

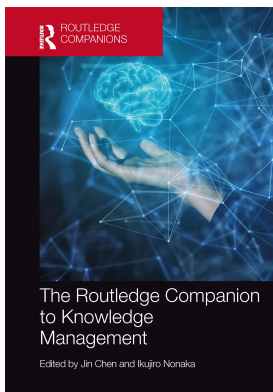
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### Evolution Logic and Modern Value of Chinese Knowledge-based View

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# 6

## EVOLUTION LOGIC AND MODERN VALUE OF CHINESE KNOWLEDGE-BASED VIEW

### From Confucian View of Knowing and Doing to Mao Zedong's Theory on Practice

*Jin Chen, Zhen Yang and Yue-Yao Zhang*

#### Foreword

From the standpoint of the history of scientific development, the modern notion of natural science stems from the formation and developments of Western theories on mathematics, physics and astronomy, particularly because undeniably the Western world has been the center of global science and technology in the modern age. As a matter of fact, in ancient China, there had been a series of important scientific and technological developments that were brilliantly outstanding achievements of the ancient time, and embodied in the famous Four Great Inventions known to the entire world. From the perspective of knowledge production of scientific and technological development and innovation, this series of technological achievement and innovation are essentially discovery, production and innovation of knowledge. Knowledge is an integration of basic cognition, viewpoints, experiences and patterns obtained through a series of practice processes where humans transform the objective world, and knowledge includes both the natural and empirical knowledge acquired through an understanding of the real world, as well as regular and social knowledge through objective connection to human society. Considering the category of world philosophy, the beginning of the pursuit of knowledge in the Western world dates back to as early as the time of ancient Greece, with a long-standing ideological tradition on understanding knowledge and the formation and evolution of the Knowledge-based View. The earliest proposal and discussion of Knowledge-based View can be traced back to ancient Greek philosophy, during an age when a large number of knowledge methodology-seeking philosophers emerged, including Socrates, Plato and Aristotle. Look at how Socrates pursued an understanding of the world, as declared in his statement that “all virtue is knowledge,” he believed that the premise of knowing the world was to first understand oneself, developing from a self-intellect progressing to and exploring the objective-world intellect. The logic of knowledge-based view is that only those who are intellectual, wise and reasonable and those who possess virtue can understand the good and evil of the world. This has set a clear distinction of the subjectivity of knowledge production and the process of knowledge production, together with the

convergence and crossover of epistemology and moral philosophy, has exerted a profound impact on the subsequent development of rationalism-dominated moral philosophy, and philosophical epistemology. Subsequently, based on Socrates' Knowledge-based View, Plato further expanded the philosophical idea of Subjectification Theory of knowledge production, stating that knowledge is an external production independent of human subjectivity, a rational or sensual experience surpassing the cognitive subject, an experience truly reflecting the subject matter. In *Theaetetus*, Plato used the words of Socrates and pointed out that knowledge must meet the three conditions of "truth," "belief" and "judgment," in other words, a suggestion of the definition of knowledge that knowledge is justified true belief. Subsequently, there have been substantial debates and studies revolving around the relationship between knowledge and ethics, subjectivity and objectivity of knowledge. Finally, Aristotle, a student of Plato, offered again a clarification of the subjectivity of knowledge, stating that science is a general knowledge about causes.

On entering the near-modern society of the Middle Ages, the Renaissance movement once again sparked widespread discussions and studies on the relationship between humankind and nature, and knowledge and science respectively, with epistemology gradually rising to an important position in Western philosophy and history of natural sciences. The need to explain the different epistemological questions such as the origin, fundamentals, definitiveness and scope of knowledge gave birth to the two schools of thoughts of rationalism and empiricism. Rationalism, represented by Rene Descartes, Baruch Spinoza and Gottfried Leibniz, advocates rational deduction and holds that source and acquisition of knowledge is a deduction with the talent of reason. Empiricism, represented by Francis Bacon, Thomas Hobbes, John Locke, George Berkeley and David Hume, states that rational deduction is an incorrect concept, and believes that sources and content of knowledge come primarily from human sensory experience. The conflict between rational mentality and perceptual mentality is a subject of constant discussions and disputes among Western philosophers. Subsequently, in a stroke of brilliance, Immanuel Kant neutralized the conflict between reason and sensibility, pointing out that only through "reconciliation" can true knowledge emerge, which means only through an integration of human intuition and innate cognition of the objective world can knowledge be produced. Correspondingly, the scientific and empirical natures of knowledge have been clarified. Overall, in the true explorative sense of contemporary series of Western discussions on the origin and subject of knowledge, this marks a watershed of the study of the internal logical relationship between science and knowledge, as well as scientific knowledge research. However, Western epistemology based on rationalism has been met with doubts and debates, because the "above reason" acquisition and formation of scientific knowledge focus solely on the pursuit of pure objectivity and truth, while ignoring the more colorful and dynamic meaning of the existence of humankind. This resulted in the absence of the crucial characteristics of "scientific knowledge," and the lack of attention given to the rich meaning of the existence of "knowledge subjectivity." The "tacit knowledge" (implicit knowledge), proposed by Michael Polanyi, is exactly the most powerful rebuttal of such kind of "propositional" style knowledge based on the principle of rationalism. He opined that

there are two kinds of human knowledge. There is one type of knowledge that can be expressed through written words, graphs and mathematical formulas. In contrast, there is the other knowledge that cannot be adequately articulated by verbal means, for instance, the knowledge we possess in acting.

There are considerable differences between explicit and implicit knowledge regarding the formation, acquisition and origin. On the same note, the “non-propositional knowledge” that surpasses “propositional knowledge” also warrants rationality and justification.

As a matter of fact, the origin, fundamental, definitiveness, scope as well as definition of knowledge have always been the subject of epistemological study by both ancient and modern philosophers. In China, there are numerous studies on Knowledge-based View in Confucian philosophy dating back to Spring and Autumn Period and Warring states (Cheng, 2017). The study of epistemology by pre-Qin Confucian philosophy differs from its Western counterpart in that it appears as a “Knowing How to Do” type of Knowledge-based View, that is, a form of knowledge about the “Study of Nature and Proper Path.” The study of nature and proper-path-knowledge of pre-Qin Confucianism is a general form of human understanding of the world and oneself. It not only embodies an external formal system and an internal content substance but also relates to the cognitive realm (Ge, 2001). Unlike Western philosophy’s focused pursuit of “truth,” which is the characteristics of knowledge itself and the basic law that can truthfully reflect the objective world and things, pre-Qin Confucianism placed more importance on issues in the knowledge formation process such as the subjectivity of human mind as well as moral practice. However, in contrast with the Knowledge-based View of Western philosophy, ancient Chinese philosophy always advocated that “Knowing” precedes “Doing,” and “Knowing” enjoys higher regards than “Doing.” Moreover, the Confucian Knowledge-based View displays an obvious sense of morality, whether it is the human-oriented epistemology of Confucius and Mencius, or Neo-Confucianism school of thoughts, or Wang Yangming’s “Innate Knowing” doctrine, the status of “mind” in the culture of the Chinese philosophy has been given primacy over the status of “thinking” as held by Western philosophy and culture. In other words, in the general Chinese philosophy school of thoughts, there is a higher requirement placed on moral philosophy than on the value of knowledge itself, since the “mind” embodies ethical knowledge, i.e. “conscientiousness,” but not neutral “thinking” or “wisdom.”

