

Philosophy of Information—Fundamental Transformation of Philosophy [†]

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Abstract: Philosophy of information should not be taken as the study of philosophical problems in information science and information technology, nor it should be considered as a certain philosophy branch which is affiliated to or can be summed up into any existing traditional philosophy. “Partition of existential field” is the highest paradigm of philosophy; and only changes in the highest paradigm can constitute the revolution of philosophy. Philosophy of information has triggered radical changes in the highest paradigm of philosophy for the first time, so it will certainly bring about the revolution of philosophy.

Keywords: philosophy of information; metaphilosophy; Philosophical Paradigm; revolution of philosophy

1. Introduction

“Partition of existential field” is the highest paradigm of philosophy; and only changes in the highest paradigm can constitute the revolution of philosophy. Since philosophy of information (PI) has triggered radical change in the highest paradigm of philosophy, it will bring about fundamental transformation in philosophy, thus leading to the revolution of philosophy.

2. Information Ontology: Dual Existence of Matter and Information

Partition of existential field in traditional philosophy, existence = matter + spirit, has been transformed by PI theory of its dual existence of matter and information. So traditional philosophical basic question “the relationship between being and thinking” can no longer be interpreted as that of the relationship between matter and spirit. On the basis of this renewed way of existential field partition, to answer this so-called basic question requires to explore the relationship between matter and spirit, matter and information, and information and spirit. In this way, the original simple dual matter-spirit relationship transforms into a more complicated and intertwined interaction among matter, information and spirit, thus leading to fundamental changes in ontology theories.

3. Information Epistemology: Multi-Intermediary Construction and Virtualization of Human's Cognition

Regarding to human beings' cognitive process and mechanism, western philosophy tends to see the relationship between matter and spirit in an utterly isolated way. PI sees matter and spirit, object and subject as a unified process of mutual transformation and generation via corresponding activities of objective information as intermediary; it regards cognition as a complicated emergence in the process of comprehensive construction and virtualization of multi-level information intermediaries. There are five aspects of intermediary level: objective information field, subject's physiological

structure, subject's cognitive structure, material tools in practice and information condensation in the history of nature and society. Due to the complicated emergence via multi-levels of intermediaries, it is certain that information of different nature and levels must undergo complex activities, such as information-choosing, matching, transforming, re-constructing, recognizing, storing, interpreting, monitoring, constructing, creating and virtualizing. In these series of complicated activities, information shows its complex forms: in-itself information (objective information), for-itself information (information grasped by subject), regenerated information (information created by subject's mind), and social information (cultural information created by human beings—an organic integration of the previous information forms) [1].

4. Information Evolution Theory: Dual Evolution of Matter and Information

The evolution view of PI argues that both in the level of the entire universe and that of concrete things exist directions of evolution and devolution, grand circulation of progressing and retrogressing. And respectively, there must exist synchronized evolution and devolution of matter and information in mutually cooperating, bearing, reflecting and defining holographic relationship. There is neither “bare information” with no matter to bear with, nor “pure matter” with no specific information to carry.

5. Information View of Space and Time: Intrinsic Unification of Time and Space

The contemporary information science, complex self-organized theory and PI reveal the complexity of time and space and propose a brand new inter-confused view of space-space. This view investigates the time-space relationship by introducing informational, historical and evolutionary perspective to it, and illustrates the intrinsic mechanism and process, the achievement of universal relation, stipulation and transformation via the way of inter-confusion of time and space. Because all structure of existing matters come into being within the coagulation of time-space transformation, real structure of all things thus is the integration of spatialized time (time condensed into space structure) and temporalized space (structure of space has its own dimension of time).

6. Holographic Theory: Mechanism, Process and Result of Universal Relation

Since the inter-confusion of time and space is achieved via information condensation in the interaction and inter-transformation among things, this particular process makes all things are the integration of matter and information. Information-matter thing like this will certainly present its condensed information of different level and various nature in certain ways along its evolution process, which constitutes lots of interesting holographic phenomena. PI stress that the holography is “complex and multi-level information relation and content which reflect itself in its own structure and coagulate what beyond its actual existence, and we have every reason to regard holographic phenomena as the result of related information coagulation and accumulation which could realized in the process of complex self-organized evolution”. There are five types of holographic phenomena: holography of historical evolution, holography of futuristic revolution, holography of evolution series, holography of internal evolution and holography of evolution structure. Certain constraints and specification should be put into consideration when we talk about holographic phenomena. Firstly, it is only related to the evolutionary direction; secondly, holography is insufficient; thirdly, information of holography mainly concerns the procedural aspects; and lastly, do not over-generalized the holographic view [2].

