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A Study on Sandel's Ethical Thoughts of Technology from the Philosophy of Lao Zi

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Abstract: While acknowledging the benefits of technological progress to mankind, Sandel has also made a careful reflection on the human attempt to use technology (especially genetic technology) to change natural attributes. In his view, Muscle enhancement, memory enhancement, height enhancement and gender selection: those four bio-engineering examples have revealed their importance for the first time, In the increasingly advanced technology, people are showing an unprecedented fanatical worship and pursuit of technology. From the transformation of the objective world, to the transformation of the cognitive world, and then to the transformation of people themselves, In human use of technology to seek perfection, is hidden a deep ethical crisis. On Sandel's Ethical Thoughts of Technology from the perspective of Lao Zi's philosophy, these results suggest that there are lots of mutual echoes between Lao Zi's philosophy and Sandel's Ethical Thoughts of Technology, which make the two sides could inspire and learn from each other.

Keywords: Sandel, Genetic Technology, Opposition to Perfection

1. Introduction

Michael J. Sandel（1953－）is a professor of Harvard University, academician of American Academy of Arts and Science, and a representative of communitarianism. In his book The Cases against perfection, Sandel enumerated many true cases, to show the influence of technology is changing all the time in its depth, broadness and targets: Synthesizing biotechnology and cognition technology have enabled mankind to master the human making technique like God, robotics and nanometer technology have produced more fabulous and refined instruments, gene technology and human body enhancement technology have increased the volume of the human brains and upgraded the body functioning by medicament, man-machine integration and other techniques. Sandel asks: With regard to technology, what kind of utilization is reasonable and beneficial, and can prevent immoral application？When technology has developed to such a degree that everyone can build up a perfect ego, customize a perfect child, and clone his beloved pet, then, what challenge will "human" face？Beginning from a series of questioning, Sandel introduced his ethical thought on technological development: Mankind's pursuance of "perfectness" by utilizing technology contains a deep crisis, and People must oppose "perfectness", to win the war of human justice against science and technology.

Sandel's technology ethic thought has enriched the technology ethic system, and also echoes intrinsically with the thoughts of being close to nature, upholding the middle road and "things will develop in the opposite direction when they become extreme" in Lao Zi's philosophy, thus, it has a great theoretical value. At present, the development tendency of high and new technology is very strong, gene technology has triggered many ethic problems in its process of research & development and marketing, and the popular beauty treatment technology in the folks is also an embodiment of people's blind pursuance of "perfection". Probing into the questions of what kind of technical application is reasonable and beneficial, and how to restrict the unlimited human desire and prevent the immoral application, has triggered an enlightenment about the development of high and new technology, and is of great practical value. Nowadays, from China to the whole world, many people are studying the trend of technology ethical

theory and practice, turning their attention to Sandel's technology ethical thought, and actively exploring into the points of agreement between Western moralists and Chinese traditional thoughts, as they believe it can offer a new clue for the development of ethics.

2. Definition of "Perfectness"

"Opposing perfectness" is the core of Sandel's technology ethic thought. To study his thought, first of all, The study must clarify the concept "perfectness". In Sandel's technology ethic thought, "perfectness" is a perfective concept, having the meaning "better than good", implying a sort of consummate state. Sandel's definition of "perfectness" contains the following aspects: (1) "naturalness" is the standard and example of "perfectness" in the philosophical significance; (2) Only when all the humans think and do conform to nature can it become possible for us to approach perfectness. (3) The "perfectness" opposed by Sandel is chiefly in the field of technology; using technology to transcend naturalness, and letting technology go against nature must be negated. (4) Technology should not take the build-up of a perfect human as the target; human can tend to perfectness through technology, but can never realize the pure technical perfectness. (5) "Perfectness" is not "consummation", the motive for perfectness has transcended the boundary of technology.

