

# Analysis on the Roots of Misconduct in Scientific Research from the Perspective of Utilitarianism

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**Abstract**—In recent years, frequent incidents of technological fraud have seriously affected the domestic research atmosphere and the image of China in the international arena. The current misconduct in scientific research is largely attributed to utilitarianism of scientific researchers. The temptation of the national incentive mechanism, the change of social judgment standards, the lagging behind supervision and the weakening governance for scientific misconduct, and the distortion of personal values all further intensify the utilitarian tendency of scientific researchers. The key to effectively preventing scientific misconduct is to balance the reward mechanism with the punishment mechanism, change the social conduct and the concept of self-realization, establish the concept of honest scientific research, improve the scientific evaluation system, strengthen the supervision of scientific research behavior, and reduce the misconduct of scientific research caused by utilitarian thinking.

**Keywords**—misconduct in scientific research; utilitarian thinking; prevention strategy

## I. INTRODUCTION

Springer, the world's leading academic publisher, published the news on April 21, 2017, saying that its journal, *Tumor Biology*, was retracted 107 papers because of the author's fictitious reviewer and review comments. According to the list from Springer, the authors involved are all from China, in which include many famous universities such as Shanghai Jiao Tong University, Zhejiang University and China Medical University. Whether it is the "Hanxin incident" or the thesis fraud of Zhai Tianlin, it reflects the lack of academic integrity and academic ethics in the current academic research community. In 2013-2016, the National Natural Science Foundation of China revealed 77 scientific misconducts, involving 88 researchers. Therefore, maintaining scientific research integrity and optimizing academic ecology are urgent tasks. The occurrence of scientific misconduct is the result of a combination of factors. Wang Feng discussed from the two dimensions of scientists and the social environment. At the individual level, he believes that the individual lacks the spirit of seeking truth from facts, holds an academic attitude of quick success and instant benefit, adding that at the social and environmental level lack of evaluation mechanism and effective supervision breed scientific misconducts. [1] Bai Xinwen et al.

summarized academic misconducts as four factors: personal factors, situational factors, personal and contextual interaction factors and specific factors. [2] Jiang Tao [3], Zhao Jun and Yan Miao [4] blamed the misconduct on the lack of integrity of scientific research workers and improper evaluation mechanism. The author believes that utilitarian thought is an important factor that causes scientific misconduct. It is needed to analyze the causes of scientific misconduct from the perspective of utilitarianism, and then propose corresponding prevention strategies, which is conducive to creating a good academic atmosphere and promoting the development of academic research.

## II. THEORY OVERVIEW OF UTILITARIANISM

Utilitarianism officially became a philosophical system in the late 18th and early 19th centuries, proposed by Bentham and Muller, British philosophers and economists. Their basic principle is that, if an act is conducive to promote happiness, it is correct; if it leads to something contrary to happiness, it is wrong. Happiness involves not only the party of the act, but also everyone affected by the act. Bentham's utilitarian principle has two starting points and premises: one is that the principle of utilitarianism or the principle of maximum happiness, that is, the principle of people's all behavior depends on the tendency to increase happiness or reduce happiness. The second is the principle of self-interest, that is, when people carry out various activities, only there are highest contribution to their greatest happiness, then no matter what kind of results will be brought to happiness other than themselves, he will go for it. This is an inevitable tendency of human nature. After Bentham, Muller further developed Bentham's utilitarianism to made utilitarianism more theoretical and systematic. The creed that 'utilitarianism' or 'the principle of maximum happiness' is regarded as the moral foundation, that is the right or wrong of behavior is directly proportional to their tendency to promote happiness or cause misfortune. The so-called happiness means happiness or exemption from suffering; the so-called unfortunate means pain and loss of happiness. Only happiness and exemption of suffering are the purpose of desire. All things that are worthy of desire are worthy of desire, either because of the happiness inherent in them, or because they are means to increase happiness and avoid suffering." [5]

Utilitarianism regards pursuit of happiness and avoiding of suffering as the ultimate goal of the party's behavior, and put whether the result of the behavior can increase the happiness of the party or not as the criterion of moral judgment. This kind of thinking is constantly magnified in the market economy environment, and it becomes the basis for people to disregard moral laws to pursue their own interests.

