

CHART 1 TITLE CHART

PROLEGOMENON TO AN INFORMATIONAL PHILOSOPHY IN REALITY

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CHART 2 WU KUN AND THE PHILOSOPHY OF INFORMATION

Good Morning. Today's meeting is the resultant of the confluence of two streams of endeavor, that of Information Science, represented by the Foundations of Information Science or FIS initiative of Pedro Marijuan and Wolfgang Hofkirchner, and Information Philosophy, pioneered in China by Wu Kun. Some of us were privileged to participate in the FIS Conference of 2010 in Beijing at which we first became aware of the massive work by Wu and his students previously hidden behind a language barrier.

As you know, Wu has shown that the Philosophy of Information is a Metaphilosophy since it includes all the separate philosophical disciplines, as well as the sciences in their philosophical and theoretical aspects. Three prior International Conferences on the Philosophy of Information have all been held under the direction of Professor Wu, first in Xi'An and then in conjunction with the Information Summits of the newly formed International Society for the Study of Information in Vienna and Gothenburg. As discussed by Wu, together with Joseph Brenner, the change in perspective required in the Meta-(philosophy) of Information amounts to the start of a revolution in philosophy itself, Meaning, information and reality form a triple of concepts at the center of it.

I say start, because although the vitality of this evolving discipline in China is clear, evidenced by the large participation of Chinese professors and students here in Berkeley, it is less so in other parts of the world. The work of Luciano Floridi on the philosophy of information in Italy and Great Britain, which evolved independently in parallel with that of Wu, has received some attention. In comparison, however, it is a doctrine whose applications remain limited, for example in the area of structural realism, due to maintenance of classical concepts of logic. In prior papers presented at this venue, Brenner has focused on the application of his non-propositional logic to the understanding of information processes.

In new work undertaken jointly by Brenner and myself, we build on our respective backgrounds in science to develop a new synthetic approach to knowledge as a whole, starting with the recovery of dialectics, together with a new logic as necessary tools for the understanding complex phenomena such as meaning, consciousness and communication. In all of which the nature and operative function of information is essential. We have submitted a major paper to the journal *Philosophies* of which we are glad to be able to present some of the key ideas in a preliminary fashion here. The sequence of topics follows that in that paper.

CHART 3 LOGIC IN REALITY

3. LOGIC IN REALITY (LIR)

The concept of a logic of and in reality originated in the work of the Franco-Romanian author Stéphane Lupasco (Bucharest, 1900 – Paris, 1988), although classical precedents go back to Heraclitus. A book by Brenner and subsequent papers, have up-dated and extended this logical system, now designated as Logic in Reality (LIR). LIR is a non-propositional logic that focuses on the physical interactions in real entities, phenomena and processes to describe their evolution, that is, change. Here, we review briefly some key basic aspects of LIR, comparing it with the major kinds of classical and non-classical logics, in order to bring out the critical differences that a departure from logic as a linguistic system entails. The relation of LIR to non-standard probabilities is the basis for the further generalized applications of LIR we have made in this book to natural processes, both physical and cognitive. In particular, we emphasize the dialectical aspects of this logic, as well as the logical aspects of dialectics. The joint application of logic and dialectics, as suggested above, makes possible a new approach to natural philosophy, providing a basis for differentiating it from philosophy *tout court*, and enabling a more rigorous approach to the qualitative aspects of phenomena.

CHART 4 DIALECTICS

4. DIALECTICS

In my work, I have explored the concept of dialectics from its appearance in Ancient Greece as a discourse between two or more people holding different points of view about a subject, but wishing to establish the truth through reasoned arguments. Thus formal logic refers to subjects concerned with the most general laws of truth, while dialectics refers to the world consisting of the forms of existence which are the multiple acting subjects

Dialectics, like LIR, explores the fundamental causality realizing self-movement. In this movement, the relations are established to other subjects and thus to external bodies via the abstracting capacity which generates ideal forms of reality. This ideal activity results in valid practical implementations. At the level of social organization, intellect is involved in establishing relations not only to external material objects but to other intellectual beings, which becomes the basis of morality and successful social communication. In the Main Paper, we develop the principles of *Dialectical Realism* that relevantly describe the changes occurring in the world of communicating observers perpetually reproducing the external reality within which they actively communicate.