In the dictionary, "perfectness" refers to completeness and extreme nicety; without defect. It is the world in our reverie, but does not exist in reality. It is a philosophy and impetus that people crave for and pursue, and something existing in our thought only. Early positivism defines perfectionism as a morbid, one-dimensional personality, which contains high and obsessive and obsessive pursuit of unrealistic goals. In all ages, notwithstanding various forms of perfectionism such as the "Superman" created by Nietzsche, etc, most ethic thinkers believe that people should not take perfectness as the goal to improve ourselves. [1] Just as Kant says, "Human itself is just the purpose, worthy of respect", this saying always reminds us: when we treat mankind, we should not treat it like an object, should not take it as the means of an objective, for mankind is sacrosanct. [2] Hans Jonas holds the same viewpoint on the technology taking perfectness as objective. He always stresses: we must use technology cautiously, and take the golden mean as the target of pursuit. He condemns Utopia, thinking "unpractical perfectness ethic" has covered up a despise of the fundamental state of mankind endued by nature, the perfect "Utopia" is even more pessimistic than the prediction of perish, perfectness has "threatened the abundance of the living world", and in order to realize "perfectness", human beings will endanger good virtue. [3]

Sandel points out: "The unpractical perfectness ethic" has covered up the fundamental state of mankind endued by nature, turning the "it is" into "it is not". It is unrealistic for technology to take "perfectness" as its goal. We must respect nature. Technological development should be also controlled within a certain limit. If we just exaggerate the effect of technology, or even use technology to improve humans, we not only can never realize the "perfect" state, but in this unlimited development, technology might also trigger human's desire, amplify the gap between people, and destroy social justice, thus, we will get an untoward effect. Nowadays, from China to the whole world, many people are studying the trend of technology ethical theory and practice, turning their attention to Sandel's technology ethical thought, and actively exploring into the points of agreement between Western moralists and Chinese traditional thoughts, as they believe it can offer a new clue for the development of ethics.

3. The Essence of Sandel's Thought of "Opposing Perfectness"

Sandel places emphasis on the criticism and inheritance of American philosophers' technology ethic thoughts, and at the same time, he takes the America in history for example, to enumerate some philosophers' viewpoints on the development of science and technology, to support his own theory. In his article "Freedom of Liberalism and Freedom of Republicanism", Sandel turns his attention to the America in the era of the Industrial Revolution. In that era, in the face of the transformation from the agricultural society to the industrial society, the general public felt some bewilderment, so, apposing voices rose one after another while praising the convenience brought about by science and technology. Sandel quotes Munford's proposition. In his Technology and Human Nature, Munford expounds the fundamental changes brought about by science and technology to the human living environment: The transformation from the empirical and traditional technology to the experimental science and technology has opened new fields, for instance, the nuclear energy, supersonic velocity transportation means, computer intelligence and global instant communication. Those technologies have not promoted the development of mankind's high-type intelligence, but on the contrary, the tools have replaced our sensory organs, and technology has monopolized human life. People have been losing their independence in thinking, working and interaction, becoming robots passively receiving the orders from the "giant machine". The mankind now is an existence without any function, without working, being lost in the huge technical system without knowing their way out, because their activity fields have already turned from the organic environment, social group and human individuality towards the "huge machine". [4]

In his process of criticism and inheritance of the past ethic thoughts on science and technology, Sandel formed his own characteristic thoughts. In his opinion, technology development has failed to answer the question of ethics. In the present utilization of high technology by scientists, there are many wrong doings, and the reason for the immoral behaviors is people's biased cognition on technology. In both developed countries and developing countries, most people

think technology is the first impetus to boost economy, technology can enhance the national power, increase people's income, and improve people's life, and so on. [5] Yet, they have not given weight to the negative effect of technology, and have not exploited and utilized it in a moderate way in practice. The connotation of his idea of opposition of "perfectness", above all, is to oppose the motive to seek "perfectness" through technology. Human is a unique existence in the natural world, nature has endued human with unique characteristics, and in the process of improving himself, his own effort is the decisive factor. Yet, the technology used to human has brought about other ways to change human, thus, people can enhance their ability without their own efforts, but through direct taking of medicines and surgical operations, which will break the traditional rule for mankind to improve their ability since the ancient times. Secondly, Sandel warns us about the consequences brought about by the pursuance of "perfectness" through technology. Technology should conform to nature, but one consequence of seeking perfectness through technology is to let nature conform to technology, change "the nature as it is" according to human desire, thus, while creating material wealth and spiritual wealth, technology has also cast bewilderment for mankind's long-term development.

