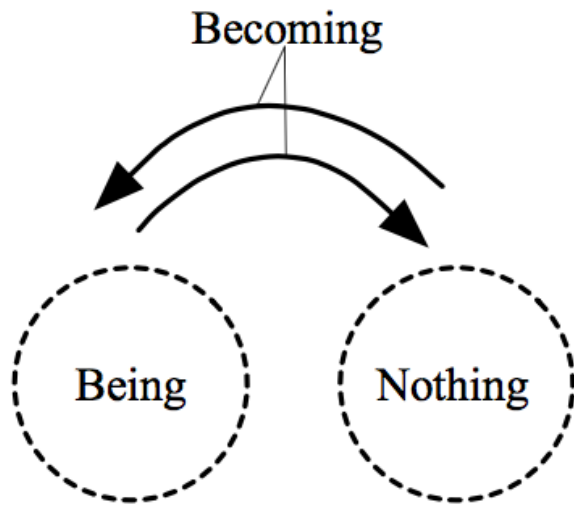
- The status of dialectics since ancient Greece
- Refers to the real world consisting of the forms of existence involving acting subjects
- Dialectics, like LIR, explores the fundamental causality realizing self-movement.
- The basis for morality and social communication
- Dialectical Realism: description of change and changes
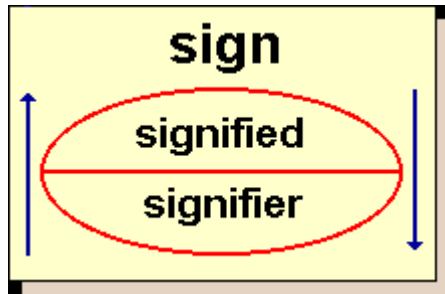
SEMIOTICS AND SEMIOSIS: THE DIALECTICS OF MEANING

- Reconceptualization of semiotics and semiosis
- The paradox of describing the origin of logic by logical means
- Discourse between 'our' logic and that of the system
- Dialectics of appearance and reality
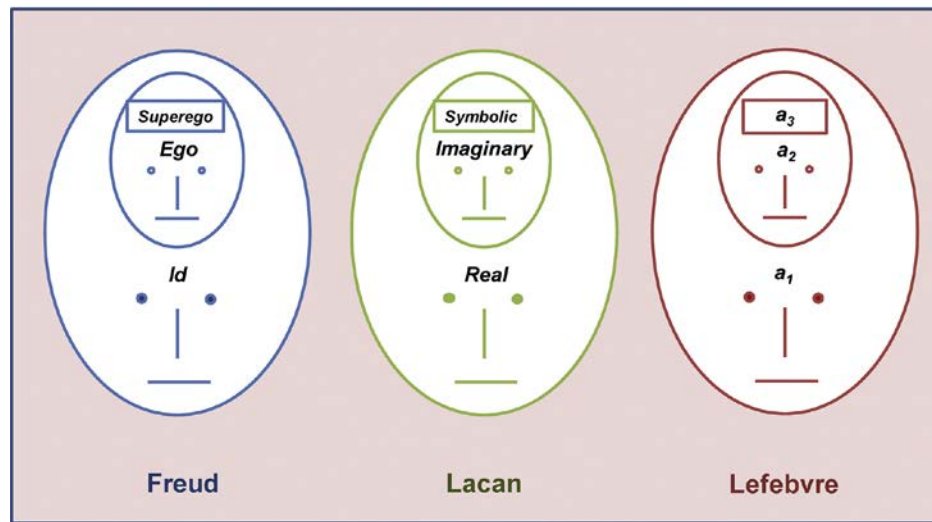
DIALECTICAL DISCOURSE IN REALITY

- Discourse of units of reality – ontolons

- Paradox of describing of the origin of logic by logical means and the origin of computation by computable means results in a discourse between our own logic and the internal logic of the system with which we interact and which we aim to describe.

- Aristotle (in *Physica)*: time which is measured and time by which we measure

DYNAMIC SEMIOSIS – SEMIOKINESIS

- Concept of dynamic semiosis – from Whitehead's Process Philosophy – concrescence and prehension
- When the uncertainty of a clinamen is reduced – the dynamic cycle appears which generates and supports *meaning*
- This corresponds to information transfer
- In social dynamics – cliodynamic cycles (*clions*)
- Information – what connects mind and matter, potential and actual, *eidos* and *technos*, qualia and representation
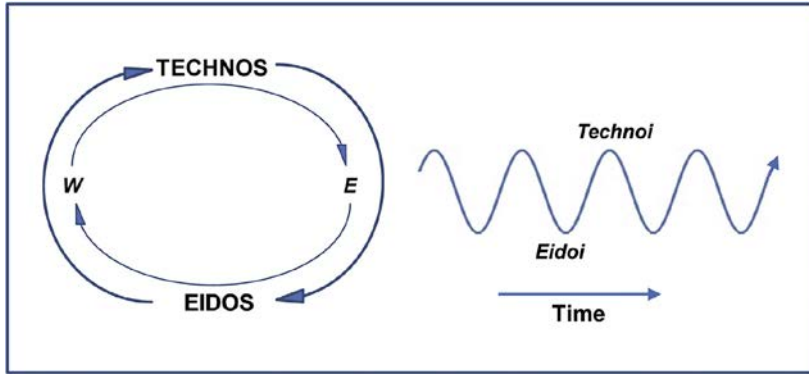
INFORMATION AND COMMUNICATION: THE DIALECTICS OF MEANING-2

- New interpretations based on the parallel use of dialectics and LIR

- ***Meaningful information is reality in potential form***

- Consciousness and the real interactions between internal and external moving, between actuality and potentiality

- Interpersonal relations and the communication of meaning
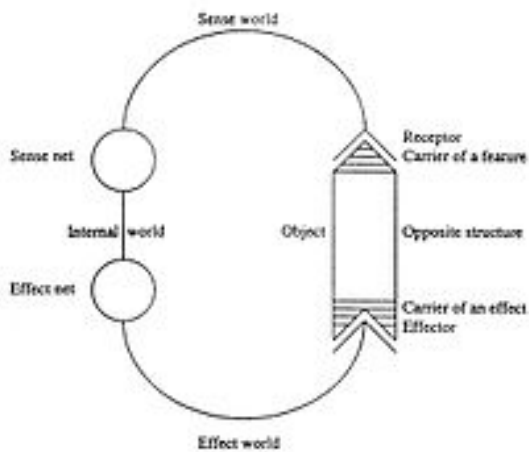
FORMS OF REALITY AND EXISTENCE

- Underlying dynamics of existence and thought – role and function

- Forms or parts of the processes involved, potential and actual

- Ontolons as units of processes-in-progress; epistemons

- Correspond to the multiplicity of processes in the extant domain

- Reference to ontic and epistemic entities and their relation

SUMMARY AND CONCLUSION: PHILOSOPHY IN SOCIETY

- Contribution to the recovery of both dialectics and semiotics from reductionist interpretations
- Potential reunification in a new synthetic paradigm centered on meaning and its communication
- Background to a description of nature accompanying the new functional convergence of science and philosophy in progress, also noted by Wu
- 'Dialectical realism': a fundamental basis of the ethical development of knowledge for the common good.
- Concepts and methodologies: unite natural and social sciences, logic and philosophy in a common meta-thesis → the real contours of a new understanding of nature and civilization