



Report

Seoul Forum on the Code of Ethics for Scientists and Engineers

Date: 26 May 2006 14:00-19:00
Venue: Conference Room, Korean National Commission for UNESCO
Organized by the Korean National Commission for UNESCO
Sponsored by the Korea Federation of Science and Technology Societies

1. Introduction

UNESCO adopted the “Universal Declaration on Bioethics and Human Rights” in 2005, and in accordance with it, the UNESCO World Commission on Ethics of Scientific Knowledge and Technology (COMEST) is pursuing a long-term plan to establish the Code of Conduct for Scientists. Based on the “Recommendation on the Status of Scientific Researchers” adopted by UNESCO in 1974, consultation meetings have been taking place in Tokyo, New Delhi, Geneva and Bangkok. In association with these conferences, the Korean National Commission for UNESCO organized a forum on 26 May in Seoul to discuss a Code of Ethics for Scientists and Engineers. The Korean Federation of Science and Technology Societies (KOFST) sponsored the forum, and about 40 participants, including scientists, engineers and STSers met to discuss the concept and contents of the code of conduct. The results of the forum will be reported to the COMEST Extraordinary Session in Paris in June.

2. Opening Ceremony

Dr. Lee Samuel, Secretary-General of the Korean National Commission for UNESCO, delivered the opening address for the forum. He pointed out the recent increase of interest in ethics of scientific knowledge and technology in Korea including research ethics. Explaining the importance of the Code of Conduct for Scientists, currently discussed by UNESCO, he asked for active discussion on the proper ethics of scientific knowledge and technology.

In his congratulatory address, Prof. Ahn Chungyoung, Vice-President of KOFST, expressed his hopes of solving current issues such as research ethics in the scientific community with reference to foreign cases and cooperation with humanities and social sciences, and said he considers this forum to be a good opportunity for fruitful

discussion.

Prof. Song Sang-yong, a COMEST member who proposed the forum, delivered the keynote speech. He explained the purpose of the forum, and in his comments on the UNESCO Recommendation, he indicated some points for consideration including the changing concept of science and the shifting emphasis from freedom of research to social responsibility.

3. Topic Presentations

Prof. Kang Shinik of Inje University in his presentation entitled “Scientific Researcher, Professional Laborer or Research Supervisor?” pointed out that the situation is quite different today from that of 1974, the year the UNESCO Recommendation was adopted. During the 1970s when science was marked by its universality and value neutrality, freedom in scientific research was a main theme. “Brain drain” to advanced countries became a social issue, and attempts were made to solve this problem by guaranteeing scientists’ social status. However according to the International Council of Science’s (ICSU) “Science and Society: Right and Duty (ICSU Strategy Report)”, at present, scientific research is sponsored by government or private corporations, and it serves as a tool for the profit of enterprises or policy execution. With this current trend, discussion of the independent status of scientists is rendered meaningless. Moreover, he asserted that as the uncertainties and risks of science and technology became realized, scientific researchers’ social responsibility should be emphasized, and scientists as experts should actively participate in social discourse such as policymaking. He also analyzed the change in the concept of scientists as professionals. In the past scientists monopolized the knowledge of professional fields. Now they are only experts within their own fields. He observed that in this new environment the question arises of whether to classify scientists and engineers as professional laborers or research laborers. He suggested additional provisions to the Code to protect scientific researchers as laborers and to secure their rights to resist profit-driven investment.

Dr. Son Hwa-Chul, instructor at Sungkyunkwan University, delivered a presentation on the social responsibility of scientists and engineers. He specified that social responsibility should be treated as an ethical issue to be respected by both individuals and groups rather than considered in relation to punishment or regulations. Therefore, it holds a paramount place in the Code. He categorized the problems that arose in past documents, regarding the social responsibilities of scientists and engineers, into three