From the perspective of evolution, the commonality of Confucian Knowledge-based View and modern day’s Materialism-based View is the relationship between “Knowing” and “Doing,” with the focal points being the four questions of “which is more important,” “which comes first,” “which is more difficult” and “whether it is separated or unified.” This chapter, from an evolutionary point of view, mainly stresses on reviewing and analyzing the development of Knowledge-based View from ancient Chinese pre-Qin Confucianism, Wang Yangming’s school of thoughts in the Middle Ages, to the modern day’s Materialism-based View advocated by Mao Zedong. On systematically reviewing and combing through the basic category of knowledge, the basic way of acquiring knowledge and the fundamental relationship between “Knowing” and “Doing,” it has been observed that the Knowledge-based View under the Chinese philosophical system has undergone a spiral iterative process, from a separation of “Knowing” and “Doing,” to a unification of “Knowing” and “Doing,” to the final step of “Practice—Knowledge—Practice—Knowledge.” Finally, under the fundamental relationship between “Knowing” and “Doing,” this chapter proposes a strategic revelation on China’s goal of building a world power in science and technology by the mid-21st century. This includes maintaining perseverance in problem-oriented attitude, formulating a scientific and technological innovation strategy in order to tackle outstanding issues arising from building a world power, strengthening the dominant position of enterprises in knowledge innovation and keep pushing the systematization of enterprise knowledge

management, and basing on all kinds of people-oriented demands to build human-oriented and meaning-oriented knowledge innovations, so as to ultimately achieve an inner unity of knowledge, ethics and value.

## The Epistemology of Pre-Qin Confucianism

### *Confucius' Human-centered Epistemology*

The Western system of philosophy primarily answers two fundamental questions of what can be known and what one can know, while pre-Qin Confucianism essentially addresses the latter. As Confucius emphasized, “To know what you know and what you do not know, that is true knowledge.” In Confucius’ epistemology, the quest for knowledge is to explore the boundaries of one’s knowledge and to know what one doesn’t know, that is, to find the boundaries of one’s intellectual quest (Cheng, 2001). In the “Essentials for Keeping a Good Health” of the book *Zhuangzi*, the philosopher states that our life has a limit, but knowledge has none. The total amount of knowledge and its distribution in the world are unknown to man, but one thing is certain that the span of exploration for knowledge in one’s life. In other words, the human knowledge of the subjects in the objective reality is necessarily limited, which is the basic premise of the overall epistemology. The fundamental domain underlying the epistemology that Confucius champions is still the world where humans exist, which is mentioned in the “Shu Er” that the master never discussed strange phenomena, physical exploits, disorder or ghost stories. In other words, Confucius respected the ghosts and gods invisible to humanity and holds a cautious view of them, which also means that the world in Confucius’ eyes is one of knowledge and vital to the survival and development of humankind. Although in “Wei Zheng,” a chapter of *The Analects of Confucius*, Confucius said that he “knew the mandate of heaven at the age of fifty”; the “mandate of heaven” is neither a ghost nor a god, but rather the non-empirical knowledge of the world in which humans live—the specific empirical knowledge that is difficult to be abstracted from the conclusions of humanity. In this sense, Confucius defined the boundaries of knowledge acquisition and believed that they are determined by the boundaries of human connection with objective reality. From the standpoint of the philosophy of values, the epistemology espoused by Confucius is essentially one “centered on humans.”

In terms of how knowledge is acquired, Confucius believed that learning is the only way to acquire both empirical and non-empirical knowledge. According to Confucius, the key to being able to know is not whether the subject of knowledge is an empirical one, but whether it has an appropriate way to be associated with humans. That is, the acquisition of empirical and non-empirical knowledge of things objectively connected with humans is primarily accomplished through learning, which is what Confucius considered to be the principal tool for humans to interact with cognized subjects and to acquire relevant knowledge. More importantly, learning is not only about engaging with objective subjects, but also includes a multitude of approaches, such as reflecting on objective phenomena and subjects, perceiving them and tapping into past experiences. In terms of the sources of knowledge, Confucius said,

Those who are born with the possession of knowledge are the highest class of men. Those who learn, and so, readily, get possession of knowledge, are the next. Those who are dull and stupid, and yet compass the learning, are another class next to these. As to those who are dull and stupid and yet do not learn—they are the lowest of the people.

In doing so, Confucius divided the sources of knowledge into four classes. The first class, that is, the highest one, refers to being born with all knowledge innately, without having to acquire it through any means later in life. The second class is being born without knowledge, but acquiring it mostly through learning later in life, namely, “learning and readily getting possession of knowledge.” The third class is having the consciousness to learn after encountering difficulties, which cannot be solved by the existing knowledge and experience, namely, passive learning. The last class is not learning even when encountering difficulties, which is self-abandonment or laziness. Those of this class have abandoned the basic way of seeking knowledge, and it is impossible for them to acquire knowledge and generate new knowledge. They are defined as “the stupidest,” in contrast to the first class of “the wisest,” who are gifted with knowledge. Confucius further suggested, “There are only the wise of the highest class, and the stupid of the lowest class, who cannot be changed.” (Yang Huo) That is, only the “saints” who are gifted with exceptional talent and the “fools” who are self-loathing later in life are impossible to change or even unchangeable. What can be changed are the two intermediate classes of people who learn actively or learn passively.

In terms of the basic way of acquiring knowledge, Confucius considered both types to be “learning and readily getting possession of knowledge,” regardless of whether it is passive or active learning. In this sense, Confucius believed that there were principally two sources of knowledge: being born with the possession of knowledge and learning and readily getting possession of knowledge. Confucius himself, however, didn’t greatly esteem the former. Although there are many historical figures exalted in Confucius’ commentaries, including Yao, Shun and Yu (all legendary kings in ancient China) and the Duke Wen of Zhou (a member of the royal family of the early Zhou Dynasty), Confucius still considered them to fall into the category of those who “learn and readily get possession of knowledge,” namely, learning through a lifetime of strenuous endeavor. Confucius’ attitude toward the sages who are “born with the possession of knowledge” was unclear. He once, when talking about the men and state of the society of his time, remarked, “I have never witnessed a sage, but I would be content if I could encounter an esquire.”

