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## Cultivation of Philosophy: 30-Year Mugwort for China to Build Itself into World Power of Science and Technology

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# Cultivation of Philosophy: 30-Year Mugwort for China to Build Itself into World Power of Science and Technology

## Abstract

Since the founding of the People's Republic of China more than 70 years ago, China's science and technology development has gained great achievements. However, some deep-rooted problems still pose serious impediments for China to build itself into a world power of science and technology in the next 30 years. It is a must for us to explore the root causes of these problems and find the solution. Through the analysis of the historical context of the "Needham Puzzle" and "Qian Xuesen's Question", as well as the philosophical origin of the bottleneck of China's science and technology development, this study proposed that "poverty of philosophy" is probably the root cause of the problem hindering S&T development in China. This study analyzed the influence of philosophy on science and technology, and further proved that "poverty of philosophy" is one of the root causes for China's inability to establish an independent scientific system, to train distinguished scientists, to accomplish original innovation, and to build a healthy academic ecology. By analogy with famous Mencius statement: "To cure a disease lasting for seven years, one must seek mugwort stored for three years", this study proposed that the cultivation of philosophy is the "mugwort stored for thirty years" to boost China's endeavor for a world power of science and technology. Moreover, we suggested that the government should implement the cultivation of philosophy as one of national strategies. It is necessary to strengthen the construction of philosophy while deepening the reform of science and technology system in a more mature and systematic way, so as to lay a realistic and long-term foundation for China's endeavor for a world power of science and technology.

## Keywords

world power of science and technology, Needham Puzzle, Qian Xuesen's Question, poverty of philosophy, cultivation of philosophy

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## Cultivation of Philosophy: 30-Year Mugwort for China to Build Itself into a World Leader in Science and Technology

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**Abstract:** Since the founding of the People's Republic of China more than 70 years ago, China's science and technology development has gained great achievements. However, some deep-rooted problems still pose serious impediments for China to build itself into a world leader in science and technology in the next 30 years. It is a must for us to explore the root causes of these problems and find the solution. Through the analysis of the historical context of the "Needham Puzzle" and "Qian Xuesen's Question", as well as the philosophical origin of the bottleneck of China's science and technology development, this study proposed that "poverty of philosophy" is probably the root cause of the problem hindering science and technology development in China. This study analyzed the influence of philosophy on science and technology, and further proved that "poverty of philosophy" is one of the root causes for China's inability to establish an independent scientific system, to train distinguished scientists, to accomplish original innovation, and to build a healthy academic ecology. By analogy with famous Mencius statement: "To cure a disease lasting for seven years, one must seek mugwort stored for three years", this study proposed that the cultivation of philosophy is the "mugwort stored for thirty years" to boost China's endeavor for a world leader in science and technology. Moreover, we suggested that the government should implement the cultivation of philosophy as one of national strategies. It is necessary to strengthen the construction of philosophy while deepening the reform of science and technology system in a more mature and systematic way, so as to lay a realistic and long-term foundation for China's endeavor for a world leader in science and technology. **DOI:** 10.16418/j.issn.1000-3045.20200823001-en

**Keywords:** world leader in science and technology; Needham Puzzle; Qian Xuesen's Question; poverty of philosophy; cultivation of philosophy

Since the founding of the People's Republic of China more than 70 years ago, China's science and technology development has gained great achievements. However, the increasing investment in scientific research in recent years has not bred the research output proportionally. Instead, the bottlenecks such as low-level redundant research, lack of original achievements, shortage of high-end talents, and deterioration of academic ecology hinder science and technology development. To accelerate the development of science and technology and improve the efficiency of scientific research, the national government and research institutions have promoted the reform and restructuring of scientific and technological systems and mechanisms. However, making changes is still difficult—oftentimes no sooner has a problem been completely solved than a new one arises. It seems that there is always a force to set everything back after reform measures have been taken, and the frequent disturbance further damages the fragile research ecology and exacerbates and complicates the

deep-rooted problems. To build China's strength in science and technology in the next 30 years, we must get rid of the short-term objective for quick success, deeply explore the root cause hindering the science and technology development, identify the core resistance neutralizing the reform effects, and finally find targeted solutions. Otherwise, it will be difficult to break through the bottlenecks and build China to be self-reliant and strong in science and technology.

