

Analysis on Ethical Issues Raised by Technology and the Path of Prevention

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Abstract

The ethics of science and technology is a hot direction that needs urgent attention in the study of philosophy of science and technology. This paper first analyzes the ethical problems caused by science and technology in four dimensions (individuals, human interaction, human-nature relationship, and social governance), and argues that the essence of these ethical problems is that human equality, freedom, and value judgment are violated, human subjective feelings are ignored, and the harmonious and natural relationship between human and others is impacted. Secondly, this paper discusses the prevention path for ethical problems caused by science and technology, arguing that: firstly, it should be clear that the preventive path to be taken needs to be comprehensive, flexible and people-oriented; secondly, it should take national guidance and supervision as the core to provide principled and rigid constraints; thirdly, it should take social self-regulation as a supplement to make concrete and soft self-discipline; finally, all countries should utilize global power to standardize ethical principles and jointly resist technological risks.

Keywords: ethical issues, science and technology, guidance, regulation, self-regulation

1. Introduction

In 2019, the Fourth Plenary Session of the 19th Central Committee of the Communist Party of China clearly proposed to "sound ethical governance system for science and technology" (Note 1); in 2021, the Outline of the 14th Five-Year Plan and Vision 2035 emphasized "improve the ethics system of science and technology" (Note 2).

Corresponding to the above instructions is: in 2019, Professor Kong Yan of the School of Humanities and Social Sciences of the University of Science and Technology of China pointed out that "the ethics of science and technology is increasingly becoming a hot direction that needs urgent attention in the study of philosophy of science and technology" (Note 3); in March 2020, Associate Professor Wang Shao of the School of Marxism of Tongji University found through his research that the integration of ethics of science and technology in the teaching of natural dialectics has been a hot research topic since the 21st century (Note 4); in July 2020, Professor Liu Da-chun from the School of Philosophy of Renmin University of China said about his expectations for the future development of philosophy of science and technology that "the issue of ethics of science and technology is a new growth point that needs to be cultivated" (Note 5); in November 2020, Professor Wang Tianen from the School of Marxism of Shanghai University Professor Wang Tianen of the School of Marxism also pointed out that "it needs to be clearly seen that ethics is an intrinsic element of the problem of integration of science and philosophy." (Note 6)

The above-mentioned developments within China lead us to pay attention to ethics in philosophy of science and philosophy of technology. Therefore, this paper wants to analyze and discuss the ethical issues raised by science and technology and the paths of prevention, so as to grasp the ethical elements in the philosophy of science more comprehensively and to try to deal with the ethical risks of science and technology prudently in our lives.

2. Ethical Issues Raised by Technology

According to Webster's Dictionary, ethics are moral norms that deal with good and evil, and refer to the relationship between man and man or between man and nature and the rules for dealing with these relationships. (Note 7) Extending from the term "ethics", I believe that "ethical issues" can be understood as issues that impact on ethics, that is, issues that impact on moral norms, and issues that affect the relationship between humans and

humans, and humans and nature. In order to avoid overlap in categorization, "ethical issues" are divided into four dimensions: the personal dimension, the human interaction dimension, the human-nature dimension, and the social governance dimension.

However, as ethical concepts are pluralistic and changing (Note 8), different people have different definitions of whether certain phenomena are "ethical issues" or not, so what I am going to say is only my own opinion.

2.1 Personal Dimension

2.1.1 Algorithmic Discrimination Issues

This problem may be caused by unintentional negligence: the algorithm learns from the data. If the data we provide is not representative or has deviation, the result of algorithm learning may amplify the deviation and even show the characteristics of discrimination.

This problem may also be the result of intentional embedding: the data learned by the algorithm may itself be biased by racial, gender, and class discrimination, which the algorithm inherits by learning and "codifying" them.

This problem may also be caused by unpredictable interactions between algorithms.

After an algorithm is biased, codified discrimination will continue to solidify, strengthen, and extend in a positive feedback loop, ultimately producing systemic harm. For example, research has found that Google Chrome offers more high-paying job ads for men than for women. (Note 9)

2.1.2 Privacy Breach Issues

In modern times, big data technologies have permeated all aspects of people's lives.

The first is the situation where the person who legitimately collects the data is the very person who uses it - we use music software, leaving detailed records of tracks, time, etc.; we use shopping software, leaving a footprint of visits in it and receiving recommendations for similar products in the future; we use social software such as Zhihu and Xiaohongshu, and always see topics related to our interests - in fact, the software records users' preferences and accurately pushes relevant information. Many people are accustomed to and even enjoy these phenomena, enjoying the analytic charts, tantalizing advertisements and topics pushed by developers using their information, not realizing that this use of their information without their consent violates their privacy.