If the way to seek knowledge is learning, then Confucius believed that the goal of seeking knowledge is “benevolence.” Thus, a connection is made between knowledge and morality. Throughout his life, Confucius pursued a path that transcends “utensils,” “things” and “arts,” which is “benevolence.” According to Confucius, truth is the ultimate goal in the pursuit of seeking knowledge and learning. Confucius spent his life in the pursuit of truth, emphasizing “setting your heart upon righteousness, supporting yourself by virtue, leaning upon benevolence, seeking enjoyment and relaxation in the six arts.” (Shu Er) Confucius’ statement makes it clear that “the Way” is the goal for which he strives to learn and pursue knowledge throughout his life, and that the ultimate goal of virtue, benevolence and art is to realize “the Way.” So, what is “the Way” that Confucius championed? In “Li Ren,” the Master said, ‘Dear Zeng Shen, you should know that I cherish a basic principle which goes through all my teachings.’ Zeng Zi answered, ‘Yes, I do.’ When Confucius went out, his disciples enquired Zeng Zi about the principle, and Zeng answered, ‘The basic principle or the Way our Master advocates and holds is kind-heartedness, with focus on faithfulness and forgiveness.’ (Li Ren) Therefore, Confucius’ emphasis on the Way is consistent and unbreakable truth, namely, to know the essence of things, and the doctrine of “faithfulness and forgiveness” is essentially “benevolence.” Although Confucius did not directly mention the meaning of “the Way,” he believed that “benevolence” is the inner essence of rites—music culture and the transcendent principle of rites and music, and that rites and music depend on benevolence in order to have real meaning. And from the point of view of Confucius’



personal aspirations, Confucius said: “If a man in the morning hears the right way, he may die in the evening without regret.” The “right way” is “the doctrine of benevolence.” What is “benevolence”? “Fan Chi asked about benevolence. Confucius said: ‘Love others.’” (Yan Yuan) Zizhang asked Confucius about benevolence. Confucius said, “One who can practice five things everywhere under heaven is benevolent.” When Zizhang begged to ask what they were, he said,

Respectfulness, leniency, trustworthiness, quickness in action, and beneficence. If you are respectful, you will not be insulted. If you are lenient, you will win the multitude. If you are trustworthy, people will put trust in you. If you are quick in action, you will accomplish things. If you are beneficent, you will be able to employ others.

*Yang Huo*

As we can see, Confucius didn’t have a standard answer to “benevolence,” and his answer varied in emphasis depending on whom he was talking to.

However, Confucius provided an answer to the highest realm of “benevolence.” He explained the realm of cultivation and job search in life, saying,

At fifteen I set my heart upon learning. At thirty, I planted my feet upon the ground. At forty, I no longer suffered from perplexities. At fifty, I knew what the biddings of heaven were. At sixty, I heard them with docile ear. At seventy, I could follow the dictates of my own heart; for what I desired no longer overstepped the boundaries of accepted behavior.

He believed that “the way of benevolence” is a kind of self-awareness of human nature, arriving at the point of “following the dictates of one’s own heart without overstepping the boundaries of accepted behavior.” Therefore, the highest dimension of Confucius’ epistemology is the pursuit of “benevolence,” which transcends experience and general knowledge and is the truth that allows one to grow, accomplish and attain the ultimate goodness of human beings. Finally, Confucius defined the practitioner of epistemology by arguing, “When the virtuous learns the Way, they love others; when the unvirtuous learns the Way, they are easily ruled.” (Yang Huo) In other words, those who pursue “benevolence” are the virtuous. Zigong said, “The way of Wen and Wu has not fallen to the ground. It is still there among the people. The worthy remember its major tenets, and the unworthy remember the minor ones.” (Zi Zhang) Therefore, the “Way of Benevolence” can only be studied by the virtuous to its greatest extent.

In conclusion, Confucius’ epistemology defines the basic sources of knowledge, the basic channels and paths of acquiring knowledge, the basic stages of acquiring knowledge and those who possess knowledge. It provides basic answers to the questions of “what can men know” and “what should men know.” Additionally, the text fully affirms the limited nature of human cognitive capacity, as well as the notion that “benevolence” is the ultimate and highest objective human beings can achieve while pursuing knowledge and innovation (Feng, 2015).

### ***Mencius’ Theory of “Intuitive Knowledge and Intuitive Ability”***

Mencius’ epistemology inherited Confucius’ human-centered Knowledge-based View, that is, the boundary of knowledge that humans can cognize, explore, learn and pursue is the

objective world with which humans are connected. If there is no connection between external things and one's existence and development, then they cannot be described as knowledge to be cognized and explored, and through learning and thinking, one is connected to the objective things and space with which humans associate. In Mencius' epistemology, he also believed in the existence of an omniscient "sage," saying:

What can be desired is called goodness, and having it within oneself is called trustworthiness. What is full and *shi* (brought to fruition) is called beauty. What is full, *shi*, and brightly displayed is called greatness. One whose greatness transforms others is called a sage. A sage who is unfathomable is called an immortal.

(*Jin Xin: Part II*)

Therefore, one who has mastered the highest level of knowledge is a sage who can also be called "immortal." However, unlike Confucius, Mencius believed that one can approach "immortality" infinitely, and that one can attain it through wisdom and virtue, and finally, one can alter "immortality" according to one's own mind and will. Mencius said, "When the sacrificial animals are prime, and the sacrificial grain is purified, and the sacrifice is carried out in a timely fashion, but yet there are droughts and floods, then the national altars are replaced." (*Jin Xin: Part II*) This fully illustrates the "human-centered" idea and human-centered scope of knowledge. The infinite knowledge of the universe can be accessed through the finite time of one's life. Mencius affirmed the creativity of human beings, that is, through their subjective initiative and wisdom, they can create knowledge and understand truth, and the infinite truth is eventually transformed into something finite.

Regarding the way of exploring knowledge and creating knowledge, Mencius also systematically elaborated and answered the basic question of "how can men know." In contrast to Confucius' ideas of "being born with the possession of knowledge" and "learning and getting the possession of knowledge," Mencius proposed "intuitive knowledge and intuitive ability." He believed that "intuitive knowledge and intuitive ability" are inherent in human beings and are the bedrock of intellectual inquiry. However, unlike Confucius' argument of "being born with the possession of knowledge," Mencius believed that "intuitive knowledge and intuitive ability" need to be expanded and tapped through the process of learning, and that they need to be solidified and stabilized through systematic learning. This is essentially a clarification of the way knowledge is explored, namely, "learning and getting the possession of knowledge" is the only way to acquire knowledge. According to what Mencius stated in "Jin Xin: Part I,"

When people who have not studied have abilities, these are intuitive abilities. When people who have not deliberated have knowledge, this is intuitive knowledge. An infant carried in the arms has no lack of knowledge of how to love its parents, and when it gets older, it knows automatically how to respect its older brothers. Loving one's parents is humaneness, respecting one's older brothers is rightness. This is because these principles penetrate all people.

