**Abstract:** The theory of information ontology proposed by the Chinese philosophy of information not only changes the connotation and limit of “existence”, but also lays a foundation for the discussion of the originally illusory “non-existence” world from the level of philosophical abstraction. However, the existing information ontology still has some aspects that need to be expanded and deepened, and there are several problems that need to be solved. The new information evolution ontology can provide some constructive answers to solve these problems.

**Keywords:** philosophy of information; integration; evolution; existence; non-existence

1. **Introduction**

In this paper, the author starts from the angle of double existence and evolution of the matter and information, and then extends it further to the field of “non-existence”, which expands the static ontology into a dynamic, developing, and evolving theory, ultimately answering the question of existence and non-existence in the field of information philosophy.

2. **Start with Information Ontology**

The existing Chinese information ontology is based on a new way of dividing the realm of existence. Information philosophy overturns the understanding of the scope of “being” in classical, traditional philosophy. Traditional philosophy holds that the realm of existence should be divided into “matter” and “consciousness”, while information philosophy holds that “existence” should be divided into “matter” and “information”. The concept of information is defined as: “Information is a philosophical category marking the indirect existence. It is the self manifestation of the way and the state of matter (direct existence) [1] (p. 46)”.

Traditional philosophy proposes that there is an unbridgeable gap of knowledge between matter and consciousness, but the real connection between them has not been found, and the interpretation of the real relationship between matter and consciousness is vague. In fact, there exists an intermediary link between matter and consciousness, which makes them mutually influence and function, although they are not mutually accessible. In information philosophy, this intermediary is objective information (in-itself information), which connects matter and consciousness. Objective information and subjective information (consciousness) constitute together the information domain. These subversive ideas have completely changed the human understanding of information and “existence” itself.

As the foundation of Chinese information philosophy, The introduction of information ontology not only changes our overall understanding of the world we face, but also builds a bridge between matter and consciousness, Which providing a new way for humans to explain consciousness itself. Chinese philosophy of information not only redefines the connotation and boundary of “existence”, but also creates a premise for philosophy to explore the originally illusory “non-existence” world.
On the basis of information ontology, Wu Kun proposed information evolution [1] (p. 200). In Kun Wu’s theory, evolution is contained in the process of evolutionary. The difference between evolution and progressive evolution is that evolution includes progressive evolution and retrogressive evolution, and progressive evolution is the manifestation of the movement and transformation of “being”. And because “existence” is the dual existence that combines “matter” and “information”, so the evolution of the world is double evolution [1] (p. 211). In his evolutionary thought, time and space constitute space–time, and the evolution of the world is carried out in the interaction of space–time. Among them, he simply combs the process of human’s understanding of time. He believed that “time is change”, which is the transformation of space structure caused by space interaction [2] (p. 448). The change is not only on a physical level, but also on an informational level. It is the mediating of the information field derived from the spatial interaction of things, as well as the assimilation and dissimilation process of information, that makes possible the dual evolution of matter and information, and becomes the basis of the existence of things in a holographic way. Kun Wu also studied the concept of “Wu” (non-existence). Starting from the theory of “being and not being” in ancient Chinese philosophy, he ascribes the problem of being and not being in Chinese philosophy to ancient philosophers’ understanding of the unity, wholeness, and systematism of the world. Therefore, the debate on “You” and “Wu” can be summarized as the debate on the origin of the world, whether to unify “nothing” with “being”, or “being” with “nothing” [2] (p. 449). But at the same time, he also associated the research results of modern science with Laozi’s “nothing”. The Big Bang started from “singularity”, and Laozi’s “You” born into ‘Wu’ have similar philosophical cores [1] (p. 396). Then, he asked two important questions: What is the state of the so-called zero energy in the singularity? What kind of “being” will it transform into after the annihilation of positive and negative energy [1] (p. 417)? From these two questions, we can see that Kun Wu has already thought of the deep questions in the view of existence, and information philosophy just can answer these questions. But unfortunately, he did not take the last step, which is to use the ideas of information philosophy to discover and interpret the “non-existent” world.

3. The Limitations of Existing Information Ontology

The ontological system of the Chinese philosophy of information was put forward very early, which only stayed on the static division of the existence field at the beginning. Based on the new division of the field of existence, later they put forward the theory of information evolution, the theory of double existence and double evolution of the world, the problem of time from the perspective of information philosophy, the problem of “non-existence” and the relationship between “existence” and “non-existence”, etc.

However, as long as we make a comprehensive and integrated thinking on the above issues, we will find that theories in these aspects should not be separated, but should be integrated into the ontology, so as to make the whole theory of information ontology more full, substantial, and comprehensive, with more powerful explanatory power, and expand the static ontology into an dynamic, developing, and evolving ontology ultimately.

To sum up, China’s information ontology theory has a series of limitations:

1. The division of the realm of existence is static and isolated, and does not show evolutionary thoughts on the level of ontology;
2. The definition of information only reveals the relationship between information and matter, but does not reflect the relationship in definition between information and information (including spirit), information, and “non-existence”;
3. “Non-existence”, as a category corresponding to the concept of “existence”, should also be the focus of ontological discussion;
4. The basis of ontology should not only be limited to the division and interaction of “being” (matter and information), but should be extended to the whole world, and should be able to accommodate the idea of the mutual transformation and evolution of “being” and “non-being”;
5. The division of the realm of existence should be understood as multiple aspects of the
realm of existence: “non-existence” and “existence”. Matter and information should
not be simply divided; they are a multifaceted whole linked by directivity.

The author has mentioned four levels of existence in previous papers: A. objective
immediate existence; B. objective indirect existence; C. subjective indirect existence; D.
subjective regeneration indirect existence. In the ontology of information evolution, the
four levels above correspond to material, in-itself information, self-for-itself information,
and regenerative information respectively.