Second, except in cases where the legitimate data collector is the very user of the data, there are also acts of illegally stealing different forms of data left by users on multiple ends and using them. If the former situation can still guarantee that users acquiesce to the specific information being obtained by the collector, then the latter situation implies the possibility that the information thief obtains the information of the same user from multiple ends, and the information seems to be disorganized, but aggregated can lead to more profitable information that users never actively disclose. In a nutshell, the former case is to obtain user data legally, but analyze and utilize it without consent; the latter case is illegal at the stage of obtaining user data.

Either the former or the latter implies an infringement of human privacy for the purpose of gain, and thus an interference with human freedom and dignity; this is an infringement of the fundamental moral rights of the human being, and can therefore be considered an ethical issue.

2.2 The Dimension of Human Interactions

2.2.1 Some people become psychologically dependent on robots and games and alienate themselves from others

In the era of rapid technological development, more and more intelligent robots and games have entered people's lives. Both adults and children have the possibility of relying on robots and being addicted to games. If one puts too much of one's emotions and energy into technology products, the connection with real friends and family is bound to suffer, making the relationship indifferent and both sides alienated.

2.2.2 Some people become dependent on online communication and weaken offline communication

Compared with being addicted to games and robots, the more common problem of contemporary people is that they prefer to share life, discover new things, and chat through online social platforms; the other side of relying on online communication is that less time is invested in offline communication, which poses a threat to genuine, intimate, and direct human emotional communication.

2.2.3 Gene editing technology affects parents' natural emotions and expectations for their children

If gene editing technology is used to edit the human germ line genome, will it impact the parents' instinct of "unconditional acceptance" of their children while changing some genetic pathogenic genes or other traits? If it does have an impact, will parents place higher expectations on their children to become "perfect" at the stage of

their children's growth? In my opinion, if gene editing technology is legally applied to the human germline genome in the future, it may affect the natural emotions and expectations of some parents for their children, and then affect the naturalness and harmony of family relationships.

2.3 Dimensions of the Relationship Between Humans and Nature

2.3.1 Direct Impact: Overdevelopment

From the perspective of science and technology, which directly affects nature, the development of science and technology has provided conditions for human beings to understand nature more comprehensively and to develop and utilize nature more fully, but "full development" often turns into excessive development in human practice, which is not in line with the ethical orientation of harmonious coexistence between human beings and nature.

2.3.2 Indirect Impact: Technology Inadvertently Causes Environmental Problems

From the point of view of technology that indirectly affects nature: the use of some technologies can inadvertently have an impact on the environment, for example, the use of genetically modified viruses to treat cancer is a new option in recent health technology, and although it is possible to achieve good therapeutic results, the viruses are still mostly harmful and there is a risk of spreading to the natural environment and thus causing unpredictable environmental problems.

2.4 Social Governance Dimension

2.4.1 The Information Rich-Poor Divide Triggers Economic, Political and Cultural Inequalities

The dividends brought by science and technology are not necessarily shared by everyone, and a significant manifestation is the "information rich-poor division": due to different economic strength and education levels, people's ability to use science and technology to obtain and use information is also different, so there are "information rich people" who have a lot of information, as opposed to "information poor people". In other words, technology provides people with the opportunity to obtain massive information faster, but people's own differences will affect the grasp of this opportunity and affect the access and use of information. The reason why I believe that the degree of "access and utilization of information" is the criterion for measuring the division between the rich and the poor is that not only do we have to access, but we also have to utilize, in order to be considered as truly having information. So what impact has the information rich-poor divide had on people's lives?

In the economy: the ability to obtain and use information is crucial to the effectiveness of people's economic activities. For example, consumers can make the most cost-effective decisions only if they know and compare enough information about goods; investors can make more sensible investments only if they have obtained and analyzed enough information about companies.

In politics: every citizen has the same democratic rights, but the effectiveness of exercising them is constrained by information. The "information rich people" who have full access to political information and can analyze it rationally are more likely to make valuable suggestions in democratic participation, and therefore more likely to be noticed by the government.

In terms of culture: children in backward and remote areas have inherent disadvantages in acquiring knowledge and current affairs compared to those in the cities; this division of information between urban and rural areas, between developed and backward areas, has a profound impact on the difference in the quality of the population between the two areas.