Confucian understanding of ethics has always been based on intuition. It does not derive ethics from the cognitive knowledge of ethics. In Confucian philosophy of ethics, virtue is not acquired through the use of pure knowledge or the function of cognition. At the same time, when arguing for the theory of innate goodness, Mencius not only put forward the



theory of intuitive knowledge and intuitive ability, but also proposed “the development of the four basic senses.” In “Gongsun Chou: Part I,” he said,

The sense of concern for others is the starting point of humaneness. The feeling of shame and disgust is the starting point of rightness. The sense of humility and deference is the starting point of propriety and the sense of right and wrong is the starting point of wisdom.

Finally, in terms of the purpose of knowledge acquisition, Mencius also inherited the “Way” pursued by Confucius. But the “Way” is the pursuit of ruling the country and pacifying the world, that is, knowledge ultimately serves the revitalization of a country and its people and social development. The “Way” advocated by Mencius is the pursuit of active engagement with the world, which essentially provides the subject and legitimacy for the service scope of knowledge. In other words, the ultimate purpose of human inquiry into knowledge is to serve society and the state, and only then is knowledge worth exploration and innovation. He appealed to emperors, “From the commencement of the Zhou Dynasty till now, more than seven hundred years have elapsed. Judging numerically, the date is past. Examining the character of the present time, we might expect the rise of such individuals in it.” Regarding himself, he said, “But Heaven does not yet wish that the kingdom should enjoy tranquility and good order. If it wished this, who is there besides me to bring it about? How should I be otherwise than dissatisfied?” (Gongsun Chou: Part II) Such expectations reflect the fact that knowledge serves to “seek the Way,” which is also the greatest truth.

### Wang Yangming’s Epistemology in the Middle Ages

Wang Yangming lived in the middle of the Ming Dynasty, a period when the Ming regime faced the political impact of external uprisings, and the intensifying internal struggles of the rulers, resulting in the dictatorship of eunuchs. Such a chaotic era saw inter-bureaucratic rivalry, ostracism and deception. Moreover, regional feudal kings rebelled one after the other, such as King Zhu Di of Yan, King Zhu Gaoxu of Han and King Zhu Chenhao of Ning, who turned against the central government for all kinds of reasons, and the feudal rule of the Ming Dynasty was in jeopardy. From the viewpoint of the orthodoxy of the time, it was mainly the Cheng–Zhu school (one of the major philosophical schools of Neo-Confucianism). At that time, the imperial examination was mainly based on the Four Books and Five Classics as explained by Zhu Xi. Scholars read no books other than those of Confucius and Mencius, and schools of thought taught nothing other than the theory of *li* (principles). The doctrine of the Cheng–Zhu school became the only criterion for rulers of the time to recruit scholars. The main ideological content of the Cheng–Zhu school is the theory of obtaining knowledge by investigation of things. That is, the practice of human behavior comes from the guidance of established knowledge and truth and is based on established knowledge and experience (Lu, 2016a). In other words, knowledge is a prerequisite for action, knowledge comes before action, and knowledge is more important than action. Zhu Xi inherited Cheng Yi’s view that knowledge comes first and action follows. But Zhu thought that action is more important than knowledge, and knowledge and practice are separate but interdependent (Lu, 2016b).

From the perspective of the process of intellectual exploration, Zhu Xi emphasized that the extension of knowledge lies in the investigation of things. In other words, the deepening

of human cognition and knowledge is to be able to grasp the ultimate ontological truth through the investigation of things. Zhu Xi applied the way of logical deduction instead of empirical evidence, pointing out that the reason why things are the way they are at present is that there are “innate” rules within things.

It has been said that the Heavenly Way creates all things. Anything that has sound, color, appearance, and exists between heaven and earth can be considered a thing. Since everything is made up of something else, each having its own innate rules, they are all natural, and thus cannot be a result of human design.

All things exist on the basis of their natural principles and rationale. All things are subject to the constraints of principles, which is what gives them their existence. According to Cheng Yi, action depends on knowledge, and knowledge is always connected to action. His philosophy stated that knowledge is the foundation, followed by action, and he disapproved of discussing action without knowledge. Until knowledge is in place, it will naturally be practiced. “To know but not to do is to know superficially.” If one knows but cannot act, then such “knowledge” is not true knowledge, but only rough information. Therefore, the Cheng–Zhu school embraced the objective determinism of knowledge. Its discourse on the objectivity and universality of “principle” is devoted to the interpretation of “certainty” and “reason.” As the orthodoxy of Confucianism in the feudal society at that time, the Cheng–Zhu school caused the separation of “knowledge” and “action.” The separation and severance of knowledge and action led to the phenomenon of “disconnection between knowledge and action” and “knowing but not acting” in society.

Recognizing the shortcomings of the epistemology advocated by the Cheng–Zhu school, Wang Yangming proposed the “unity of knowledge and action” when he was 38 years old. The proposition of the unity of knowledge and action holds immense connotations and can be used as a method of teaching. From the day it was proposed, it has been constantly questioned and criticized, not only by Cheng–Zhu scholars, but also by Wang Yangming’s senior disciples and lifelong friends. Therefore, Wang Yangming advocated the use of meditation to compensate for the shortcomings of the “unity of knowledge and action.” However, he found that many scholars were unable to control their thoughts when meditating. Thus, in 1521 A.D., while living in Ganzhou at the age of 50, Wang Yangming proposed “consulting one’s own conscience” to address the problem in the unity of knowledge and action. In Wang Yangming’s view, knowledge and action are unified and cannot be separated from each other from the source. Knowing but not acting is fundamentally not knowing. He opposed Cheng–Zhu school’s view of seeing “knowing and acting as two separate things,” arguing that “they have been separated by personal desires and therefore no longer the essence of knowing and acting.” Wang Yangming rejected the subjective severance of knowledge and action in Cheng–Zhu school’s philosophy by referring to the unity of knowledge and action, not from the perspective of epistemological evolution or intellectual inquiry, but from the perspective of moral practice. It is because he believed that the knowledge of virtue and the action of virtue must manifest simultaneously in the process of concrete social practice and cannot be isolated from each other, nor are they in a relationship of priority and posteriority.

Moreover, Wang Yangming placed knowledge and action in a field or a process of behavior, and abandoned the static view of knowledge of the Cheng–Zhu school, emphasizing the dynamic nature of knowledge itself and the need for a dynamic view of the relationship between knowledge and action. (Wang, 2013) Knowledge or truth is the beginning of the process, and action is the end of the process or the ultimate goal. Both of them are part of

the same process and cannot be separated in any way. Specifically, from the perspective of the behavioral process of intellectual exploration, whether knowledge can guide practice or not needs to be tested and verified through action, while action is the main form of acquiring new knowledge, i.e., the creation and exploration of new knowledge. Action is the final practice and the ultimate completion of knowledge. Thus, from a dynamic perspective, the two represent different aspects of the same process.

