

On Liberation Nature of Technology From the Perspective of Social Ecological Civilization

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Received 24 August 2015; accepted 12 October 2015

Published online 26 November 2015

Abstract

Ecological civilization, which reflects the development stage and its state of social progress, is a sublation of aggressive growth model in modern industrial civilization. It is also a discard of extensive technology view that for limitless growth of wealth by abuse of science and technology. To some extent, technologies which represent the essential power of humankind, are born with the nature of liberation for man and its society. Specifically, we can never forget the liberation function of technology. While the nature of modern civilization is for the limitless liberation of human's ego consciousness and desires by technologies, the nature of contemporary civilization is for the liberation and free of everyone and the whole society by technologies, eliminating the one dimensional society, one dimensional man, and one dimensional thought. In the background of establishing a harmony society, this paper tries to analyze the liberation nature of technology from the perspective of social ecological civilization in three dimensions. The first is the technology liberation in the context of reality, including the tendency of globalization and knowledge economy, the urgent need of green technology and the concrete practice of ecological restoration. The second is the development model of technology liberation in the context of theories, including the technology wildness phase of human ignorance in ancients, the technology civilization phase of dynamic increase of technologies as well as human confidence in modern times, and the eco-scientific phase of harmonious symbiosis in human

and nature. And then the development of technology heads for the ultimate dimension of human and natural liberation. The third is a dialectic methodological enlightenment for contemporary technical practice based on the development venation of technology liberation.

Key words: Social liberation; Eco-civilization; Technological philosophy; Human liberation

Sun, Q. Z., & Zhu, L. P. (2015). On Liberation Nature of Technology From the Perspective of Social Ecological Civilization. *Cross-Cultural Communication*, 11(11), 12-16. Available from: <http://www.cscanada.net/index.php/ccc/article/view/7884>
DOI: <http://dx.doi.org/10.3968/7884>

INTRODUCTION

Ecological civilization is a new stage in the development of human society after modern industrial civilization springs from the West. It is the sum of the material and spiritual fruits that human beings achieved by following the objective laws of the harmonious development of human with nature. From this perspective, it requires wise treatment to nature and whole society, as well as unisonous technology view and ecological philosophy when adjusting our behaviors. As the history shows, technical rationality, which is the result of the combination between traditional rationality and modern science, is the main cultural spirit of modern western industrial civilization (Wu, 2013, p.76). Correspondingly, this kind of philosophical view and technology view cause irresistible results, such as environmental pollution, resource depletion, serious social consequence, human alienation and one dimensional philosophy and so on. As a sublation of uncivilized growth model in modern times and a discard of such an instrumental rationalism in scientific and technological practice, the

ecological civilization abandon the scientific philosophy views that absolute control of nature and exploitation by technology has been equal to the ratioc characterization or logos of mankind since René Descartes' time in history of western philosophy.

The construction of ecological civilization never means to abandon the science and technology and steps back to primitive society as some scholars appealed. They blamed technology for causing serious ecological crisis and other environmental problems, so they thought that human could not build a real civilized society or simply welcome the harmonious co-existence with nature unless we get rid of technology and "return to the primitive ecology" or "back to a deeper past" (Zhou et al, 2014, p.1). In fact, although we have suffered from a lot of pain that the technologies bring about in modern industrial civilization, we cannot ignore the liberation nature of technology and go against objective laws of human civilization and social advancement. Directly, technical progress can free humankind from heavy labor in society and various inconvenience and danger in nature state. Science and technology as a part of the productive forces, is also the technical construction of man's essence power, characterizing the breadth and depth of our practical ability for environment transformation (Zhao, 2014, p.5). Above all, promoting the coordinated development of society cannot exclude the liberation nature of technology from our considerations. Realistic construction would tempt us to view technology as a purely liberating force.