Inequality in economic, political, cultural and other aspects can easily make the party with a lower status feel a sense of relative deprivation or even resentment, causing social contradictions and conflicts.

2.4.2 Technology Promotes the Rise of the Internet Celebrity Economy and Affects Public Values

In the contemporary era when Internet technology is becoming more and more advanced and various social platforms are emerging one after another, the "Internet celebrity economy" has become a common practice. Every ordinary person, either actively or passively, can rely on online platforms to get attention, such as gaining high visibility because of beautiful photos, gaining countless fans through homemade videos, and famous anchors who bring goods live are highly regarded because of the practical benefits they can bring to their fans. Some Internet celebrities have also made huge profits while gaining popularity, as evidenced by the fact that the Internet anchor "Weiya" evaded 643 million yuan in taxes in two years. (Note 10)

I believe that many successful Internet celebrities have enough talent to attract the public and enough hard work

to carry through the hardships; however, the popularity and lucrative profits of the Internet celebrities can often overshadow these talents and efforts, making many ordinary people jealous and envious. They pursue "easy money" and market themselves in various online platforms. The values I subscribe to are: Work solidly in a position or field that you are suited to and enjoy. Only by clarifying your own talents can you determine whether you are "suitable" or not; only by clarifying your interests can you determine whether you are "loving" or not; if you are lucky enough to be in a field that you are suitable for and like, you only need to work hard and wait for the good results. .

In addition to affecting the choice of people's profit-making methods, the chaos in the Internet celebrity economy shows the characteristics of "loss of value", and even breaks through the bottom line of social morality: In order to win the attention of the public, many people who want to become "Internet celebrities" will perform nonsensical and funny performances, or express their emotions and seek strangeness. This kind of culture can make people laugh and get sensual Stimulating, but rarely can play the role of value guidance, and even break through the moral bottom line of ethics.

2.4.3 Data-Onlyism Ignores People's Sense of Identity and Gain

Big data technology has gradually been widely used in China's social governance practices, which certainly allows us to understand the problems and effectiveness of governance more intuitively and clearly to a certain extent, but it also poses the risk of relying too much on data and creating data-onlyism. What are the dangers of data-onlyism?

In my opinion, data-onlyism tends to make policymakers focus only on economic costs and benefits, while ignoring the political sense of people's identity (measures acceptance of policies) and gain (measures satisfaction with policy effects). The purpose of government is to "serve the people", so the consideration of cost and benefit should be placed after the protection of people's sense of identity and gain. If we are obsessed with gorgeous data and pursue all quantifiable indicators because of the use of new technologies, then the feelings of the people that are difficult to reflect with data are actually ignored.

2.5 Other Reflections

2.5.1 On "the Problem of Unemployment" and "the Problem of Making People Lazy"

Scholar Li Shengmin believes that "the problem of massive unemployment" and "the problem of making people lazy" belong to the ethical problems caused by artificial intelligence (Note 11); however, according to the above definition of "ethics" and my own understanding of "ethical problems", I believe that: First, the unemployment problem mentioned here does not involve moral norms or human-to-human relations. The essence is that technology replaces part of labor. In addition, while some blue-collar workers in labor-intensive enterprises are replaced, the production chain of high-tech industries creates new employment opportunities, which means that laid-off laborers can be transferred to high-tech industries to engage in the manufacture and maintenance of technological products, etc. This can, to a certain extent, alleviate the unemployment problem caused by the substitution of labor by technologies such as artificial intelligence. Secondly, The replacement of human brain power by artificial intelligence also does not involve moral values, and also has two sides - it may make people lazy and less capable of independent learning; it may also allow people to enjoy technological dividends and use their leisure time to engage in work, social and voluntary activities that AI cannot do. Therefore, I have not included "the problem of unemployment" and "the problem of making people lazy" in my analysis above.

However, from the definition of "ethics" in Webster's Dictionary, I believe that "human beings" are at the center of this definition: it is human beings who judge and deal with good and evil, and it is human beings who are at the center of the relationship between human beings and human beings, and between human beings and nature. Therefore, if a technology fundamentally infringes on the subjectivity of human beings (rather than simply replacing them with physical or mental power), and replaces them in judging good and evil, in dealing with human relationships, and in deciding how to treat nature, then it is an impact on the ethics built around "human beings".