Wang Yangming still put his emphasis on action, i.e. the practice of knowledge. His purpose in advocating the unity of knowledge and action was to change the unhealthy style of learning and common practice of society, which resulted from the separation of knowledge and action as two opposing things in Cheng–Zhu school’s philosophy, and the disconnect between knowledge and action. Wang Yangming advocated the unity of knowledge and action, placing action at least on an equal footing with knowledge, and even making it more important than knowledge. He said, “There is no such thing as knowing but not acting. It’s simply not knowing.” (Wang, 2013) However, for people to put into action what they know and to put their knowledge into practice, the actual process is more about the practice of knowledge, which is the basis of their behavior. From the perspective of the mutually conducive relationship between knowledge and doing, knowledge can be used as the summary of objective laws or experience, but knowledge itself is not static and unchanged and needs to evolve and develop in dynamic practice; knowledge guides the development of practice, and practice is the way to realize the deepening of knowledge.

Therefore, practice is the main process of strengthening knowledge and the main way to test knowledge, and finally, in turn, it promotes the innovation and development of knowledge. In terms of the relevance of Wang Yangming’s Epistemology, he advocated the theory of applying what one has learned, which is the prototype of the early theory of practice. Wang Yangming’s emphasis on the unity of knowledge and action reveals that people today should combine academic knowledge and theory with their ability to practice, especially putting theory to practice in the process of academic research and intellectual exploration. We must guide our practice with knowledge, overthrow outdated knowledge or pseudo-propositions in practice, acquire new knowledge, sublimate the original knowledge and finally form a dynamic spiral iterative evolutionary process of “knowing–acting–knowing” to realize the organic unity of the two. In this way, knowledge and action can facilitate each other and be dynamically integrated.

### **Wang Fuzhi’s Epistemology at Turn of The Ming and Qing Dynasties**

Wang Fuzhi was born 150 years after Wang Yangming as a philosopher at the turn of the Ming and Qing Dynasties. He criticized and developed the objective idealism of Zhu Xi and Wang Shouren’s epistemology, and integrated the Buddhist argument of “eliminating passiveness and incorporating activeness.” He emphasized that action is the basis of knowledge, and established the simple materialistic epistemology.

Regarding the source of knowledge, Wang Fuzhi believed that “shape, spirit, and matter” are the three main causes of perception, i.e., “shape, spirit, and matter meet, and perception is developed.” (Wang, 1988) By virtue of one’s own tangible sense organs, one forms knowledge of objects through contact with them, which is the process of “intake of things.” In the understanding of “shape,” Wang Fuzhi inherited the idea of Zhang Zai’s theory of qi, believing that the human body, the visible and observable objects and images are all real and physical objects produced by and based on qi. As the second cause of perception, “spirit,” like “shape,” has multiple meanings, encompassing not only the laws of movement and change,

but also the thinking ability and spiritual consciousness of human beings. In Wang Fuzhi's view, spirit is the form of qi itself, which is not untraceable, but is rational, inevitable and credible. The term "matter" refers to physical objects, which do not depend on human will and are not affected by the human mind. Therefore, Wang Fuzhi also rejected the idea of the world as nothingness, believing that the world is objective and real.

Regarding the understanding of the relationship between knowledge and action, Wang Fuzhi believed that

knowledge and action are complementary to each other, but each of them has its own function, and each of them has its own effect, so they are complementary to each other. One must know that they are separate from each other.

*(Wang, 1988)*

That is, "knowledge and action are different," each has its own function and cannot replace each other. In the processes of interaction and transformation between knowledge and action, the relationship between the two is neither Zhu Xi's view that "knowledge comes before action," which separates knowledge from action, nor Wang Yangming's insufficient understanding of the firstness of action in "the unity of knowledge and action." Wang Fuzhi's view of knowledge and action is dialectical, emphasizing action can be combined with knowledge, that knowledge and action are complementary to each other, and that attention to both of them leads to success. He resolutely denounced Wang Yang's "unity of knowledge and action," which confuses knowledge with action and "knowledge separated from action," as a kind of idealism. At the same time, he did not deny the role of "knowledge" in "action."

Wang Fuzhi's view of knowledge is the dialectical unity of knowledge and action, emphasizing that action is the purpose of knowledge and has a decisive role in knowledge, while knowledge can act on action, and its purpose is "practice." (Zhu, 2008) "When knowledge is complete, then practice is all there is to it. If you practice, you will know what your heart knows, and you will be able to do what you want, so you will be happy." (Wang, 1988) He emphasized the subjectivity of human beings in this process. He believed that this subjectivity is not only possessed by a few sages, but also exists in every ordinary person. He opposed the idea of "letting the nature take its course" and believed that "if one lets the nature take its course without doing anything, one cannot be considered a human being. (Wang, 1988) The correct attitude should be to give full play to the subjective initiative of human beings in the world of knowledge and practice. Whether it is the perceptual and intellectual knowledge of "exhausting the tools" or the rational and theoretical knowledge of "exhausting the way," the ultimate goal is the realization of "virtue." (Wu, 2015) This is also the benevolent nature that Wang Fuzhi emphasized, that is, the "essence of the heart."

### **Modern Knowledge-based View Based on Mao Zedong's Theory of Practice**

Mao Zedong grew up in old China, when the predominant form of society was a semi-colonial and semi-feudal state. During that period of time, China was under the invasion of Western imperialistic countries and had almost slipped into a semi-colonial society. Compounded by the prevailing influence of feudalistic culture, socio-economic development in China at that time fell far behind that in Western countries. Judging from the educational conditions during that period, education in old China still relied on a system of old-style private school education coupled with a relatively more advanced classroom teaching, where

students were still learning from the outdated eight-legged essay. The majority of students hailed from landowning families and the upper class, and the social condition at the time made it difficult for peasants and workers from relatively lower classes to obtain education. Westernization Movement at the end of the Qing Dynasty had initiated the drive for learning advanced Western technology, which to a certain extent had changed the adverse condition caused by a complete isolation policy; nevertheless, this only stayed at the technical but not the knowledge level; hence, the learning of science and culture did not engender any transformation in the backward ways and conditions of the semi-colonial and semi-feudal society. After the Revolution of 1911, the bourgeois were catapulted to the forefront. In the domain of knowledge and culture, the New Culture Movement had taken bold steps to eradicate the original cultural system, which provided grounds for the Knowledge-based View of Mao Zedong to germinate.