### III. ANALYSIS OF THE UTILITARIAN FACTORS OF SCIENTIFIC MISCONDUCT

Einstein divides academic researchers into three categories: one is academic for academy, which is advocated by the academic community; the second is utilitarian who regard academic research as a tool to achieve a certain purpose; the third is word gamer. In order to become famous or improve their social status, utilitarian illegally make profit, even lower their moral bottom line and embark on the road of plagiarism and corruption. Therefore, utilitarian awareness is an important source of technological fraud. Then, in contemporary society, what factors lead to the continual expansion of utilitarian thinking for scientific workers or academic researchers so that the scientific misconduct occur, from the following four aspects. The next makes an analysis from the following four aspects.

#### A. *The Temptation of the National Incentive Mechanism*

The country's tilt in science and technology development policies provides researchers with more welfare policies and encourages them to conduct scientific research based on the performance of researchers. Therefore, the state, localities, and society have established incentive mechanisms to systematically recognize the efforts of scientific researchers, so the "Chang Jiang Scholars Program", "The Recruitment Program of Global Experts", "The National Science Fund for Distinguished Young Scholars" have emerged. These rewards are based on individual performance as the main indicator. Performance-based standards can, to a certain extent, encourage scientific researchers to conduct scientific research and promote the continuous development of scientific research and innovation in China. The performance of researchers is closely related to the research results and published papers of researchers. When researchers are unable to reach high levels in order to obtain more economic benefits, utilitarianism overcomes the ethics of science and technology. It is inevitable that they will not falsify their research data to get a fictional research conclusion. Then the act of technological fraud occurs.

#### B. *Dislocation of Social Evaluation Criteria*

In the market economy environment, society's recognition for individuals is more based on fame, money, status and power. The misplacement of social evaluation standards is an important factor that promotes the expansion of utilitarian ideas among researchers. In the eyes of people, fame and title are the symbols of the upper class. As long as they have these, they will be recognized by the society and get more research resources. If scientific research workers want to gain social recognition and pursue their own

happiness, they must make major inventions and creations. When inventions and creations cannot be realized in a short period of time, utilitarian ideas continue to expanding, researchers are more inclined to take advantage of technological fraud to gain more names and benefits.

#### C. *Distortion of Personal Values*

The expansion of the pursuit of fame and fortune by researchers has led to distortions in personal values. Values are cognition, understanding, judgment or choice based on a certain sense of mind, that is, a kind of thinking or orientation in which people recognize things and discern right and wrong, thus reflecting the value or role of people and things. Values have a guiding role in motivation while reflect people's perceptions and needs. Maslow's hierarchy of needs divides people's needs into five requirements: physiological needs, security needs, love and belonging, esteem and self-actualization. These five needs are arranged from low to high. When the low-level needs are met, the individual will develop to a higher level of demand. When researchers meet the needs of survival, they further pursue the satisfaction of esteem and self-actualization. The wrong orientation of society leads to the excessive pursuit of the name and benefit of scientific research workers, so that their personal values is distorted, the ability to distinguish between right and wrong is declined, utilitarian ideas expand continually, as a result, the misconduct of scientific research occur.

#### D. *"Distortion" of the Scientific Evaluation System*

There are problems in the contemporary scientific research evaluation system, the utilitarian evaluation system deviates from the truth and fairness. Academician Ding Lieyun from Huazhong University of Science and Technology pointed out that "now young and middle-aged scientific and technical workers must reach the level of the young talents and top-notch talents before the age of 35. Before the age of 45, they should reach the level of Outstanding Youth and Chang Jiang Scholar, and then get the title of the academicians, bringing the "title" to go step by step." Nowadays, the evaluation system of scientific research results refers to various titles, which weaken the most important content of evaluation — the significance of scientific research results. Such a lack of a fair evaluation system has led researchers to pursue academic titles more but not to concentrate on academic research, academic misconduct will occur under the utilitarian thinking. The impetuous mentality, the proliferation of utilitarianism and the loss of the scientific spirit prevailing in the scientific community are important reasons for the utilitarianism of evaluation systems and activities.