To explore the root causes of the problems in the development of science and technology, we need to study the generation and evolution of these problems and the drivers for this process. We analyzed the historical context of the Needham Puzzle and Qian Xuesen's Question, the most representative questions in the history of modern science in China, aiming to study the background of the problems impeding the science and technology development in China. Furthermore, we explored the root cause of the existing bottlenecks of science and technology development.

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# 1 Needham Puzzle and Qian Xuesen's Question and the root cause of the problems hindering science and technology development in China

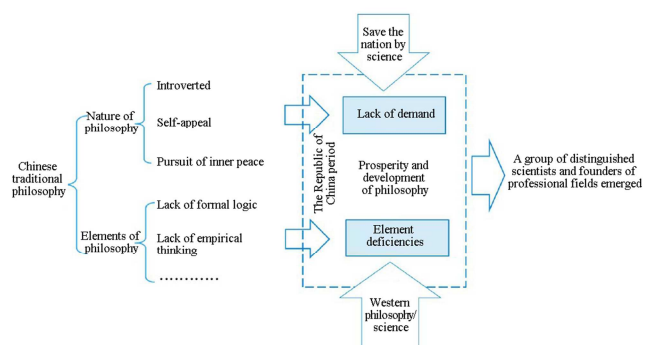
## 1.1 Needham Puzzle and the development of modern science

Mason S F <sup>[1]</sup> contends that science has two origins: the technical tradition and the philosophical tradition. The two traditions were separated in a long historical period and then converged to a new tradition, the tradition of science, in the late Middle Ages and early modern times. The science and technology development in China had a strong correlation with the technical tradition but a weak correlation with the philosophical tradition in ancient times, which may be the main reason for China's lack of the tradition of science. Therefore, the answer to the Needham Puzzle: Why the industrial revolution did not originate in China, would be traced from Chinese traditional philosophy.

Chinese traditional philosophy emphasizes the metaphysics of art and morality. Feng <sup>[2]</sup> believes that Chinese traditional philosophy is introverted and pursues inner peace and happiness instead of the certainty and power of science. "China does not have science just because she does not need it according to the Chinese philosophical (especially Confucianism and Taoism) values." Russell <sup>[3]</sup> also believes that China has a deep-rooted thought that correct moral character is more important than detailed scientific knowledge. At the same time, Chinese philosophy is not as metaphysical as science. From the perspective of western science, Albert Einstein has indicated that "the development of Western science is based on two great achievements: the invention of the formal logical system (in Euclidean geometry) by the Greek philosophers, and the discovery of the possibility to find out causal relationships by systematic experiment (during the Renaissance). In my opinion, one has not to be astonished that the Chinese sages have not made those steps. The astonishing thing is that those discoveries were made at all <sup>[4]</sup>."

Therefore, at the philosophical level, the Needham Puzzle can be attributed to two key deficiencies: ① the deficiency in inner motivation and demand to develop science due to the introverted and contented nature of Chinese traditional philosophy; ② the deficiency in the metaphysical element of science, a key element of scientific thinking, in Chinese philosophy. Lack of demand is probably the fundamental reason, because without demand, there is no momentum to construct and develop the tools and ways of thinking required by science. For this reason, the lack of modern science in China is not because Chinese traditional culture and philosophy are backward, but because we took a path different from that of Western culture and philosophy. That is, we did not have strong demand for science and thus did not develop the way of thinking related to science and further a tradition of science.

