

NONLINEAR SYSTEMIC THINKING: SYNERGIC EPISTEMOLOGY

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ABSTRACT

Quantum physicists studying the essence of existence have discovered the connection between the constituent quarks and gluons within atomic particles. The interconnected synergy of rationality, sensibility, understanding, intuition, and imagination as components of the human mind is equally important, even if not as yet scientifically proven. The environment in which humans are located is a nonlinear system, but humans can grasp even nonlinear systems because the human pure spirit connects consciousness and comprehensive awareness with objects to be known.

Keywords: nonlinear systemic thinking, synergy, epistemology, mind, components of mind

INTRODUCTION

Those who study epistemology, the field of philosophy that deals with human knowledge, have attempted to answer the following questions: What does man know? How can humans know? What do humans know? Of course, in the domain of system philosophy, we have sought answers to the same questions. However, in our attempts it has not been clear in which part of the brain human free will may exist. We have identified only signs that human free will prevails in certain parts of the brain prior to its physical activation. In the quantum physics community, it is also known that there is some connection between sub-particles no bigger than 10^{-4} the size of a proton. The fact that humans can wrap their minds around such a concept suggests that there are comparable connections in brain action in terms of neurobionics. As quantum physics has posited a connection between sub-particles, I surmise that some linkages that have not been revealed between the functions of the mind act synergistically in the process of recognition.

SYSTEMIC THINKING IN COMPLEX SYSTEMS

Bertalanffy states that the system can be defined as a set of elements, and that the behavior of element p , where element p is in relation R , behaves differently in the other relation R' . He states here that the behavior in R and R' is different, there is no interaction, and the elements behave independently of other elements (Bertalanffy 1969, 55-56).

Building on the basis, Ackoff states that one system is a set of two or more elements, and that the behavior of each element affects the whole behavior. He also notes that the action of the whole element and its effects are interdependent, and the way each element behaves and how it affects the whole depends on at least one other method. However, he explained that when subgroups of elements are formed, each affects the whole behavior, and no one has an independent effect on the whole (Ackoff 1981, 15-16).

Systemic thinking people analyze the functions of individual elements in terms of the system as a whole – that is, they seek the purpose of the system to function as a system-

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specific function that does not belong to any of the individual elements. They also think that the entire universe system exists in physical space and time and develops other concrete and conceptual systems through internal dynamic interaction and exchange with the environment. In addition, these philosophers have systematic thinking about not only linear relations but also phenomena in nonlinear complex systems. From this point of view, the components of the mind are also interactively and systematically linked, and the mind of the human being intends to perceive the objects to be integrated.

System philosophical epistemology is the process of not only acquiring knowledge through systemic thinking but systematically forming knowledge. Systemic thinking can be distinguished from systemic thinking about linear systems and systemic thinking about nonlinear worlds. The former refers to the Newton-Hamiltonian and Kantian-based epistemology (Mainzer 1996, 48), and the latter refers to epistemology based on synergistic thinking about complex systems.

IMPERFECT HUMAN PERCEPTION OF COMPLEX SYSTEMS

In South Korea, even though individuals are usually religious believers, they want to know about their uncertain future and destiny. They therefore go to fortune-telling prophets and shamans to seek supernatural inspiration and ease their worries about the future and concerns about what has already occurred – in short, to consult and control their fate (*Economist* 2018). If humans fully know their complex surroundings, though, they will not ask fortune-telling prophets. The object that humans want to know, the environment, is very complex. However, it is another adventure for humans to approach non-linear thinking about the complex world, the universe. It is very dangerous for humans to perceive and act as a linear thought in the nonlinear world. To survive in a complex system, it is very necessary to do synergic thinking (Mainzer 1996, 13).

Humans grasp objects that they wish to comprehend through the composition of the inner mind. In this structuring of experience we perceive a certain static state of the object we want to know about that is necessarily limited in time and space, since we are not allowed consciousness of consecutive time. If these parameters do not shift, though, we might know a little bit about what we want to know. However, it is difficult for humans to know exactly what such parameters are in a complex system, and because the parameters of the system change, it is difficult to fully understand the nature and dynamics of the complex system. Therefore, the statistical analysis of the complex system we are attempting can be a kind of illusion. Even correlation analysis is limited by an implicit assumption that the parameters do not change (Boulding 1987, 115-116).

The majority of human conflicts come from the resulting misunderstandings among humans exercising their necessarily imperfect abilities of reasoning, computing, and understanding. Based on the rational mind of modern science and technology, many people made efforts to separate facts and values. One result has been a huge accumulation of knowledge in the field of science and technology; another, however, has been deterioration in the formation of a proper human knowledge system. The system of organic interactions of components of the human mind that has proven appropriate for much scientific and technological rational knowledge has also brought about misperceptions with regard to our knowledge of more complex systems.