types. First, terms like health, safety, and welfare are not yet defined clearly. This problem could be solved by preventive measures that represent human and social values, which are based on the idea of a good society. Second, as agents of social responsibility, scientists and engineers are held responsible for ethics in a microscopic sense. However macroscopically individual scientists or engineers do not bear direct duties, but rather indirect duties through associated or employed organizations. The third problem is the separation of the development and application of scientific research. Distinguishing scientific development from appropriate application reduces the responsibilities imposed on scientists and engineers and directs them to government, enterprises, or the market. Individual scientists and engineers should reflect on the influence and the meaning modern technology holds for human life, pursue an understanding of the ideal society, and be more dedicated and aware of their social responsibilities. Therefore in the new Code, Dr. Son proposed the following items for consideration: 1) emphasis on the social responsibility of individual scientists and engineers, 2) duty of scientists and engineers to understand the intended and unintended consequences and the context of the project they are involved in, 3) duty to reflect on the relationship between society and science and technology of their own expertise, 4) duty to reflect on and to build an idea of a good society individually and collectively, 5) uneven distribution of these duties mentioned amongst scientists and engineers according to their ranks and the characteristics of their projects.

The third presentation was given by Prof. Lee Jihoon of Korea Maritime University. While acknowledging that the proposed Charter (2002), UNESCO Recommendation, and Prof. Song's comments include all the necessary content, he revealed some insufficiencies. He noted that not enough attention was paid to the information and communications field, and only its positive effects and possible contribution to national development were mentioned while neglecting side effects and responsibilities. Particularly he focused on the issue of equality for minorities and the direction of technology. He proposed four viewpoints regarding scientists' research direction and ethics, taking into account the rapid development of information and communications technology after the Recommendation. First, protection of private information and privacy should be added to the concept of life and peace, which is the core principle of the "Charter for Scientists and Engineers" suggested in 2002 in Korea. Second, information and communications research should advance to minimize the disadvantages of the "information-neglected group". Third, discourse to reduce the tension between public access to knowledge and the protection of intellectual property

rights should take place. Fourth, popularization of information and communication education should be promoted.

The fourth speaker, Prof. Yi Sang Wook of Hanyang University, discussed “Misconduct Prevention and Promotion of Proper Research Practice”. He claimed that in order for scientific research to be executed according to the ethical codes and be socially responsible, voluntary practice within the scientific community is more necessary than regulations from outside. Moreover, he described it as unconventional to solely depend on exterior regulations to deal with various social and ethical conflicts that arise during the research process. It is an individual scientist’s duty to execute socially responsible and ethical research practices. However, promotion of such acts, criticism of wrongful deeds, and enforcement of appropriate regulations should spring from the understanding of the entire scientific community. In other words, it is not a problem of the personal conscience of an individual scientist, but of the scientific community’s firm understanding of the broader socio-cultural context. In dealing with recent research ethics problems in Korea, he recommended that research misconduct be examined comprehensively - in a narrow sense, to construct a basis for strict penalties and in a broad sense, to encourage respectable research practices. He stated that vagueness of the philosophical boundary of research misconduct does not undermine the concept of research misconduct, but instead demonstrates the intimate connection, not contradictions, between freedom of research and misconduct regulations. Prof. Yi stated that by relating “freedom of research” with exterior and interior regulations of the scientific community concerning research practices, including misconduct, one could encourage a positive attitude on the part of scientists toward the code of conduct for scientists.

Prof. Lee Sang Ha of Kyungsang National University spoke about the imbalance between promotion of research integrity and prevention of misconduct. His premise stated that the range of provisions for research integrity is subject to change according to circumstances and history, and even though research integrity promotion and misconduct prevention do not coincide, misconduct prevention should serve as a presupposition to research integrity promotion. However, he believed that the “regulatory approach”, which assumes the acceleration of research integrity by intensifying regulations, does not correspond to the current reality, and that it is irresponsible and unfair to simply reinforce regulations without any institutional measures that respect the view of the majority of scientists. Furthermore, he asserted

that reducing misconduct does not result in the revitalization of research integrity, and considering the collective structure of modern scientific research, it is not fair to criticize the conscience of the hapless field researcher without corresponding improvements to the research environment. He stated that when understanding research integrity in the light of the research environment, the regulatory approach, which mainly focuses on regulations, is limited in promoting research integrity. Instead the researcher's talent and individual respect among researchers, and the head researcher's leadership, tools for heightening morale, and research training program should be taken into account.