CHART 5 SEMIOTICS AND SEMIOSIS: THE DIALECTICS OF MEANING-1

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Our views of dialectics and logic can be used to reconceptualize the areas of semiotics and semiosis. With the arrival of self-awareness of existence, semiosis describes the active, participatory and relational ontological process of the discovery of meaning. It is a phenomenon with its own dynamic 'logic' of processes. We justify semiosis for its hermeneutic value that provides additional insight, given that there is no direct physical evidence for the existence of the respective cognitive entities *qua* entity. The paradox of describing 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. This discourse is semiotic by nature, generating the relation between the signifier and the signified and providing the growth of complexity of this set of relations. In rethinking semiosis, we return to the dialectics of appearance and reality. The novel feature that we introduce into this dialectics is the existence of a logical, dynamic relation between the subjects of communication changing over time.

CHART 6 INFORMATION AND COMMUNICATION: THE DIALECTICS OF MEANING-2

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Both formal and non-formal descriptions of logic are possible. However, formal approaches using of bivalent or multivalent linguistic logics and standard category theory have limited explanatory value. Non-formal or partly formal approaches have been much less developed, but they offer interpretations of phenomena in terms of dialectics (Section 3) and LIR. The second group has received less attention as being allegedly unscientific and non-rigorous, as most of the time it is. Our new interpretations of information and communication and *their* relation to meaning are based on the parallel use of dialectics and LIR. The complexity of information makes it difficult to give a 'single, clear' that is, substance-ontological definition of it. The failure of attempts to do so suggests that major categorial errors are being made. We therefore make the following lapidary statement, to be justified in what follows: ***meaningful information is reality in potential form.*** It is derived from the Lupasco/LIR conception of consciousness which basically looks at the real dialectical interactions between internal and external, better internalizing and externalizing mental processes as they change and evolve, moving between potentiality and actuality. Extension to interpersonal relations provides the basis for communication of meaning.

CHART 7 FORMS OF REALITY AND EXISTENCE

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We have become convinced that too little attention is paid to the role and function of the underlying dynamics of existence and thought, from philosophical, logical and scientific perspectives. Our dialectical-logical approach supports a new view of the operation of thought and

other real processes at a further complex level. We consider this level of abstraction in the sense of sets of dynamic moving elements, parts or forms of the processes involved, potential and actual. We introduce the domains of ontology, which we call ‘*ontolons*’ that represent a unit of real processes-in-progress possessing a kind of identity. Ontolons interact in accordance with the LIR *Principle of Dynamic Opposition* mentioned above. Every ontolon has the property of deterministic mechanical movement arising from its spatio-temporality and of manifesting its internal structure. Even in its simplest forms, the ontolon evolves in a both unpredictable and predictable manner (non-deterministic and deterministic in a mechanical sense). From initially unpredictable states, ontolons can become controlled through communication between them, in which a reduction of potentialities for totally free movement takes place. Ontolons are the forms of existence which correspond to a multiplicity of dynamic processes in the extant domain, including knowing. We provide the framework for the description of both ontic and epistemic entities and their dynamic relations. They are unified conceptually *via* the immanent cognitive logical operations involving potential and actual states in interaction.

CHART 8 SUMMARY AND CONCLUSION. PHILOSOPHY IN SOCIETY

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We propose the work discussed today as a contribution to the recovery of both dialectics and semiotics from reductionist interpretations and their potential reunification in a new synthetic paradigm centered on meaning and its communication. Formalization of dialectical logic cannot be complete and that is why it tends, like other ‘diversities’, to be ignored in scientific discourse. However, using the logic of real processes to redefine the ontological relations between meaning, communication and language always remains a fundamental task; it forms the background of any description of nature that can accompany the new functional convergence of science and philosophy in progress, also noted by Professor Wu. We consider the development of this approach that we can define as ‘dialectical realism’ as a fundamental basis of the ethical development of knowledge for the common good. The concepts and methodologies introduced and developed in our on-going work is aimed at uniting natural and social sciences, logic and philosophy in a common meta-thesis to provide the real contours of a new understanding of nature and civilization.