During the young Mao Zedong era, his Knowledge-based View still exhibited some traits of Subjectivism. During his early school year, the young Mao wrote a marginal commentary on reading Friedrich Paulsen's *A System of Ethics*. He remarked that "knowing is premise of belief. There is a kind of knowledge that establishes belief and stimulates action. Knowing, believing and action are the three stages of our mental activities." In the young Mao Zedong's Knowledge-based View, "Knowing" (knowledge, truth) comes first while "Doing" (learning and practice) follows. "Knowing," as a constant knowledge in the human mind, is used to construct a belief and then to initiate certain behavior. In other words, "Knowing" determines "Doing," and "Doing" is a consequence of "Knowing." After the May Fourth Movement, Mao Zedong witnessed an excessive exaggeration of the status and function bestowed on knowledge. During the practice of democratic revolution, the Knowledge-based View theory that knowing before action had become the source for the germination and spread of Subjectivism, Dogmatism and Experientialism, which had in fact been hugely detrimental to the Chinese revolution. In 1919, he joined the vigorous May Fourth Movement, and while carrying out revolution activities, the young Mao realized that his own Knowledge-based View was embedded with non-rational elements, and, therefore, began the exploration of materialism, and gradually eliminated the negative influence of idealism. On September 1, 1919, in his draft of *Problem Research Council Constitution*, Mao Zedong pointed out that "to study a problem, it is necessary to conduct on-site investigation. If an on-site investigation is not needed or can't be conducted for the time being, research should be focused on books, magazines and newspapers." Here, Mao Zedong gave an interpretation of the source of the problem, the method for problem-solving and the channel for knowledge acquisition, expressing the understanding that investigation, research and practice are the fundamental paths for locating a problem and solving it. From then on, the Knowledge-based View of Mao Zedong gradually advanced toward maturity. In May 1930, Mao Zedong wrote the *Oppose Book Worship*, in which he brought forward the famous saying "he who makes no investigation and study has no right to speak" and "all verdicts come at the end of the investigation, not the beginning," scientifically explaining the dialectical relationship between the "right to speak," "verdict" and investigation, raising investigation and practice to the top position.

In July 1937, Mao Zedong wrote the famous philosophy works *On Practice*, in which he pointed out three areas based on the scientific analysis of human cognitive development process and the characteristics of the knowledge movement. (Mao, 1991a) First, "all true knowledge originates from direct experience." Second, "in terms of knowledge as a whole, no matter what kind of knowledge, it is inseparable from direct experience." Third, practice

is the basis of knowledge generation, and it has a decisive effect on the formation and development of knowledge because “if you want to obtain knowledge, you have to participate in the practice in transforming the reality.” Practice is the motivation for knowledge development, and since the social practice of people constantly develops from the bottom up, knowledge follows the progression of practice to advance upward since it is a product of knowing, advancing from superficial levels to deeper levels, from fragmentary to complete, and from partial to whole, including both knowledge of nature and knowledge of human society. Eventually, practice is the only standard to verify if knowledge is truth. For any kind of knowledge, only when it has undergone the test of practice, proven to be scientifically reflecting the pertinent objective matters, can such knowledge be regarded accurate and trustworthy. Once knowledge is generated and systematically evolves into theory, as in one that can “solve the essence of problem,” then this kind of knowledge can in turn affect social practice of people, and exert immense effect on guiding future practice. In this sense, knowledge is embedded with the characteristic of dynamic growth, knowledge originates from practice, and new knowledge is generated through practice, shaping the innovation and iteration of knowledge. Ultimately, this repetitive cycle of knowledge and practice surpasses the limit of human knowledge and the boundary of cognitive realm.

Therefore, the Knowledge-based View of Mao Zedong has expounded systematically the scope and source of knowledge, as well as the process and purpose of knowledge innovation. With regard to the scope of knowledge, to the idealist, the concept of “Knowing” refers to the rational principle of a priori, or a certain inherent experience in people’s mind. But to Mao Zedong, with his materialistic belief, knowing was interpreted as the dialectical unity of perceptual knowledge and rational knowledge, and in actuality demonstrated the dialectical unity of explicit knowledge and tacit knowledge. Regarding the source of knowledge, in May 1963, Mao Zedong clearly pointed out in *Where do correct ideas come from*, “where do correct ideas come from? Do they drop from sky? No. Are they innate in mind? No. They come from social practice, and from it alone.” Here Mao Zedong specifically defined that knowledge does not belong to the authority of any individuals or organizations, instead it comes from social practice. Looking at the process of attaining knowledge and realizing innovation of knowledge, the processes of knowledge acquisition and knowledge innovation are really processes of complex movements, a sublimation process that elevates perceptual knowledge to experiential knowledge, and finally to rational cognition. (Mao, 1991b)

However, this is also a process restricted by various conditions, namely science and technology on the one hand, and objective process development and degree of presentation on the other (nature of the cognition target not yet exposed). Therefore, the scope of knowledge that Mao Zedong emphasized is transformable knowledge founded upon scientific experiments, while the nature of knowledge and the process of attaining knowledge are dynamic. Judging from the ultimate goal of knowledge acquisition and knowledge innovation, at the end of the day, knowledge has to be put into practice and to serve the ongoing practice to achieve the dialectical unity of knowledge and action. Finally, the authenticity of knowledge has to be tested and manifested in objective realization. Mao Zedong differentiated knowledge and truth, underlining that truth can only exist in knowledge that has undergone a practical test to establish correctness, totality and science. Hence, the validity of truth depends on whether it can withstand the test of practice, before it can be applied to guide practice during the pragmatic process. Finally, true knowledge can be elevated to a level of directive guidance that enables the transformation of the objective reality of human society and promotion of the development of human history.



## Revelations from the Relationship between “Knowing” and “Doing” for Technological Innovation

### *A Renewed Understanding of Relationship between “Knowing” and “Doing”*

Judging from how the relationship between “Knowing” and “Doing” is being identified in traditional Chinese culture and philosophy, it would not be an understatement to say that the evolution process and law of the traditional Confucianism View of Knowing and Doing have provided a basic positioning for the theoretical outlook of Wang Yangming’s “unity of knowledge and action.” The evolution history of traditional Chinese Confucian View of Knowing and Doing can roughly be divided into six significant stages. The first stage is the epistemological stage as represented by Zi Chan of the Spring and Autumn Period. Zi Chan remarked “to think is easy. To act is hard” as “it is easier said than done, it is hard to put into practice what is known.” The second stage is a period when Confucius’ Moral Cultivation Theory and epistemology co-existed. Confucius stated in *The Analects: Ji Shi*

those who are born with the possession of knowledge are the highest class of men. Those who learn, and so, readily, get possession of knowledge, are the next. Those who are dull and stupid, and yet compass the learning, are another class next to these. As to those who are dull and stupid and yet do not learn—they are the lowest of the people,

suggesting the two types of knowledge acquisition, namely “being born with the possession of knowledge” and “learning and readily getting possession of knowledge.” Sages can be “born with the possession of knowledge,” with the kind of knowledge here referring not only to what could be acquired through daily hearing and seeing, but more importantly ethical knowledge. Since “born with the possession of knowledge” constitutes a priori, an innate cognition, whereas “learning and readily getting possession of knowledge” and “being dull and stupid yet compassing the learning” are the second-ranked paths to obtain knowledge, to a certain extent this upholds the notion that truth remains in the hands of a few (the sages).