Facing the conflicts between the East and the West, tradition and modernity since the modern times, our predecessors have been making great efforts to improve culture and philosophy and develop science and technology. From the call for "learning from the advanced technologies in the West to resist the invasion of the Western powers" by the modern thinker Wei Yuan, the slogan of "westernizing Chinese style" raised during the Westernization Movement, the thought of "reforming the Chinese style to apply Western learning" advocated by the Reformers, to the advocacy for "democracy" and "science" in the New Culture Movement, Chinese philosophy was constantly updated and developed under the great social background of the Chinese nation's salvation and the impact of Western philosophy/scientific thought. Through intense ideological debates, profound philosophical reflections, and repeated exploration and practice, Chinese philosophy experienced a transient boom during the Republic of China period. This boom, to some extent, made up for the two key deficiencies. On the one hand, the positive appeal to save the nation was converted to a strong momentum for developing science and made up for the absence of scientific demand from the Chinese traditional philosophy. On the other hand, the large-scale introduction of Western philosophy and science popularized the formal logic and empirical thinking among those educated in Western science and made up for the deficiency in the metaphysical element of science in Chinese traditional philosophy. Accordingly, a group of distinguished scientists with both profound Chinese philosophical and cultural attainments and advanced Western scientific ideas emerged in just a few decades during period of the Republic of China and laid the foundation in some professional fields (Figure 1). This provides strong evidence to prove that Chinese traditional philosophy and science are not incompatible. Western science can also take root and develop in China's philosophical and cultural soil once the necessary demand and key elements are present. However, the distinguished scientists and ideas that emerged during this period were only sparks of fire, and a systematic and complete scientific system was not yet developed in China.



**Figure 1** Investigation of Needham Puzzle in philosophy perspective and science development during the period of the Republic of China

## 1.2 Qian Xuesen's Question and "poverty of philosophy"

Then, after China has constructed an intact scientific system and developed science and technology in leaps and bounds, "why cannot our universities cultivate outstanding talents?" Qian Xuesen raised this question on many occasions during his lifetime, which is known as Qian Xuesen's Question. Scholars have tried to answer this question from different perspectives. We believe that analyzing this question in combination with Needham Puzzle from historical and philosophical perspectives may give a systematic answer.

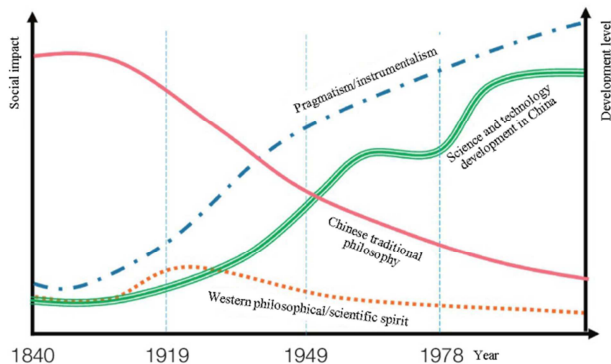
Although a group of distinguished scientists emerged during the Republic of China period and laid an initial foundation for the development of science in China, the foundation was unbalanced and insufficient due to the special social background at that time. Since the modern times, we have learned Western science and technology mainly for using them. In other words, we only emphasize the material effect of such learning in building up our country, while ignoring the spiritual values—rationality and pursuit of truth—of science. Although the May 4th Movement strongly advocated scientific spirit and methods, it was misguided by scientism<sup>[5]</sup>—the obsession with science alienated the scientific spirit. In addition, the call for "Down with Confucianism" and the indiscriminate criticism of Chinese traditional culture and philosophy resulted in some cultural breakdown. In *Review and Prospect of the Contact between Chinese and Western Cultures*, Qian<sup>[6]</sup> elaborated on this process, "What the Chinese admire is actually the application effect of Western scientific methods rather than the source of Western scientific spirit. Over the past century, the Chinese people, misled by their superficial mindset of seeking quick success and instant benefits, have failed to approach the truth of the new Western culture even they pushed hard to break down their traditional old culture." In a word, China embarked on a road that prioritized the practical use over the spirit of rationality in developing science.

The development of science in China has taken this road since the middle of the 20th century. On the one hand, China's science and technology development has gained great achievements under the guidance of major national strategies such as "Marching forward to Science", "Reinvigorating China through Science and Education", and "Science and Technology are the Primary Productive Force". However, these achievements were accompanied by the further popularity of pragmatism and instrumentalism. On the other hand, the educational revolution and cultural revolution aggravated the breakdown and decline of Chinese traditional culture and philosophy. Meanwhile, the Western philosophical and scientific spirit that nurtured scientific growth was also distorted and contained, intentionally or unintentionally. In addition,

the international technology fever, the crisis of Western philosophy, and the "marriage" of capital and modern science aggravated scientific pragmatism and utilitarianism at the cost of weakening value rationality. Inevitably, the development of science in China was affected by this trend.