2.5.2 On the Dichotomy Between Data Collectors and Producers

Scholar Chen Shiwei believes that there is a conflict between big data collectors (e.g., application developers) and producers (e.g., users), which means that big data technology has created a sharp confrontation between people and hindered interpersonal harmony. (Note 12) In my opinion, data mining and reuse by big data collectors for profit mainly violate people's privacy; and there may not be a social interaction between users and those who use data - each of us is using multiple software and providing our data, and software developers are using our data, but the connection between us and the developers only lies in the software, so I think it is not

necessary to consider this connection as an interpersonal relationship.

3. The Path to Prevent Ethical Problems Caused by Technology

The above has classified and analyzed the ethical issues caused by science and technology from four dimensions (individual, interpersonal communication, relationship between man and nature, and social governance), but the development of science and technology has become a historical trend and a national strategy; then, how should we give more play to the positive role of science and technology, and prevent the ethical problems caused by science and technology? My thinking is as follows.

3.1 The Preventive Path to Be Taken Needs to Be Comprehensive, Flexible and People-Oriented

3.1.1 Comprehensive

First, the objects that need to be changed are comprehensive. Judging from the problems analyzed above: Algorithmic discrimination and privacy leakage in the personal dimension are beyond the control of the public who use technology; the problems of alienation from others, weakening offline communication and changing natural emotions in the human-to-human interaction dimension can be avoided by the public using technology; the problems of over-exploitation of nature by using technology in the human-to-nature relationship dimension can be avoided by the users of technology; and the environmental risks caused by unintentional negligence need to be checked at the source. In the dimension of human-nature relationship, the problem of over-exploitation of nature by technology can be avoided by users, while the environmental risks caused by unintentional negligence need to be checked at the source of technology; in the dimension of social governance, people tend to passively accept the rich-poor divide of information, but the impact of the "Internet celebrity economy" on values and the damage of "data-onlyism" to governance can be actively controlled by people and the government. Therefore, I believe that in order to reduce the possibility of science and technology causing ethical issues, we must not only consider the subject of scientific and technological activities such as scientific researchers, but also consider cultivating the literacy and concepts of science and technology users.

Second, the subjects involved in the change are comprehensive. Ethical issues caused by science and technology are already public issues. Of course, the state needs to restrict them and guide and supervise scientific and technological activities from the source. However, because scientific and technological activities are complex and professional, and there are differences in the ethical concepts of different people, it is difficult for the norms and constraints of the national regulatory authorities to achieve full coverage and good application of all scientific and technological activities. Therefore, in addition to state supervision, social self-regulation is also essential, and it should form a resonance with national legal norms, and concretize the country's principled norms in light of the actual situation; and national supervision should also pay attention to preventing mandatory orders from destroying reasonable rules in self-regulation, and learn and summarize experience in preventing ethical issues in a pattern where institutions, industries, and the public participate together.

In a word, preventing science and technology from causing ethical problems requires the state and society to jointly conduct legal norms and moral guidance for science and technology-related activities, and replace the country's one-dimensional management with joint prevention of multiple subjects combining rigidity and flexibility.

3.1.2 Flexible

In my opinion, the legal regulation and moral guidance of the state and society on science and technology-related activities should be moderate and flexible. Excessive regulation is not conducive to breakthroughs and innovations in cutting-edge technologies; insufficient regulation will easily lead to endless ethical problems. Therefore, flexible and moderate regulatory initiatives should be formulated according to specific scientific and technological activities, and adjusted continuously in practice. As Wang Guoyu, a professor at the School of Philosophy of Fudan University, points out, "Ethical principles are abstract; how can these things be put into practice? They have to be tested in practice." (Note 13)

3.1.3 People-Oriented

As mentioned above, I believe that "human being" is at the center of the definition of "ethics", and the essence of the aforementioned ethical problems is that human equality, freedom and value judgment are violated, human subjective feelings are ignored, and the harmonious relationship between human beings and others is affected. Therefore, the regulation and guidance of science and technology-related activities should take "people-oriented" as the purpose, so that the development of science and technology can serve the development of people and unify technology and humanism. As Mr. Zhou Enlai once said: "People engaged in natural science research aim to improve the material life of mankind and develop spiritual life." (Note 14) Since the 18th Party Congress, the

Party Central Committee has also inherited and carried forward the idea of "Science and technology serve the people". (Note 15)

3.2 Take National Guidance and Supervision as the Core to Provide Principled and Rigid Constraints

State guidance is to provide principled value orientation and ethical norms for social self-regulation; state supervision is the embodiment of the legalization of ethical rules, with rigid constraints and the role of taking over the self-regulation that fails. (Note 16)

3.2.1 Government: Clarify Values and Ethical Principles, Improve Legal Regulation and Institutional System

Value orientation: The state and government should establish core value orientations for science and technology-related activities and guide them, so that the goals of science and technology are consistent with human values. For example, in China, the goals of "harmony", "freedom", "equality" and "justice" in the core socialist values have established the value orientation and development ideas for China's scientific and technological development.