1. THE REALISTIC CONTEXT OF TECHNOLOGY LIBERATION

Ecological civilization, an ideal state as well as a realistic objective, contains the realistic context of technology liberation and technical potential. Only through the institutional transformation and conversion of science and technology ethic values, can the liberation of man and nature be realized. Science and technology activities are rooted in human study instincts. As a result, science and technology jointly become the maximal realistic power to realize the liberation of the every individual subject (Qing, 2001, p.28). There are two trends of social subject become prominent in twenty-first Century: the sustainable attention on environmental problems and the continual pursuit of technologies, which contribute to the prosperous development of ecological philosophy and science and technology philosophy. What is more, the two subjects are harmoniously combined for mutual development. Except the shared social background of the globalization, the urgent need of green technology in ecological restoration is also an important factor for the technology liberation from the perspective of social ecological civilization in contemporary era.

1.1 Evolutive Motivation: Tendency of Globalization and Knowledge Economy

The combination of science and technology and economy would act as mutual fuel for each other's development. As Zhao Jianying in his pepper of "*the social transformation and the twenty-first Century Chinese philosophy*" said, the development of new scientific and technological revolution, makes the society more and more informatization. The overwhelming trend of social opening and highly developed technologies brings the world together and at the same time eliminates the difference of nations and countries. Social relations become increasingly close. In a word, informatization and globalization become the important features and trends of contemporary society.

In the realistic conditions of ecological civilization construction, the globalization and knowledge economy act as an invisible hand, pushing the science and technology forward and providing the evolutive motivation for a potential of human liberation, natural liberation and social liberation as well. However, because the double effects of the technologies for economic and social development, the philosophical reflection and criticism on technology's nature (liberation function or enslavement function for mankind) seem to be an ineluctable result. However, arguments demonstrates and deepens the philosophical understanding of the technology liberation nature. This favorable factor also becomes the appearance path and the formative dimension of scientific philosophy in the contemporary globalization background.

1.2 Realistic Orientation: Urgent Need of Green Technology in Ecological Restoration

The construction of ecological civilization calls for the paradigm shift of science and technology research. And it gradually becomes a voice for "the green technology", which essentially means to select the technologies which are safe for life's nowadays consumption as well as future development. Specifically speaking, the safety that science and technology concerns should simultaneously contain the safety of human and the safety of other biology. It is also should simultaneously contain the safety by now and the safety in future, which we conclude to the core conception of "sustainable development".

Obviously, the most urgent need of green technology (or safe technology) in ecological restoration acts as a realistic orientation. There are two dimensions to this opinion. For one thing, it is the realistic development of safe technology as we need the specific technology in the construction of ecological civilization. For example, we need the synthetic technology of clean energy to replace the oil resources which would eventually dry up in the future, or we need the decomposition technology of first class to digest the garbage produced by more and more people in the world. Totally, this dimension bring the realistic need for science and technology. For the

other thing, the attention on safety reflects the emphasis on humanizing attribute of science and technology. The subjectivity of mankind is a logical presumption in advance because the development of technology is the medium mean while the human itself is the final purpose. The essence of technology liberation is “a revise to the alienation” and “a return to the free”. In a word, this dimension is echoes of realistic ecological construction such as ecological restoration and protection. Both of the dimension act as the realistic orientation for understanding of technology liberation from the perspective of social ecological civilization.

2. THE DIALECTICS FOR LIBERATION OF THCHNOLOGY

Before come to the point of the development model of technology liberation in the context of theories in the part, we have to make clear a logical premise: the technology neutral (Guo, 2010, p.503). The neutral theory of technology is concerned with the natural attribute of technology, as the decision theory of technology is the social attribute of technology (Lu, 2000, p.53). Before the natural attribute of technology gains its value orientation, the technology is nonaligned. While after that, human who uses and chose the technology plays the dominate part. Thus, the key is the dialectical unity implicated in viewpoint of scientific development. Base on those analyses, we begin to discuss the formative path of technology liberation.