Therefore, from the perspective of philosophy and history, the development of modern science in China is a process in which instrumental rationality waxes while value rationality wades. Without being checked, constrained, and guided by value rationality, instrumental rationality leads to instrument-oriented scientific and educational values which thwarted the cultivation of distinguished scientists with philosophical vision. At the same time, the weakening of value rationality and the lack of distinguished scientists directly or indirectly lead to other bottlenecks such as the lack of original innovation and the deterioration of academic ecology. The serious shortage of value rationality caused by the weakening of scientific spirit and Chinese traditional philosophy in the development of science might be called "poverty of philosophy". It is not only the main answer to Qian Xuesen's Question but may also the root cause of the bottlenecks hindering the science and technology development in China.

From the historical context of the Needham Puzzle and Qian Xuesen's Question, "poverty of philosophy" and its social impact in China are the products of gradual evolution (Figure 2). During the Republic of China period, in spite of a seemingly waning trend, Chinese traditional philosophy came to a short climax and gave birth to a group of distinguished scientists as it collided and merged with Western philosophical/scientific spirit under the impetus of pragmatism/instrumentalism. After the founding of the People's Republic of China, the country chased and caught up with other countries in science and technology. The strong momentum of instrumentalism and the leadership of the distinguished scientists cultivated during the Republic of China period contributed to the establishment of an intact scientific system in China within a short period of time and promoted the rapid development of science and technology development. In fact, the "poverty of philosophy" has germinated at this time, leading to China's inability to train distinguished scientists, to accomplish original innovation, and to build a healthy academic ecosystem. In recent years when China manages to "break even" and "lead" the world in some scientific and technological fields, the "poverty of philosophy" has been aggravating and exposed the problems looming in the early stage. As a result, we have neither external models to follow and imitate nor the guidance of value rationality, and thus the science and technology development in China inevitably encountered bottlenecks.



**Figure 2** Evolution of “poverty of philosophy”, instrumentalism, as well as science and technology development in China since modern times

## 2 “Poverty of philosophy” is the root cause of the bottlenecks hindering the science and technology development in China

Through the analysis above, we can preliminarily draw a conclusion that “poverty of philosophy” is one of the root causes of the bottlenecks hindering the development of science in China. However, to come to a more definite conclusion, it is necessary to further explore why philosophy has such a huge impact on the development of science and why “poverty of philosophy” causes the bottlenecks.

### 2.1 The modern scientific system was born out of philosophy, while “poverty of philosophy” prevents us from building a healthy scientific culture and an independent scientific system

Science and philosophy were originally integrated, and modern science became independent of philosophy only in the recent 300 years. Modern science was born on the basis of the natural philosophy, conceptual metaphysics, and formal logic in ancient Greece, as well as the philosophical foundation laid by the epistemology and experimental philosophy of Descartes and Bacon<sup>[7]</sup>. The modern scientific system was born out of philosophy, so to speak. Philosophy is the predecessor of all sciences and the precondition for cultural development<sup>[8]</sup>. The enlightenment of philosophy greatly promotes the spread of scientific culture, liberates people’s minds, and provides new epistemology and methodology for science. Science will encounter serious chaos and confusion when sailing towards the uncharted and complex waters, which needs the guidance and support of philosophy.

Although scientific culture originated from Western philosophy, it must grow and operate in a specific local culture<sup>[9]</sup>. However, we now do not deeply understand the Western philosophy and scientific spirit that nurtured the scientific culture, nor do we inherit or develop the Chinese traditional philosophy that can carry on the scientific culture. “Poverty

of philosophy” prevents us from drawing the nourishment of philosophy to build a scientific culture and the associated value system, way of thinking, code of conduct and social norms. As a result, scientific culture lags far behind the science and technology development in China. At the same time, “poverty of philosophy” and the consequent absence of scientific culture often confine our scientific research to the existing theoretical methods and system frameworks. In spite of some dotted breakthroughs, a complete set of ideas, methods, and technologies can hardly take shape, not to mention an independent scientific system that leads future development. This is also the biggest systemic barrier for China to achieve scientific and technological self-reliance.