The third stage occurred during the Cao Wei and Jin dynastic period, when the Theory of Knowing and Doing was being denied. Under the Wei and Jin metaphysical mindset, which is characterized by “employing Taoism for external matters and Confucianism for internal matters,” the Theory of Knowing and Doing at this stage was an atypical presentation in a specific thought context. The fourth stage, symbolized by Wang Tong, was a turning point when epistemology completely turned into the Moral Cultivation Theory. Wang Tong believed that acquiring knowledge should not only remain in a format lifelong recitals of word-of-mouth knowledge passed down generations after generations, but instead should combine with action to serve as practice. The unity of Knowing and Doing also has to come under the command of virtue, which equates a self-conscious state when knowledge and action are in unity and the practice of knowledge is kept within the bounds of virtue, resulting in a peaceful, restful state of being “self-satisfied.” The fifth stage is characterized by the principle-oriented Cheng–Zhu school of the Northern Song Dynasty. Priority was placed on knowing, in particular, ethical knowing, and making a priori a prerequisite to suggest the “knowledge comes before action” theory. Following this is the “unity of knowledge and action” theory of Wang Yangming, an important element in the development of the traditional Chinese Confucian View of Knowing and Doing. The last stage is the period when the Western Knowledge-based View was incorporated into the Qing Dynasty principal theory,

and in this stage, attempts were made to transform the Theory of Knowing and Doing into pure epistemology.

Generally speaking, the Knowledge-based View dominated by traditional Chinese Confucianism gradually migrated from a state of knowledge and action separated from each other, to a state of knowledge-comes-first type of theory, and finally to a state of unity between knowledge and action. Mao Zedong's *On Practice* pointed out even more clearly the modern meaning of unity of knowledge and action. The Knowledge-based View of Mao Zedong displays a strong sense of materialistic dialectics. From the dimension of epistemology, Mao Zedong focused his solution for knowledge and practice on the basis of "material first, conscientiousness second," leading to the mindset that practice is the source of knowledge. From knowing to practice, and then back from practice to knowing, knowing and practice exercise mutual restraint and interaction, repeating cyclically to proceed forward, advancing after every cycle. Ultimately, solid historical unity of Knowing and Doing is realized, and knowledge and practice reach the finale of a dynamic evolution to advance knowledge, resulting in the basic thesis that knowledge innovation is ultimately beneficial to the practice and development of humankind.

### ***Strategic Value of Relationship between "Knowing" and "Doing" for Building a Technologically Innovative Country***

#### **1. Maintain perseverance in problem-oriented attitude to formulate a scientific and technological innovation strategy in order to tackle outstanding issues arising from building a world power.**

Since the 18th CPC National Congress, building a world power in science and technology innovation has become the main theme and purpose of China's science and technology innovation strategy. China has put forward the ultimate goal of moving to the forefront of innovation-oriented countries in 2035 and achieving the construction of a science and technology innovation powerhouse in 2050. From the perspective of epistemology, science and technology innovation is essentially a process of systematic and integrated innovation based on knowledge, technology, system and culture. The research process of science and technology is essentially the process of acquiring, absorbing, sharing and innovating existing knowledge based on scientific problems, practical needs and future forecasts. Whether it is Wang Yangming's "unity of knowledge and practice" or Mao Zedong's "theory of practice," the idea of mutual unity of knowledge and practice is implied. That is to say, knowledge is to solve the major problems of reality and potential problems that may be encountered. For China to build a world science and technology innovation powerhouse, whether it is scientific innovation or technological breakthrough, it is essentially the innovation and iteration of knowledge. This process requires changing the phenomenon that scientific research and technological breakthroughs have long been detached from real needs, national strategic planning and enterprise management practices. The institutional mechanism and supporting elements of science and technology innovation need to shift from theory-oriented approach to "practice-oriented" approach, and be based on knowledge. Science and technology innovation consists of basic knowledge in three aspects. They are tacit and explicit, systematic and autonomous, simple and complex, respectively. The goal of scientific research is not theoretical in the first place, but to solve the series of major problems encountered in the development of enterprises, industries and countries that are currently associated with the development of disciplines. Most of these problems come from the objective needs of research and industrial development, and the objective practical problems faced in the process

of scientific practice and technological development depend on systematic scientific intellectual exploration and technological innovation.

Therefore, the systematic construction of a world science and technology innovation powerhouse undoubtedly requires the unswerving implementation of a comprehensive independent innovation strategy, and the key to this process is the construction of a problem-oriented strategic promotion system. From the perspective of the major realistic problems that hinder the construction of a science and technology innovation powerhouse, the main problems are the co-existence of “market failure” and “administrative failure” in the science and technology institutional mechanism, the “bottleneck” problem of key core technologies in industries, and the systematic lack of innovation motivation and capability of most enterprises in China, which have led to the unbalanced emphasis on scale and market and the neglect of technological innovation, basic research and other real problems. (Chen and Yang, 2021) Therefore, from the viewpoint of “unity of knowledge and action,” we need to continue to address the huge obstacles and outstanding problems that restrict our key enterprises and key industries from exceeding the middle and low end of the global value chain in the future. We need to use the new “comprehensive independent innovation strategy” of science and technology strategy to lead the national innovation system, regional innovation system, industrial innovation system and corporate innovation system. The strategic footing of this approach is to systematically enhance the technological innovation capability for industries and enterprises, and to build a comprehensively independent innovation capability as the prominent orientation for building a world science and technology innovation powerhouse.

## **2. Strengthen the dominant position of enterprises in knowledge innovation and keep pushing the systematization of enterprise knowledge management.**

Enterprise is not only the core of market, but also the key entity in creating knowledge for accomplishing knowledge transfer, knowledge share and knowledge innovation. Since the start of reform and opening-up of China over four decades ago, there has been an obvious advancement in the innovation capability of Chinese enterprises, both in state-owned and private-owned businesses. Corporate investment in research and development accounted for 70% of all R&D investment in, and more than 40% of above-industry-designated-scale enterprises have launched technological innovation projects. However, compared with developed Western countries, the status of Chinese enterprises as the principal entity in knowledge innovation is still not prominent enough, and the pivotal effect of enterprises in innovation has not yet been fully unleashed particularly with regard to integrated-knowledge and complex-knowledge necessary in the breakthrough of key and core technologies. These situations can be seen in, first, inadequate enterprise investment in innovation research and development, and there is much room for improvement for enterprises, in particular in terms of investment allocated to basic research. According to statistics, corporate investment in basic research amounts to less than 3%, far less than the 20% seen in developed countries such as the United States and Japan. Furthermore, the weak corporate role in innovation is also explicitly reflected in the small, scattered and insignificant status of Chinese tech companies. Although there are a considerable number of technology enterprises, the general innovation quality on the whole is not high; breakthrough and disruptive technological innovations are still largely insufficient. The scale, technological foundation and capability of some enterprises are comparatively weak, and they are not able to sustain and launch large-scale, long-term, original innovations marked by technological difficulties and high market risks. Therefore, on the challenging path to develop a world power in science and technology, it is necessary to adhere steadfastly to the goal of improving the status of enterprises as the principal entity in knowledge and technological innovation.