7. Information View of Value: Matter—Information Dual Value Theory

The universal interactive relationship among things brings out certain for-object and beneficial relation among things' universal interaction. On the basis of this universal particular relationship, a new value philosophy could be built upon the body of nature. The value in PI “is the effect realized via interactions within or between things (namely matter and information, with spirit as the subjective form of information)”. Based on this definition, the value philosophy is to begin with the

theory of natural value and heaven's value, and could explain humane/subject value as in traditional value philosophy, besides it's also the dual value theory of matter value and information value. And the information view of value proposed by PI could provide theoretical foundation in general philosophical level for informational ecological civilization and sustainable development theories.

8. Information View of Society: New Theory of the Nature of Society and Evolution of Society

From the viewpoint of information activities, it is the essence of human society to grasp, utilize, develop and create information, and the strengthening scale of intermediary links of information-grasping, utilizing, developing and creating is the scale of human society evolution. The PI holds that the different civilizations of mankind are based on different information processing, creation and dissemination as their technical premise. The information network, for the development of human science and technology, economy and society, is not only a new way of information processing, creating and dissemination, but also a new production mode, organizing model and development model. The popularity and development of information networks has and will inevitably lead to the birth of a new network culture. With its development, the system of human values will increasingly develop in a diversified direction, which will to a great extent weaken and dissolve kinds of systems of the traditional world hegemony and centralization of state power, so as to establish a more democratic and free political system, economic model and social order. The development of information network has become a technical prerequisite for establishing a new socialized civilization system of information society.

9. Information View of Production: New Understanding of the Nature of Human's Practice and Production

According to the general principles of science—The conservation of matter while the non-conservation of information, human production activities doesn't create matter, possibly only information. From the dimension of information activities, human's production and practice can be seen as a process where intentional information firstly created by subject, implemented through subject's plan information and then realized itself in object. Productive activities can only be the production of information, and human's productivity can only be informational productivity. PI is not only concerned with the production of human's material goods, but also with that of human spirit, the reproduction of human beings and the production of human relations, virtual production and many other forms of productions, and takes the process of various forms of production as intertwined and inner-integrated unity with each other as its basis and premise [3].

10. The Theory of Information Thinking: Transformation of Scientific and Philosophical Way of Thinking

Based on the unified and transformative relationship between scientific paradigm, scientific world picture and scientific way of thinking, PI divides all grand scientific revolutions in human history into three stages, through which the scientific world picture of mankind transforms from the substantive realism to the field realism, and then to the information system complex theory, while human science thinking way accordingly transits from the traditional physical thinking to energy thinking, and then to information thinking.

11. The Theory of Thorough Coherent Unified Information Science: Information Scientization of Science

Not only philosophy of information can be regarded as a metaphilosophy, but also information science as a metascience. Today's information science is a subject system involving many domains and cross multi levels. The most general theory and method of information science is a new scientific paradigm, with strong power to penetrate and reform the traditional subjects in a comprehensive way, when the principles and methods of information science were properly applied to. So far, the penetrability of information science sees no setback in any conventional subjects. Science in the

information age goes through the process of overall informatization in the same way as society, economy and life in this era. This informatization process of science development can be aptly worded as the information scientization of science. Due to its penetrability of all levels of human knowledge, unified information science will be a new modern scientific system of thorough coherence unification. In this new system, PI presents its scientific character, while those specific information science, technology and engineering practice show their philosophical charm. The unified theory of information science will inevitably lead the development of human knowledge again to achieve a unified and comprehensive new form [4].

12. The Integration of the Existing Scientific Research Program

Information science and information philosophy research programs can well unify reorganization and holism, determinism and non-determinism; integrate elements, relationship, structure and dual emergence (simultaneous construction of new structures in both levels of the whole and its elements); incorporate organization interaction, network feedback loop, holographic reflection, inter-confusion of time and space, unity of direct existence (material) and indirect existence (information), compatibility of order and disorder, elements of independent personality and the emergence of the overall behavior and many aspects together; and fully reveal the nature of self-organization behaviors, concrete process and mechanism of self-organization genesis, thus roughly making a full coverage of the basic essence of complexity research program and offering informational interpretation dimension for the complexity theory. It seems that the information science and information philosophy research programs are able to accomplish its historical mission to integrate traditional and modern scientific research programs and develop in a unified fashion.

13. The Comprehensive Renovation on the Existing Science and Philosophy

Due to its general characteristics of information in ontology, all human science and philosophy disciplines are facing with the transformation by information paradigm, and require the informational dimension in their comprehension. Thus information paradigm could create all-dimensional transformation of existing science and philosophy.

Conflicts of Interest: The authors declare no conflict of interest.

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