### 2.2 Philosophy is a booster of original and disruptive innovation, while “poverty of philosophy” prevents us from coming up with major original theories and scientific ideas

Philosophy is the systematic reflection and concerns abstract and general issues, providing methods for generating new ideas, novel perspectives, and critical thinking<sup>[10]</sup>. Philosophy broadens and deepens observation and fosters the speculative ability and insight of scientists, which helps identify key problems and stimulates original and disruptive innovation. Kuhn<sup>[11]</sup> described the important role of philosophy in fostering originality, “It is no accident that the emergence of Newtonian physics in the seventeenth century and of relativity and quantum mechanics in the twentieth should have been both preceded and accompanied by fundamental philosophical analyses of the contemporary research tradition.” In addition, the role of intuitive thinking and inspirational experience in solving theoretical crises and making scientific breakthroughs has gradually attracted attention, and many Western scientists have called for a return to the holistic intuitive thinking of the East<sup>[12]</sup>.

“Poverty of philosophy” prevents us from making systematic scientific reflections, asking subversive questions, and further developing major original theories or scientific ideas. Specifically, the poverty of Western philosophical/scientific spirit deprives us of the passion to explore scientific truth, the persistence to uphold scientific truth, and the ability to transform from primitive thinking to logical thinking and scientific thinking<sup>[13]</sup>. In Chinese traditional philosophy, the organic theory, the systematic approach, the cognitive model of integrated knowledge, affection, and thinking, and the methodology of analogy and intuitive extrapolation<sup>[12]</sup> may play a more important role in shaping scientists’ research styles and thinking than expected. The poverty of Chinese philosophy prevents us from fully taking advantage of the systematic approach, the intuitive thinking, and the inspirational experience to make original breakthroughs, which may explain why the “poverty of philosophy” in Figure 2 is mainly manifested as the decline of Chinese philosophy.



### **2.3 Most of the distinguished scientists are philosophical scientists, and “poverty of philosophy” prevents China from cultivating more distinguished scientists**

Albert Einstein <sup>[14]</sup> states that a knowledge of the historic and philosophical background gives that kind of independence from prejudices of his generation from which most scientists are suffering. This independence created by philosophical insight is the mark of distinction between a mere artisan or specialist and a real seeker after truth. The philosophical literacy of a scientist determines his/her scientific vision and research level as well as the scientific problems he can discover and solve. For example, great epoch-making scientists such as Galileo, Newton, Leibniz, and Einstein are all philosophical scientists. Likewise, most of the distinguished scientists cultivated during the Republic of China period had a profound philosophical literacy. For example, in addition to the great achievements in science, Qian Xuesen <sup>[15]</sup> proposed a modern science and technology system and developed the theory of metasynthetic wisdom on the basis of Chinese holistic philosophy.

Ideally, scientists should be those who have the time, interest, and ability to “look up at the stars” as Kant said. However, as “poverty of philosophy” now exists extensively in the social culture, basic education, and scientific research in China, researchers have clearly poor philosophical literacy and lack the ability to “look up at the stars.” At the same time, the unsound institutional mechanism and evaluation system have deprived most researchers of the interest and time to do so. This inability to make in-depth philosophical reflections on science turns most of Chinese researchers into the scholars who are good at specialized knowledge or artisans instead of distinguished philosophical scientists.

### **2.4 Philosophy can improve scientists’ moral standards and state of life, while “poverty of philosophy” is the root cause of the problematic academic ecology and research integrity in China**

Philosophy can elevate the human mind and enable people to experience values higher than morality beyond the real world. Feng <sup>[16]</sup> divided human life into four states: natural state, utilitarian state, moral state, and philosophical state. He maintained that in the past every educated Chinese was first exposed to philosophical enlightenment (such as the Four Books and the Five Classics), which was a higher level than morality. Einstein <sup>[17]</sup> classified scientists into three types: intellectual scientists, utilitarian scientists, and ultimate concern scientists. He held that the last type of scientists could engage in enduring scientific activities, explore the mysteries of the world endlessly, and care about the destiny of mankind. This is also a philosophical state. Philosophy helps scientists to transcend utilitarianism into a moral and even philosophical state and become the ultimate concern group. The pursuit of a philosophical state by scientist

community is also a process of promoting the nurturing and development of academic ecology and scientific spirit.