2.1 From Technology Wildness to Technology Civilization

In the history of science and technology development, there was a phase in which technology has not come into being because of human ignorance in ancient or in middle ages in the west. We advise to call this period as “wildness phase”, which mean the naissance age and initial development of science and technology. The most typical feature of science and technology in its young age is the sacredness of nature objects. Due to the limited understanding of the world, some natural scientist and natural philosopher began to explain the natural phenomena, even describe the structure of universe. However, they mostly give the answers in a way of imagines or simple reasoning. When met with those could not be explained, they turn to the help of god. For example, the geocentric theory, which says absolutely it was the god that created a spherical world and placed it in the center of the universe. That is the earth we settled in. In this phase, technology did not slave human or release human at all. To the contrary, people thirstily pursued the development of science and technology, driven by the original power of thirst for knowledge and progress.

Then human passed from the technology wildness phase to technology civilization phase as the dynamic

increase of technologies as well as human confidence in modern times. To some degree, human in modern time invented the words of “science and technology”, which made them very great and self-centered. Before that, although there was also the concept of “science”, but not “technology”, which stemmed from the spirit of “conquer nature” originated by French philosopher René Descartes. He said, “I thought therefore I am”, making human the absolute subject and nature of the absolute object. Nature is in accordance with the law of mathematical and physical form (Xing, 2011, p.88). By those understanding of objective laws and science, there born the science and technology civilization in the west, saying “conquering nature is the greatest happiness of mankind”. This is the new view of value in modern industrial civilization. However, just as Nietzsche once said, “When you look long into an abyss, the abyss looks into you”. Abuse of science and technology at the same time has gradually enslaved mankind in everyday life. In this phase, both the attributes of science and technology are opposed to each other, in which there is a paradox between slavery function and liberation function of science and technology.

2.2 From Civilized Technology to Green Technology

As we already mentioned, the modern civilization has made the values of “conquer nature” been fully reflected. Nature became the slaves of human. Only step they should take was maximally squeezing the slave, could the wealth increases stably. In accordance with this idea, they created a new social system and brought prosperity as they hoped. At the same time, those who had no time to introduce modern civilization, such as Asia and Africa countries, finally became the colonies of European countries, because science and technology are not only an economic power, but also the military power. However, serious problems followed on industrial revolution’s heels. Firstly, the balance relationship between human and nature was disturbed, and then came the global environmental crisis, the natural resource depletion, the whole ecosystem damage, and the species extinction and so on. Secondly, the relationship between human and human was aggravated as the increasing disparity between the rich and the poor, the exploiters and slaves. Thirdly, the relationship between different countries is getting nervous as the fear of military threats created by economic and scientific development. In a word, in this phase, human has not been awake to the mission of technology liberation.

With the coming of 21 century, the human society is progressing into the new age of knowledge. The science and technology progress in environment and human sustainable development has been put into the agenda. A newly word, called “green technology”, echoes our ecological civilization construction in the contemporary era. This is an epoch-making shift of our mode of thinking

from rationality of desire to rationality of dialectics. It is also a sign that human is conscious of his mistake in history and abandons the value of controlling the nature, we learn to make the best use of science and technology but with reverence for life and self-control for other people. We orient our scientific research to green and safe attribute from the beginning, and consider more and more about ethics of science and technology. All of this change show human has been aware of the technology liberation. If we hope the ultimate free and liberation, concerns about invention would not be enough. We also have to pay more attention to technology ethics, which finally go back to human itself. This is the eco-scientific phase of harmonious symbiosis in human and nature.