In terms of technological innovation, there is the need to strengthen synergy in the construction of platforms for enterprise-oriented basic research and platforms for the application of technological innovations. Efforts should include enhancing support for corporate market applied research, technological innovation, cutting-edge scientific technology and strategic emerging industries, and encouraging enterprises to plan their development toward the establishment of basic research platforms that target key industry core technology breakthrough, so as to achieve a comprehensive elevation of the status of enterprises in technological innovation. On the other hand, it is necessary to refine the supporting dynamics for corporate innovation policy, strengthen the strategic status of tech entrepreneurs and social policy support, as well as magnifying the sense of social accomplishment among tech entrepreneurs. Moreover, during the allocation process of science and technology innovation factors, it is necessary to allocate more innovation factors toward tech entrepreneurs, and strengthen their ability to obtain scientific and technological innovation resources including policy resource and social resources, so that more companies can bolster their innovation capacity through increased research and development. This will facilitate the strengthening of financial integration and sharing of all kinds of innovation factors among large, medium-sized and small companies, and state-owned and private-owned enterprises, thereby realizing a fully integrated and connected development in its true sense.

### **3. Building and strengthening people-oriented and significance-oriented knowledge innovation based on various kinds of people-oriented demands**

The acquisition of knowledge and knowledge innovation are always people-oriented, regardless of the Knowledge-based View of the pre-Qin Confucian philosophy, or the “unity of knowledge and action” theory of Wang Yangming, or Mao Zedong’s “theory of practice.” The boundaries of knowledge acquisition and innovation advocated by Confucius and Mencius revolve around the world of life, the subject matter of knowledge is chiefly a revelation of the relationship between the self and the world of life, whereas the general world unrelated to the self can be kept at a distance. Confucius’ Knowledge-based View is essentially an insight into and comprehension of the meaning of existence of humankind. The same goes with the idea of “unity of knowledge and action” of Wang Yangming, as humans are the subjects of unity, and he denied the belief that knowledge comes before action, because the only key is the “unmasking” during practice to discover “conscientiousness,” from which ethical knowledge and ethical behavior such as filial piety subsequently derived. In this sense, the people-oriented value of knowledge is revealed, a return to humankind’s inner “conscientiousness,” order of society and morality. The “theory of practice” of Mao Zedong also insists on the basic viewpoint that the people are the pioneers, stating that knowledge must be put through the test of practice to establish the correctness, totality and science to be considered truth. Truth is able to give effective guidance to humankind in their practical activities, transform objective practice, and improve the development of human history. In this regard, the value goal for knowledge is to be ultimately elevated to become truth, and this goal is also one that serves human-oriented development and a meaningful return to humankind at the core. Therefore, unlike the economic-and-market-logic-oriented Innovation Theory of Western scholar Schumpeter, the traditional Chinese Knowledge-based View and the “theory of practice” of Mao Zedong both uphold the social value and human value of knowledge innovation.

As a matter of fact, the value of knowledge and the ultimate value goal of knowledge innovation, when reflected in a target not directed toward any private gains or solely toward economic gains, then people’s self-interest-focused, practicality-focused lifestyle and habits, social mentality, thoughts and values can be corrected. In a knowledge-based society,

profit-gaining orientation is not the mainstream, but rather a materialistic and spiritually balanced orientation, or better still, a spiritual value-dominated orientation should be the mainstream value. To achieve this, along the path of establishing a scientifically and technologically innovative country, it is necessary to build a new mode of people-oriented and significance-oriented knowledge innovation. In the dimension of significance, the significance of knowledge innovation lies in the ability of the innovating entity to recognize and transform economic significance, social significance, strategic significance and future significance. In this sense, under the new mode of people-oriented and significance-oriented knowledge innovation, progress and development of a scientifically and technologically innovative nation needs to endeavor in the following three areas: First, strengthen the ability in enterprises to develop economic significance-oriented technological innovation, and further enhance the market power of enterprises based on technological innovation. Second, push for responsibility-oriented social innovation and mutual benefit innovation, so that corporate innovation can gain public value by transcending beyond the boundaries of financial value. Third, intensify forward-looking human development, and the technology portfolio and layout of knowledge innovation for future development, take effective measures to respond to possible significant social risks and pitfalls in the process of human development.

### References

- Chen, J., Yang, Z. Industrial Technology Policy in the New Development Pattern: Theoretical Logic, Outstanding Problems and Optimization. *Economist (Chinese Journal)*, 2021(2):33–42.
- Cheng, S. *Collected Interpretations of the Analects – Part II*. Beijing, China: Zhonghua Book Company, 2017.
- Cheng, Z. Y. *Combining the External and Internal Ways – Confucian Philosophical Theories*. Beijing, China: China Social Science Press, 2001.
- Feng, Y. L. *A Short History of Chinese Philosophy*. Beijing, China: SDX Joint Publishing Company, 2015.
- Ge, Y. G. *An Intellectual History of China, Volume Two*. Shanghai, China: Fudan University Press, 2001.
- Lu, Y.S. *Mind – Academia – Governance: Research on the Thoughts of Wang Yangming in Central Guizhou during Ming Dynasty*. Shanghai, China: Zhonghua Book Company, 2016a.
- Lu, Y.S. *Theoretical Effects and Practical Capacity of Wang Yangming's Unity of Knowledge and Action*. Shanghai, China: Zhonghua Book Company, 2016b.
- Mao, Z.D. *Early Manuscripts of Mao Zedong*. Changsha, China: Hunan Publishing House, 1991a.
- Mao, Z.D. *Selected Works of Mao Zedong (Vol. 1)*. Beijing, China: People's Publishing House, 1991b.
- Mao, Z.D. *Selected Works of Mao Zedong (Vol. 3)*. Beijing, China: People's Publishing House, 1991c.
- Wang, F.Z. *The Complete Works of Chuanshan*. Changsha, China: Yuelu Book Society, 1988.
- Wang, Y.M. *The Complete Works of Wang Yangming*. Kunming, China: Yunnan People's Publishing House, 2013, p. 143, p. 175.
- Wu, G Y. Re-discussing Wang Fuzhi's View of "knowledge and doing". *Academic Monthly (Chinese journal)*, 2015, 47(3):44–54.
- Zhu, X. *Collective Annotations for the Four Books*. Changsha, China: Yuelu Publishing House, 2008.