Ethical principles: The state and government should also define abstract, macroscopic ethical principles of science and technology for scientific research, making them the assumptions or "null hypotheses" of scientific research, and revising and iterating them in practice.

Legal regulation: Scholar Zhi Zhenfeng points out that China currently lacks legal regulation of science and technology ethics (Note 17); however, regulations and codes of ethics do not have enough force to restrict science and technology related activities, which creates opportunities for some technologies that are still in the stage of medical experiment to be used in paid treatment activities. Therefore, legislation is needed to strengthen the regulation of scientific research activities, while more clearly providing guidance for social self-regulation; however, direct regulation by law should be limited to a few areas involving major ethical issues, leaving sufficient room for social self-regulation. After improving the legal system, strict enforcement of the law should be carried out to punish those who break the legal boundary.

Institutional system: The state and the government should determine the public orientation of science and technology policy under the purpose of "people-oriented", and put the development of science and technology in the institutional environment for the people and for the benefit of the people.

3.2.2 Professional Review Body: Should Conduct Professional Supervision and Guidance on Scientific Research Activities

In July 2019, China's "establishment plan of the national science and technology ethics committee" was issued. National Science and Technology Ethics Committee "has the right to review, propose and even veto scientific research projects in some cases" (Note 18). In addition, there are also local "Technology Ethics and Safety Review Committee" (Note 19), which are vertically coordinated by the National Science and Technology Ethics Committee, but horizontally independent of each other and can formulate technology ethics and safety review standards.

These professional review bodies, with their legal status guaranteed and their members performing their duties professionally, conscientiously, and in accordance with the law, will be able to play a role in regulating scientific research activities and curbing ethical risks through a review and negative list mechanism. Good collaborative relationships also need to be established among review bodies to facilitate joint review of scientific research activities conducted in collaboration with multiple scientific and technological communities. In addition, special ethics review committees should be established for specific areas to help mitigate potential ethical risks. (Note 20) In the end, a pattern should be formed in which localities are guided by the state, interlinked with each other, and supplemented by special committees.

3.3 Take Social Self-regulation as a Supplement to Make Concrete and Soft Self-discipline

The self-regulation of society, on the one hand, should follow the guidance of the state and obey the state's supervision; on the other hand, it should be combined with specific scenarios, under the premise of ensuring the core value orientation remains unchanged, the principle requirements of the state should be concretized and operationalized, and flexibly applied to scientific and technological activities.

3.3.1 Industry Associations, Civil Society Organizations: Develop Ethical Rules, Carry Out Monitoring and Evaluation

Industry associations such as medical associations, physician associations, etc., and non-governmental organizations such as ethics groups, ethics committees, etc., can guide and restrict scientific and technological activities.

First, industry associations and non-governmental organizations should combine the actual situation with the practice of ethical principles, and formulate internal regulations that are more operational and adaptable than the ethical principles at the national level on the basis of sufficient research. This requires that its members not only have cutting-edge scientific knowledge, but also be able to carefully analyze ethical needs; therefore, the best solution should be to mobilize researchers to form an ethics group to formulate specific and systematic ethical rules for scientific and technological activities in their field, so that the ethical principles determined by the state can be understood and implemented in a relatively uniform manner.

Second, in addition to prior regulations, industry associations and civil society organizations should also organize supervision and evaluation during and after research activities, incorporate ethical misconduct into the evaluation system of individual research activities, and make researchers keep ethical norms in mind through appropriate disciplinary actions.

3.3.2 Researchers and R&D Institutions: Take Ethical Responsibility and Care About Ethical Risks

Researchers and R&D organizations should have a high sense of responsibility to effectively comply with the ethical norms and rules of the state, review bodies, industry associations, etc. The ethical principles and regulations determined by the state, industry organizations, etc. should be embedded in scientific research activities and even scientific and technological products, and the products should be protected from the erosion of personal subjective tendencies or capital logic. In the case of China, research workers and teams should be guided by the principles of "patriotism, professionalism, integrity, and friendliness" and conduct their research activities under the tenet of "putting people first. For example, for issues such as algorithmic discrimination and privacy leakage, responsible researchers can consider "restricting technology with technology": by developing big data security technologies (Note 21) to constrain the ethical risks of big data technologies.