In the same paper, the author also related to the several properties of “existence” and
“non-existence” in the process of mutual transformation: 1. continuity; 2. developmental;
3. contingency; 4. retrospective; 5. predictability [3] (pp. 154–196). But it ignores a very
important property, which is the sixth point: directivity.

Directivity refers to a kind of relationship between “being” and “non-being”, which
refers to how these two concepts are co-referenced, emphasized, through, connected, and
transformed. This connection and transformation exists in the mind, as well as in the
external world.

As mentioned before, existence has four aspects. The four aspects of “being” have
directivity relative to anything and are connected together by directivity. Many things are
“being” in some ways and “non-being” in other ways, but directivity still relates to these
aspects. As Parmenides says: thought and being are the same. What we now call thinking
and the external world is directional, because this is also the basic nature of “being”, and
information and matter belong to the category of being.

From the concept of directivity, it is easy to associate with the concept of intentionality
mentioned in phenomenology. Franz Brentano first proposed the concept of intentionality
in phenomenology. Edmund Gustav Albrecht Husserl also absorbed Brentano’s ideas
and proposed phenomenology. The starting point of the concept of intentionality is that
consciousness is all about something, while the concept of intention in Husserl means “to
intend to”, which means that intention has the meaning of “direction” or “direction” [4]
(p. 288).

Directivity just has a certain quality of unity and purpose, but not identity or homo-
geneity absolutely. The author has mentioned in the retrospective explanation that thinking
is directional when it reviews the “existence” that has passed away.

Nature evolves according to its inherent nature, and then develops a new “being” and
annihilates the old “being” in the long river of time. But thinking is different; it belongs
to the “existence” of information, which can create “existence” and transcend “existence”. On
the one hand, this transcendence lies in the fact that it can make use of information
materials given by nature for arbitrary combination, creation, and construction; on the
other hand, it can not only recognize and understand “existence”, but also the concept of
“non-existence”.

Especially when our subjective consciousness creates something, the directivity of
these new “being” is to some “non-being”. In addition, directivity is unidirectional; it only
points from the D aspect of “being” and “non-being” to the A aspect; otherwise, it does not
have directivity. And only information can point to the non-existent world; matter cannot
point to the non-existent world.

“Non-existence” inlays and blends with all aspects of “existence”, because they have
the same directivity; in other words, it is precisely from the directivity that “existence” and
“non-existence” are connected.

4. A New Interpretation of “Existence” from the Theory of Information Evolution

Information evolution ontology is proposed on the basis of existing information ontol-
ogy, and has a new understanding and interpretation of “existence” and “non-existence”
(as shown in “Figure 1”).
Information evolution ontology is proposed on the basis of existing information ontology, it is a temporal, moving, evolving, and transforming ontological system.

In view of several existing problems of information ontology raised in the previous section, information evolution ontology has its own unique interpretation:

In the original information ontology of Wu Kun, information is defined as “the self-display of the existing way and state of matter”. In a recent textbook, Kun Wu proposed an expanded definition: “Information is a philosophical category that marks indirect existence. It is the self-manifestation and re-manifestation of the existing way and state of material (direct being), as well as the subjective grasp and creation of information by the subject of knowledge and practice, including the cultural world of creation [2] (p. 143)”.

The first definition only reveals the relationship between information and matter, and information’s original place in the world should be more complex. Because it is not only the manifestation of matter itself, but also the manifestation of information itself, which can even point to “non-existence”. So, it should not just be a manifestation of matter, but a manifestation of the whole world. Wu Kun’s first definition of information is only from the perspective of information generation. From the point of origin, all information is indeed the manifestation of matter, but from the perspective of the function of information and the role it plays in “being”, this definition is not comprehensive. For example, just like if you define Apple, you cannot just simply say: “the fruit of a plant” or “a type of fruit”, such a definition is too thin and does not capture the characteristics that distinguish the apple from the fruits of other plants. Although the second definition of information by Wu Kun can accommodate all information forms, it still fails to accommodate the directivity of information to the existent and non-existent world.

Therefore, a more comprehensive definition of information should be: “Information is a philosophical category that marks indirect existence. It is the self-display and re-display of the existence mode and state of matter (direct existence), as well as the subject’s grasp and creation of it, and it is also the point of the existing world and the non-existing world”.

Friedrich Engels proposed that the basic problem of philosophy should be the relationship between thinking and being [6] (p. 223). According to Wu Kun’s philosophy of information, the question of what exists should be raised to the level of the lead-up question, which needs to be solved first in the basic problem of philosophy. As the ontological theory of philosophy, human reason should continue to advance to the ultimate. In human history, there have been many “debates about whether there is anything”, but without the support of relevant theories in the information world, these “debates” can only fall into endless myths. Therefore, the most basic, primitive, and ultimate problem in philosophy should be the problem of “You” and “Wu” or the problem of “Existence and Non-existence”.

Figure 1. Schematic diagram of being and non-being [5].

From “Figure 1”, we can see that “existence” is only a node in the movement of time. In the endless movement of its own evolution, “existence” and “non-existence” are transformed into each other. The non-existence before is transformed into the current existence, and the current “existence” will be transformed into “non-existence” after a short while, back and forth, and the evolution of “existence” will never stop. Different from the existing information ontology, it is a temporal, moving, evolving, and transforming ontological system.
In fact, the dual existence and dual evolution of material and information have been mentioned in Wu Kun’s philosophy of information, and emphasizes that the two are mutually embedded and inseparable [7] (p. 8). The ontology of information evolution extends this idea to the realm of non-existence.

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