3.1. From Technical Liberalism to Technical Absolutism

Sandel thinks, liberalism has the tendency to develop towards absolutism; Moreover, market economy is gradually degenerating into a gold coin society, as citizens' moral consciousness is becoming thinner and thinner; In Sandel's technology ethic, Sandel has analyzed some true cases such as gene improvement, bio-chemical athletes, sex selection, asexuality cloning of embryos, etc, and suggested the possible hidden worries brought about by development of science and technology: Once technology seeks perfectness, People will make technology become the major factor determining the development of mankind. Sandel predicts: along with the infiltration of technology into the economy, society and culture, people will become unable to get away from technology. Once people leave technology, they will be unable to carry out production activities and daily life, and even be unable to think rationally. While meeting people's demands, technology is also using novel commodities, fine means and all pervasive modes to summon, excite and make new desires and new needs that people have never had. Just as Herbert Marcuse says, the law of progress of capitalism lies in such an equation: Technological progress = growth of social wealth (growth of Gross National Product) = spreading of enslavement." [6] "People are guided by technology, melt into technical life, and cannot get away from technology, thus, technology has become the guide for people's life", technology will change human into "a single-dimensional person". Technology relativism can realize the initiative of mankind and the limitation of technology, yet, along with the development of technology, technology absolutism is getting stronger and stronger, and, when "The theory of technology omnipotence" becomes a human consensus, humans will lose their precious initiative.

3.2. The Technology for Seeking Perfectness Will Add Risks for Mankind

Technology is magnifying human's power by many times. In his book The Case against Perfection, Sandel points out: Mankind's utilization of high technology to seek perfectness is in an ever-increasing trend. The book listed the ethical consequences brought about by many high and new technologies on human's enhancement of mental ability. physical work capacity and genetic gene. Take biotechnology for example: The research object of biotechnology is mankind, the essential feature and charm value of mankind lies in their uniqueness, but once the application area of "clone technology" is spread to mankind, it will copy the human in an unlimited way, thus, will destroy the uniqueness of mankind completely. Once the "perfect human" appears, he will not only have the power to kill many people, but also have the ability to destroy an ethnic group, to annihilate a language, a culture, and a distinctive existing mode. Such a fatal power plus some accidental decision might trigger a world-wide life crisis.

3.3. The Balance of Virtue and Justice Has Been Broken

The technolgy paramountcy philosophy originates from the illfully developed liberalism, the self-replication of technical systems, the misplacement of relationship between technology and market, and so on. Humanity places "virtue" above "rights", but the "technology paramountcy" concept is weakening people's cognition on the priority of "virtue". In the market-oriented transformation process, technology only cares about how to let people get a "perfect ego" and "perfect life". That can not lead people onto the path of good virtue, but, because of the too mechanical trading principle and so-called market law, will regard people as the same as commodities, thus, will amplify the interpersonal gap, make civic virtues tend to philistinism from sublimity, and even make them lose their sense of happiness completely at last.

3.4. The Beneficiaries of Technology Are Not Equal for Everyone

Most biotechnology products are sold at a very high price, the beneficiaries are chiefly people from the powerful groups. Disadvantaged groups might also have a strong wish to buy the products of technical improvement, yet, most of them will not be able to afford the high price, and that will amplify the gap between the powerful groups and the disadvantaged groups. [7] Moreover, biomedical technology might manipulate the gene, sperm or ova, fertilized ovum, embryo, or even human brains and human behavior. Sandel worries that such a control over genes and human brains might lead to control over people, reducing people into objects, counteracting mankind's mystique, and infringing upon mankind's dignity.

4. The Major Initiatives of Sandel's Technology Ethic Thought

Ethic is the reason of human relations, and is moral philosophy. Science and technology ethic is people's critical examination of technology according to ethical principles in the process of technological innovation, and its advantage lies in the fact that people can jump out of science and technology and observe the trends of science and technology development. Sandel takes "opposing perfectness" as his tenet, to do reflective thinking on technology. In Lao Zi's philosophy, Lao Zi stresses repeatedly "to discard knowledge, and get away from trickery and advantage", and warn people to "hold simplicity and have less selfishness and fewer desires", which has pointed out the direction for the practice of high and new technology.