In other words, there is lack of explanatory power about the fact that humans are well

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aware of the state of experiencing the objects that humans want to know, analyzing their properties, and combining the pursuing ideals. Complex systemic thinking is a system of recognition and logic that comprehends nonlinear interactions between the components of the complex system that the human being wants to know.

THE COGNITIVE STRUGGLE THROUGH SYSTEM THINKING TO REALIZE COMPLETE FREEDOM

As living systems, humans want to live freely. Human beings need to know in order to live, just as they need to eat to live. Human beings with free will want to live freely, but face many difficulties by obstacles that hinder human freedom. It is impossible for man to be completely aware of this difficulty. What humans do not know is a sort of chaotic, unbalanced state and a kind of entanglement of quantum mechanics. Human beings overcome their confusion by solving the problem of obstacles, knowing what they want to know through their free will.

The human species, a subsystem of the systems of natural systems on earth and the universe, has subsystems of spirit, body and mind that interact with the same kind of complexity seen in other systems. Within the human system, mind becomes aware by spirit. The mind consists of sensitivity, intuition, and reason. Human beings are led by spirit to organically grasp the objects that the mind wants to know. In this process, humans systematically simulate (copy) and organize objects that they want to know. It is not that the components of mind work separately. The components of the mind function systematically to collectively grasp the objects to be learned.

Depending on the situation in which the human being is, some of the components of the mind can be strongly simulated and constructed, and in the extreme case certain elements can be functionally rested or killed. It is important to develop spirituality and the functions of the human mind in order for human beings to recognize it properly. The body is composed of matter that can be transformed into energy, and energy can be transformed into information by mind. Information received by the mind is accepted by spirit and becomes human consciousness.

Human knowledge is largely divided into systems of scientific knowledge and systems of philosophical knowledge. Systematic scientific knowledge refers to the knowledge systematically grasped by scientific procedures in human recognition process. System philosophical knowledge refers to the knowledge systematically grasped by philosophical reason in human recognition process. A philosopher who wants to obtain system philosophical knowledge loves to make wise systematic thinking about the process of finding answers to fundamental questions about problems that scientific knowledge cannot solve.

SYSTEMATIC COMPLEXITY OF MIND-CONSCIOUSNESS PROCESS

A mind is the action or state of a person who feels or causes an emotion, will, or thought about an object. It is a space that is believed to be in the heart of a person, where emotions, thoughts, and memories of people are created or settled. The mind is expressed by the intricate interactions between emotions, intuition, and reason centering on the body's brain. Information is received by the mind and this information is conscious by the spirit.

The components of the mind system, free will, sensibility, understanding, reason, intuitive

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intuition, imagination, etc., systemically interact to create synergistic effects or results. But even what humans know in this way is the altered result of human belief and belief in reality and ideology. Even this synergistic consequence of the interaction of the components of the human mind that the human knows is a sort of web of faith (Goldman 2010). What do humans know in complex systems?

The spirituality of Human Being makes mind (sensibility, intuition, reason) consciousness. Therefore, human knowledge has a low level of knowledge and a true high level of knowledge. In this respect, the knowledge of the lower level means that there is awareness that was not conscious or not, and that the higher level awareness is conscious of the knowledge which is accepted through the mind. Therefore, human beings are usually speaking and writing in a state of unconsciousness.

What man really knows is that he consciously practices what he knows through his mind (the same as the ancient Greek philosopher Socrates). The intentionality of the mind is the unique ability of the human mind in complex systems (Mainzer 1996, 158). The human mind-brain entity itself is a complex system and evolved in human history (Mainzer 1996, 230). It is necessary to train and cultivate the human ability to function in the functioning of materials, energy, information, mind, consciousness, and spirituality that constitute the human cognitive system, and to supervise these functions. In particular, it is necessary to cultivate synergistic effects through organic interactions with the components of the mind. A Korean proverb holds that practice depends on mind. Here we are a kind of determination and a kind of mind has intentionality.

G. W. F. Hegel refers to the full realization of human freedom, which is thought to be the ultimate intentionality of human mind action. The realization of complete self-liberation also appears in the minds of social contract theorists like John Locke (Mainzer 1996, 251). The realization of human freedom in a complex system is realized through the highly nonlinear self referentiality of a complex system with intentionally acting beings. In the complex system of consciousness and freedom, the moments that people perceive, realize, and realize their freedom are the processes of a free act of human self-determination (Mainzer 1996, 316). Human synergistic awareness opens the path to the realization of freedom.

People with free will are therefore complex systems. Kant's scheme and Maturana and Varela's discussion of how we perceive autopoiesis (Maturana and Varela 1980, 78-82) do not differ markedly from the findings regarding human pattern recognition in the perception of the phenomena of complex systems. Mannheim's conception of ideology (Mannheim 1936, 64) based on a distinction between human realism and ideological perception also shares a family resemblance. The human mind as self perceived by spirit interprets complex phenomena that has to be learned nonlinearly, seeks non-absolute and discontinuous interactions of the components of the complex system, and pursues synthesis, not reduction. In other words, the human mind perceives synergistically.

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