In recent years, the academic ecology and research integrity in China have become problematic. No significant improvements have been made despite the various measures, such as advocating scientific spirit, calling for research integrity, reforming the evaluation system, and implementing stricter supervision and review systems. This is mainly because the problematic academic ecology and research integrity are not only attributed to poor personal moral quality, evaluation orientation or institutional arrangements, but more importantly to cultural and philosophical problems. “Poverty of philosophy” is the root cause and is almost impossible to be solved fundamentally by imposed constraints or guidance. At the individual level, “poverty of philosophy” shuts some researchers from the moral realm and philosophical realm and confines them to the utilitarian realm where they are absorbed in maximizing the interests of individuals or small groups and are prone to cross-boundary operations and research integrity problems. At the scientific community level, “poverty of philosophy” prevents the scientist group from developing a sense of community through the consistent pursuit of moral realm and philosophical realm, hinders the cultivation of a scientist group with scientific spirit and a scientific culture, and thus adds to the difficulty in fostering a good academic ecosystem.

### **2.5 Connotation and essence of “poverty of philosophy”**

By dissecting the relationship of “poverty of philosophy” with scientific culture, independent scientific system, original innovation, the cultivation of distinguished scientists, academic ecology, and research integrity, we can see that “poverty of philosophy” is undoubtedly a main cause of these bottlenecks. At the same time, the in-depth analysis further clarifies the connotation and essence of “poverty of philosophy”, which refers to not only the poverty of philosophy in science and technology but also the general poverty of philosophy at various levels involving the outlook on life, outlook on world, and methodology. It includes not only the poverty of scientific metaphysics marked in Western philosophy but also the poverty of art and moral metaphysics marked in Chinese traditional philosophy <sup>[18]</sup>. In addition, the “philosophy” here is emphasized for its social impact and needs to be understood and accepted by the majority as a fixed mode of thinking that they consciously or unconsciously put into practice. It does not mean a discipline that rises or falls, because the prosperity of philosophy as a discipline is often opposite to the intensity of its social impact. The specialization and professionalization of philosophy make a philosophical product more technical and less appreciated, which prevents it from influencing the society <sup>[19]</sup>. Therefore, the bottlenecks hindering science and technology development are due to the “poverty of philosophy” not only in science and technology community but also in the education and culture communities and even in society.

### 3 Cultivation of philosophy is the “30-year mugwort” for breaking through the bottlenecks hindering the science and technology development in China

Through the analysis of the historical and philosophical origins of Needham Puzzle and Qian Xuesen’s Question, as well as the influence of philosophy on science, we can draw a conclusion that “poverty of philosophy” is a main root cause of the bottlenecks hindering the science and technology development in China and the key resistance that neutralizes the reform effects. On the contrary, cultivation of philosophy which means developing innovative philosophical ideas, strengthening philosophical education, and enhancing the social influence of philosophy is undoubtedly the good medicine to cure the problems. Especially when China is transforming from “following” to “breaking even” and “leading” the world in some scientific and technological fields, it is in desperate need of this “good medicine” to break through the bottlenecks and build China to be self-reliant and strong in science and technology.

Although the cultivation of philosophy is a “good medicine”, it is a complex system that requires concerted efforts and cannot deliver immediate results. It will not pay off without long-term philosophical acculturation, and it may not even be “curative” in the entire process of building China into a world leader in science and technology in the next 30 years. This complexity, uncertainty, and lag effect of cultivation of philosophy may demobilize efforts at all levels, and thus it is hardly put into actions and easy to end up as a system failure. This is similar to the Mencius statement, “To cure a disease lasting for seven years, one must seek mugwort stored for three years” in *Mencius: Li Lou*. The person who finds himself in this situation generally falls into a dilemma of three choices. First, he has to buy someone else’s three-year mugwort at a high price, although this is not necessarily a sure cure. Second, he has to start storing mugwort for three years by himself, while he will not be sure of the development of the disease over this process. Third, he may forget about the mugwort and try other treatments, whereas this can be just as uncertain and wrong prescriptions may accelerate his death<sup>[20]</sup>.