In Lao Zi's philosophy, people can see the ethical thought of opposing "perfectness". Lao Zi interprets "Tao" as a constant thing in change, people can taste and realize it, practice it, but cannot get "Tao" completely. In Lao Zi's book Dao De Jing, the "naturalness" and "inaction" upheld by Lao Zi are just to stress that people should follow the law of nature, take things as they come, and use technology in the course of nature, but should not use a technology willfully that can change nature. Lao Zi's philosophy stresses taking things as they come, unity of nature and man, and opposes the abuse of technology. Before mankind is clearly aware of the relationship between human and nature, any technical activity might have a potential tendency against nature, and the negative effect of such a tendency will show up after accumulation to a certain degree. [8] Lao Zi says, "When everyone knows what beauty is, the world will become evil. When everyone knows what virtue is, people will become bad."(Chapter 2 of Dao De Jing) He warns that the excessive pursuance of beauty and virtue might lead to a desire, and when people have a desire, they will seek it, and excessive seeking is actually the source of fighting and chaos. Instead of the perfect route, Lao Zi's philosophy tends to uphold the natural route: "Heaven and earth are everlasting. The reason why heaven and earth are everlasting is that they do not grow by their will. Hence, they can live forever." (Chapter 7 of Dao De Jing). So, he tells us: only by keeping the "natural" state and letting all things be in their proper place can all things in the natural world multiply and continue ceaselessly. Lao Zi also says: When the people have too many sharp tools, the country will become chaotic; when people are too skillful, odd things will run wild.(Chapter 57 of Dao De Jing). That is not a complete negation of technology, but just hopes people can use technology cautiously, and opposes the anti-nature technology. Lao Zi's philosophy contains dialectical ideas such as the change of yin and yang (negative and positive), transformation of good and ill lucks, describing the process of things from prosperity to decline: "Better stop short than fill to the brim. Over-sharpen the blade, and the edge will soon become blunt." (Chapter 9 of Dao De Jing). Namely, when anything reaches its perfectness, it will surely transform from the height of power and splendor to its opposite, and cannot last forever. So we can see, in Lao Zi's philosophy, "Tao" as the supreme state of "De (virtue)", is more important than "Skill", and no technology should damage people's morality, or affect the inheritance of morality. Judging from the angle of technology ethic, in a great extent, Lao Zi has shown his basic ideological orientation of criticizing technology, including tool technology, social technology and individuals' technology. [9] Judging from the agreement between Lao Zi's philosophy and Sandel's technology ethic, we can get the following points of enlightenment.

4.1. Taking "Opposing Perfectness" as the Tenet for Utilization of Technology

Sandel advocates taking opposing perfectness as the goal of technological development, and utilizing technology in a harmonious, moderate and natural way, which agrees with Lao Zi's philosophic thinking "things will develop in the opposite direction when they become extreme". Lao Zi says: "Tao operates through reversion；Tao is shown in weakness." (Chapter 40 of Dao De Jing). Lao Zi points out: When a thing grows to the perfect state, it will transform towards the opposite direction; if we want to keep a relatively high position, we should never try to reach perfectness, and once perfectness is reached, it will transform towards the opposite direction until return to the original point. Sandel thinks that we should keep a high vigilance to technology (especially mankind enhancement technology such as gene technology), the degree of closeness between the uncertainty of technology and the relationship with people has given us a hint, that is, people should have an enough forward-looking ethical thought, program its limit of development, so as to lower the probability of social risks caused by the unlimited development of technology. Lao Zi's philosophy and Sandel's technology ethic thought agree here. Once technology reaches its "perfectness", it will certainly trigger a development towards the direction opposite to its original purpose, and in this process, the risks and damage it brings about to people will be inestimable. In the high and new technology development, The state must restrict the technologies concerning the change of human brains, human bodies and human offspring for "building up perfect humans", so as to prevent the risks to be brought about by technology to mankind's survival and future.

4.2. Re-setting the Priority of "Virtue" in Technology

Sandel advocates the priority of virtue over rights, and Lao Zi also specially stresses the importance of "virtue". Lao Zi says: "Water represents the top virtue. It benefits all things without vying for its own existence. It lives in the lowest place no one likes to reach, thus, it is very close to Tao. In dwelling, it is most adaptable to the environment; in meditation, it keeps calm and profound; in dealing with others, it is sincere and kind; in communicating, it is credible and truthful; in governing, it is fair and efficient; in daily life, it is able to give play to all advantages; in action, it is good at grasping the opportunity. Just because of non-vying, it causes no fault and

blame." (Chapter 8 of Dao De Jing). Lao Zi believes "virtue" and "water" are similar to each other, and the law of water is close to the law of "Tao". That is, the importance of "virtue" is close to "Tao". "Tao" is at the highest grade in Lao Zi's philosophy, and from here we can see the importance of "virtue". Sandel thinks: Technology is a tool, how to use this tool depends on human. Just as the nuclear engineering, if we use it in a good way, we can develop nuclear power source for peaceful use; If we use it immorally, it can also be used to develop nuclear weapons with an extremely great destructive power. It is true of biological science and technology, too. They can improve our health and cure diseases; Likewise, they can also be used to design genes for descendants, to control others. People using technology should consciously follow the "virtue" philosophy, to make the technology benefit people. If we can let the "virtue" tenet pervade in each step of technology, from the design to the research, production and application, we will make the nature of technology always benefit people, and can prevent the public from passively becoming a part of this "huge machine" of technology.