2.3 Liberation Nature of Technology: Human Liberation and Free

Before analyze the liberation nature of technology, we should talk about the definition and the essence of technology. Technology has two dimensions of meaning. The first meaning is the technical activity. The narrow sense refers to the methods and means of human beings in the process of utilizing nature and transforming nature. The second meaning is the technical achievement. It is a unity of technical theory, the technological process and the technical product. The technology theory is a bridge linking the scientific theory and engineering practice. As a mediation, the technology theory developed itself when apply scientific theory to the processes of solving practical engineering problems. The relationship between mankind and technology is subtle. Generally speaking, we always take the technology as an instrument of human practice. It is designed for human's free and liberation at first and commonly develops as human's essential power, but it is so hard to make clear how and when the technology becomes an alienation, torturing and controlling human beings. However, people use technology to produce some products to serve the society. As growing material culture needs, technology will be advanced day by day, which will be hence the close relationship between human and technology. Technology cannot be separated from the human beings and its society. It is not possible for human to return to the primitive ecology or back to a deeper past any more.

In fact, the liberation nature of technology is objective and never changes. Through analyzing the role of technology plays in the development of human society, we can conclude that the ultimate orientation is human's liberation and free of everyone. Firstly, technology and science free the individuals from taxing labor and dangerous nature, providing more convenience and chance for promoting self-value. Totally speaking, the technology owns the potential of individual liberation. Secondly, technology and science, which are a kind of productivity and belong to the practical category, reflects the dynamic relationship between human and nature. Furthermore, the

technology is based on the understanding of nature, and has clear goal and means to transform nature and serves the human according to their needs and realities. Thus, the technology can gain the goal of social liberation. Thirdly, as the technical relation of production is an important part of the social relations of production, technological progress is a positive force for social change. According to Marxist theory, social liberation as well as nature liberation mainly depends on great development of social productive forces and the great improvement of the consciousness of the individual. As the technology is the first productivity, it is critical for social liberation. Above all, the development of technology would be heads for the ultimate dimension of human and nature liberation.

3. THE DIALECTICS FOR LIBERATION OF THCHNOLOGY

In industrial civilization era, we mindlessly pursued the development of productivity forces, which lead to global environmental degradation and natural resources scarcity. Consequently, neutral science and technology had to endure the charge of ecology killer. However, it is not fair to just the social force in one dimension, especially in the background of ecological civilization construction. We should introduce the dialectics to understand the essence of technology liberation in the dimension of human, nature and society. The Duality of Technology are the natural attribute and the social attribute. We have to dialectically adjust our views of value reason and tool reason from the two aspects. The ethical evaluation object is the person or group who uses the technology rather than the technology itself. What is more, the limit of application technology should be adjusted to technology value and the potential effect on the whole society and nature. Therefore, technology with reasonable use and subject's ethnic self-disciplines can balance the ecosystem, practice the idea of sustainable development, and bring us the social prosperous and human liberation. Accordingly, we then discuss the dialectic methodological enlightenment for contemporary technical practice based on the development venation of technology liberation.

There are three laws in dialectics according to Marxist theory: the law of the unity of opposites, the law of mutual change of quality and quantity, and the law of the negation of negation. Correspondingly, there are there main dialectics laws for liberation of technology from the perspective of social ecological civilization. The first one is the unity and opposites relationship between the liberation attribute and slavery attribute, the natural attribute and the social attribute. This condition enlighten us the thought of green technology orientation and turning our attention from limitless economic growth to global safety and development capacity in the future, emphasizing the relationship between economic

development and environment development. The second one is the quality and quantity of technology liberation function in the current situation of ecological civilization. This makes us be alert to the metaphysics and takes the human liberation of technology as a dynamic process. It is important for us to surmount the methodological individualism and hold the dialectic holism in specific practice of ecological construction. The third one is the scientific rationality and criticism demonstration, which remind us to carry forward the spirit of criticism and reflection keeping the thinking model of philosophy in the process of human liberation through science and technology. Totally speaking, we should pay more attentions on the pluralistic development of the outlook on science and technology, and what is more, dialectically focus on the liberation nature of technology from the perspective of social ecological civilization. Only through the institutional transformation and conversion of scientific values and technical values, can be the liberation of man and nature is realized.

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