Similarly, for the bottlenecks that have been formed with the rapid development of science and technology in China over the past 70 years, cultivation of philosophy can be regarded as the “mugwort stored for thirty years”, but the same dilemma exists. ① It is unfeasible to directly transplant Western philosophy and become fully westernized, because of different cultural backgrounds and the appearance of stagnation and crisis in Western philosophy. ② China may spend 30 years reforming and developing its own philosophical thoughts and expanding the social influence of philosophy from now on. However, philosophy may have little effect during this period and may not be able to solve the

problem of science and technology development for the time being. ③ It is not desirable to abandon philosophy for other reform measures aimed at superficial problems, because it has been proved that frequent reforms and interference targeted at symptoms may further exacerbate and complicate the deep-rooted problems and ultimately hinder the development of science. To address the plight, Mencius picked the second option: “If you do not store the mugwort now, you will never have it in your life.” The same is true with the cultivation of philosophy. With all of the three options compared above, only the second option is most desirable both strategically and tactically. From a strategic perspective, cultivation of philosophy is the most fundamental and effective solution for China to build its strength in science and technology, and it can produce spillover effect on the overall development of the nation including culture, society, economy, and politics. From a tactical perspective, it can lead, drive, and promote other scientific and technological reform measures aimed for the same goal instead of jeopardizing them.

Thus, systematic, complicate, uncertain, and slow effect as this “mugwort stored for thirty years” is, we suggested that the government should implement the cultivation of philosophy as one of national strategies. Only in this way can we unite the philosophy, science and technology, education, and culture communities and even all walks of life in society. Only in this way, will cultivation of philosophy be promoted continuously under the national support in the next 30 years although it cannot cure the problems temporarily. Only in this way, can we gradually foster value rationality and philosophical spirit that can balance and lead instrumental rationality, establish an independent scientific system, cultivate more distinguished scientists, produce more original achievements, shape healthier academic ecology, and become scientifically and technologically self-reliant and a world leader in science and technology as scheduled.

To build China’s strength in science and technology, we can neither wait passively for the “mugwort stored for thirty years” nor radically overturn the existing system completely. Just as “a sailor can only repair his own ship while sailing”<sup>[21]</sup>, we must also promote the cultivation of philosophy without compromising the normal development of science and technology in China. Therefore, cultivation of philosophy is the sure direction for China’s endeavor for a world leader in science and technology in the next 30 years, and the gradual reform of science and technology development will still be the mainstream. It is necessary to strengthen the construction of philosophy while deepening the reform of science and technology system in a more mature and systematic way, so as to lay a realistic and long-term foundation for China’s endeavor for a world power of science and technology.

### 4 Conclusion

In *On the Genealogy of Morality*, Nietzsche<sup>[22]</sup> said, “The



more eyes, various eyes we are able to use for the same thing, the more complete will be our ‘concept’ of the thing, our ‘objectivity’.” It is based on this perspectivism that this paper goes beyond the specific problems and situations of science and technology development in China and tries to examine the bottlenecks and possible solutions via different eyes and from a macro perspective of historical philosophy. The “poverty of philosophy” is one of the root causes of the problems impeding the science and technology development in China and the cultivation of philosophy is the “mugwort stored for thirty years” to boost China’s endeavor for a world leader in science and technology. Moreover, we suggest that the government should implement the cultivation of philosophy as one of national strategies.

However, it is precisely this macro narrative perspective that distracts attention from details and accounts for possible inevitable omissions in this paper. We hope that this paper can serve as a modest spur to induce more discussion, attract more eyes on the bottlenecks and strategic choice of China’s endeavor for a world leader in science and technology, and gather more ideas to form a common perspective and objectivity in understanding this endeavor. We will expand the macro perspective in this paper around the building of China into a world leader in science and technology and conduct deeper research on the desired philosophy and the approach to the cultivation of philosophy.

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