4.3 Taking "Human Follows Nature" as the Method to Develop Technology

Sandel hopes: before developing technology, people should not forget the original features endued by nature for human. [10] Lao Zi says: Tao generates One, One generates Two, Two generates Three, and Three generates all things in the universe (Chapter 42 of Dao De Jing), and "Human follows the Earth, the Earth follows the Heaven, the Heaven follows Tao, Tao follows Nature" (Chapter 25 of Dao De Jing). Here, the ultimate law of "Tao" is "Nature", hence, human, the earth, the heaven and "Tao", all should take "nature" as their law. Nature means "of itself", that is, taking the original look of things as their base, conforming to the law of development of things, not imposing any external force, and guaranteeing the natural development of technology. In today's, in a non-treatment condition, cases of enhancing human mental ability, physical work capacity or genetic genes at will are common occurances. Some people are not satisfied with their imperfect present state, and try every means to seek perfectness, thus, they have put forward bold reforming plans in many aspects, such as appearance, physical work capacity, cognitive power, memory, mental ability, heredity, etc. And new technologies such as beauty treatment technology, gene technology, biological synthesizing technology, man-machine integration technology, etc have made these plans probable. In reflective thinking on these technologies, These results suggest that: they were born in response to the motive of market demand, rather than out of the motive of ethical demand, and from the day of birth of these technologies, the market stigmata was burnt into them. For example, some drugs take the enhancement of students' memory as purpose, breaking the justice in competition in learning; Some drugs are used for athletes, and that has broken the justice in sports competition; The market-oriented beauty treatment technology has already formed a beauty treatment industry. While changing people's looks, it has assimilated people's multivariant cognition on "beauty". While spending a great deal of money, a high ratio of failure cases of beauty treatment has pushed the life of those people receiving the treatment into an abyss. And, such a practice of "artificially seeking a perfect appearance" has amplified mankind's desire. Although many people have failed, still there are many people scrambling for it, taking their lives in their hands. So These results suggest that, the law of "Unity of Heaven and Man, and Human Follows Nature" advocated by Lao Zi should infiltrate into each step of technological development; people should consciously join the examination and thinking on technological development; People should go deep into the inside of technology, keep this reflective spirit in the interaction between human and technology, follow nature, oppose perfectness, and grasp the relatively active position.

5. Conclusion: Criticism on Sandel's Technology Ethic Thought

Sandel's technology ethic thought has progressive significance in many aspects, such as inheritance, forward looking, and pre-warning, yet, his method of argumentation also has some limitations, such as the lack of preciseness. Sandel takes "opposing perfectness" as his tenet, but has no systematic expounding on the definition of "perfectness". As for what technology are proper and can be utilized and what is immoral utilization, Sandel did not give a distinction on the theoretic level.

Judging from Sandel's viewpoint, there is a fundamental distinction between the technology taking "curing deficient persons" as purpose and the technology taking "improving healthy persons" as purpose. Yet, how to distinguish between "curing deficient persons" and "improving healthy persons"? Sandel did not discuss it.

Lao Zi's philosophy safeguards mankind's order for free stretching and independent growing. In order to defend the individuals' "natural" instinct, free nature and self-sufficient individual character, Lao Zi opposes strongly all technologies from external and postnatal forces that might suppress and destroy human "natural" nature. Such a viewpoint has a function to negate technology too much and neglect the positive role of technology, which might restrain the benign development of technology.

Thus, it is necessary to make a further comparative study on Sandel's technology ethic thought and the rich traditional thought resources in the ethnics of China, to find out where they converge, so as to utilize the foreign ideas for our country, give proper reflective thinking and accurate pre-warning, improve the ethic evaluation and constraining mechanism, make the development of present high and new technology benefit the harmony of human society, and avoid its possible negative effect.

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