### IV. PREVENTION STRATEGY

In order to promote the normal development of China's scientific research work, purify the utilitarian ideas of the academic world and curb the occurrence of academic misconduct such as scientific and technological fraud, the corresponding strategies are proposed from the norms of the

state, society, individuals and scientific research evaluation system.

First, the state achieves a balance between reward mechanisms and punishment mechanisms. Information linkage is achieved by establishing files of academic integrity of scientific research workers. Establish a blacklist system for members of scientific research misconduct by linking scientific research fraud with project declaration, title evaluation and salary treatment, and by linking academic integrity with reward mechanisms. One-vote veto system is implemented to the personnel of scientific research misconduct to improve the deviant cost of personnel of scientific research misconduct, which have a certain deterrent effect on scientific research misconduct. Changing the status of heavy rewards and light punishments by further improving the punishment system, so it is needed to curb scientific research misconduct from the system. [6]

Second, the transformation of social judgment standards and the transformation of social ethos: society cannot judge a man only by his reputation and fame, the more important is to see the contribution of the individual to the society and his contribution to the development of the discipline. Society should give the same evaluation for well-known scientists and unknown researchers who devote their lives for science. It's definite that this transformation of social concepts requires educating people about their thoughts. People's correct views on personal values is established through the education of thinking, the utilitarian ideas of society and the scientific community is purified, providing the scientific workers a pure research land.

Third, the transformation of self-actualization concept of scientific research workers and the establishment of scientific research integrity concepts: it is understandable that researchers pursue a better material life. The state also encourages researchers to transform the value of knowledge. However, if you believe that self-realization is to acquire fame and fortune so that the desire to pursue fame and fortune blinds the eyes and utilitarianism encroaches on your whole body, by scientific fraud and other acts to gain benefits and realize their own value, it can only be a distortion of personal values. The transformation of self-realization views is an important factor influencing the scientific research of researchers. On the one hand, it is necessary to strengthen the ideological and moral quality education of scientific research workers. On the other hand, it is necessary to pay attention to the changes in the self-demand of scientific research workers, strengthen guidance in a timely manner, and give them certain room for development while meeting basic needs. At the same time, scientific research workers should establish the concept of honest scientific research, improve their awareness of "self-discipline", internalize academic ethics and morality and externalize in the line to form an honest academic personality.

Fourth, the standardization of the scientific evaluation system: there are many evaluation indicators in the scientific research evaluation system, and there is a lack of attention to the significance of scientific research results, and more

emphasis is placed on the individual titles of scientific research workers. Therefore, the evaluation system should dilute relevant indicators, simplify the evaluation process, and implement multi-subject supervision. It should pay more attention to whether scientific research can promote the development of society and disciplines, further deepen the reform of the science and technology system, and reform the shortcomings of the current science and technology system, so a fair atmosphere for scientific research evaluation is created. At the same time, strengthen the supervision and governance of scientific research behavior, support the news media and the network to expose scientific research misconduct, and support the construction of academic anti-counterfeiting professional websites, to make the internet play the role of exposing academic misconduct and supervise academic misconduct. Through public opinions to form reversed transmission of the pressure, force relevant administrative departments to strengthen investigation and punishment of scientific misconduct.

## V. CONCLUSION

With China's strong support for scientific research work, scientific research activities have also more emphasized on personal interests, then the thinking of scientific research workers have also experienced great changes. The utilitarian nature of science has been overemphasized, and material interests have deviated from their role as incentives and have become the only target pursued by many researchers. Under such circumstances, impetuosity is like the "plague" popular in the scientific and technological community. Scientific research becomes a tool for pursuing personal desires. Whether it is the inner moral conscience or the pressure of public opinion in the scientific world, there is nothing that can be done before such desires. [7] However, the driving force for scientific research should be knowledge for knowledge, truth for truth, and not pursuit for title and fame. On the one hand, utilitarianism can promote scientific and technological innovation of researchers; on the other hand, it will also make people fall into the strong desire of fame and fortune. Therefore, establish a sound scientific research evaluation system, realize the coordination of the incentive mechanism and the punishment mechanism, and strengthen the education of the scientific research workers' integrity concept, this will help reduce scientific misconduct caused by utilitarianism, improve the scientific research ecology, create a good academic atmosphere, and promote the development of China's scientific and technological innovation and the transformation of scientific research results.

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