In addition, they must always pay attention to and examine the potential ethical risks of science and technology to avoid unexpected harm to society. Some risks have to be collected from the dynamically changing knowledge environment for identification and discernment, and some risks are universal, such as the risk of code misuse. Zhang Xinpeng, a professor at the School of Communication and Information Engineering at Shanghai University, points out that "the source code of future AI cannot be distributed freely" (Note 22), which can prevent the code from being abused by malicious people at the source.

3.3.3 Companies Using Technology, Decision-Making Bodies: Adhere to Ethical Guidelines and Hold the Line on Morality

Enterprises using contemporary advanced technologies need to follow the value guidance of the state, adhere to ethical guidelines, and keep the moral bottom line. For example, internet operators should collect, reasonably utilize and protect user data under the premise of user consent. They should not mine or abuse data indefinitely for profit, nor should they resell data to unscrupulous institutions.

In addition, in order to avoid "data-onlyism", decision-making institutions should carefully judge the results obtained through big data technology and artificial intelligence to avoid being influenced by one-sided and biased analysis results; at the same time, attention should also be paid to people's sense of identity and achievement, so that people become the ultimate source of value. (Note 23)

3.3.4 Education Sector, News Media: Popularize Knowledge of Science, Technology and Ethics, Cultivate Professional Talents

First, the education sector and the media should respond positively to the call of the state, follow the values chosen by the state, and strengthen the ethics of researchers and the public through various means (e.g. organizing discussions, popularizing science and technology and ethics, etc.), thus reducing the possibility of ethical problems from both the research and development and use sides.

Second, the education department can also cultivate talents specializing in scientific and technological ethics research by opening the research direction of "science and technology ethics", and provide support for professional review institutions such as the science and technology ethics committee.

3.3.5 The Public: Actively Participate and Jointly Prevent

First, the public should actively participate in the process of establishing national ethical principles, so that it can fully reflect "people-oriented".

Second, the public should actively cooperate with the efforts of the education department, follow the national ethical norms disseminated by the news media, and even consciously strive to acquire scientific and ethical knowledge, so that they can make correct value judgments when using technology; at the same time, they should

enhance their awareness of privacy and consciously focus on protecting it.

Third, the public should actively participate in the monitoring of science and technology activities through hearings and other means: for those that violate ethical principles, they should report to review bodies such as the Science and Technology Ethics Committee; for those that are human-centered and of good utility, they should increase their psychological acceptance.

Fourth, the public should monitor the review body: if it is found that the science and technology ethics commissioners fail to perform their duties professionally, conscientiously, and in accordance with the law, or even if there is corruption or power-seeking, the public should report to the commission's higher authority or the state procuratorate. (Note 24)

3.4 Utilize Global Power to Standardize Ethical Principles and Jointly Resist Technological Risks

3.4.1 In Terms of Establishing Ethical Principles: Follow Consensus and Absorb Useful Experience

On the establishment of ethical principles, on the one hand, each country should formulate its own distinctive ethical principles and review programs according to its own national conditions; on the other hand, each country should follow the international consensus and absorb the useful experience from abroad to regulate its own ethical principles and review programs.

3.4.2 In the Practice of Scientific and Technological Activities: Selectively Absorb Experience and Jointly Deal With Risks

In the practice of science and technology activities, countries should selectively absorb the experience of other countries in dealing with science and technology risks and focus on people-oriented; at the same time, efforts should be made to strive for a worldwide coalition to jointly deal with permeable and diffuse science and technology risks and jointly reduce their negative impacts.

4. Summary

In this paper, I firstly categorized and analyzed the ethical problems caused by technology in four dimensions, arguing that the essence of these ethical problems is that human equality, freedom, and value judgment are violated, human subjective feelings are ignored, and the harmonious and natural relationship between human beings and the other is impacted.

Then, I discussed the preventive path for ethical issues caused by science and technology, and believed that: firstly, it should be clear that the preventive path to be taken needs to be comprehensive, flexible and people-oriented; secondly, it should take national guidance and supervision as the core to provide principled and rigid constraints; thirdly, it should take social self-regulation as a supplement to make concrete and soft self-discipline; finally, all countries should utilize global power to standardize ethical principles and jointly resist technological risks.

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Notes

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