Finally, Prof. Cho Eun Hee of Chosun University delivered her presentation on scientific researchers' responsibility and duty, noting that responsibility and duty are not fulfilled only by a researcher's individual self-awareness and effort, but require an overall change in the atmosphere and structure of the scientific community or society as a whole. Hoping that in the age of science and technology, a new plan to induce both individual responsibility and duty and responsible practice by the scientific community, as well as the participation by society at large would be included in the Code, she listed areas that require scientists' attention: With the changing scientific research environment, researchers should first acknowledge the danger factor, an innate characteristic of scientific research, identify and estimate possible dangers, and diligently manage them. Secondly, researchers should try to remain unaffected by financial profit-loss calculations. Thirdly, in order to prevent scientific misconduct, a strictly controlled research process and scientists' honesty are called for. Fourth, scientific researchers can fulfill their responsibility by concisely and clearly explaining his/her research.

4. General Discussion

Chair: Prof. Kim Sang-Bae, University of Seoul

Social Responsibility of Science and Technology

Prof. Jun Bang-Ook of Kangnung National University stated that the Recommendation emphasized the responsibility of Member States more than that of scientific researchers, and added that the responsibility of scientific researchers should be incorporated. In response to this comment, Prof. Song Sang-yong said that the UNESCO Recommendation as an intergovernmental agreement, is more prestigious, whereas the

Helsinki Declaration was adopted by the World Medical Association (WMA), a non-governmental organization. So UNESCO as an international organization focuses on the duty of the states in its Recommendation.

Dr. Song Sungsoo of the Science and Technology Policy Institute argued that from the perspective of Korean society, social responsibility of the group rather than the individual demands more attention. Countering this comment, Dr. Son Hwa-Chul remarked on the possible invisibility of the individual in group-focused situations, and stated that individual scientists should be recognized as individual moral agents.

In addition, some observed that since the only reaction available for an individual is to blow the whistle or resign, a firm protection system should be developed. Also some criticized the lack of research on various whistle-blowing cases of engineers. Furthermore Prof. Ku In-Hoe of Catholic University of Korea recognized concern for the unfavorable consequences of inside reporting and suggested a more powerful approach, i.e. imposing it as a moral duty.

Extent and Direction of the Code

Dr. Lee Dal Hwan, Director of the Policy Research Center of KOFST requested that a clear scope and conceptual definition for the Code be set and that it be written using a positive tone. In reference to this request, Prof. Song Sang-yong mentioned confusions that arise due to the overlap between research ethics and ethics of science and technology and found the government's sole attention on research ethics problematic.

Prof. Ko Insok of Ewha Womans University highlighted the importance of determining the extent of the Code of Ethics, and demanded more macroscopic discussion of social context for topics such as R&D total budget distribution rather than research integrity issues. He asserted that scientific research misconduct is a problem that cannot be regulated by general means but is a matter to be decided by scientists. He suggested that if it is a mature community, it should hold its own set of rules, and these rules should be brought forward and invoked for educational purposes. He also stated the role of scientists and engineers is very important in this problem-solving process, and therefore they should be actively engaged in the discussion

Dr. Song Sungsoo claimed that in following the international norm, it is most appropriate to construct codes of ethics by institutions or associations respectively. He

then mentioned the case of the U.S. where institutions' voluntary embarkment was accompanied and accelerated by AAAS, and requested that KOFST play a similar role.

Mr. Bang Young Gyun, a graduate student at Seoul National University expressed his low expectations for the code of ethics. However, he asked for positive ethics to which the entire scientific community could assent. Also he emphasized the need for fluid communication between scientists and the public. The current attitude of "let scientists deal with science problems" clearly demonstrates the exclusiveness of the scientific community in Korea, and it is becoming more distant with the continuing specialization of scientific activities. He requested that the scientific community open up and initiate communication with the public.

Prof. Kang Shinik responded that though such mechanisms as the internet can play a powerful role, it is more urgent to agree on core values and express them. He also pointed out Korean scientists' indifference to public communication. Changing scientific language into laymen's terms was also mentioned as an important task.

Prof. Lee Pil Ryul of Korea National Open University indicated that the Code may mean that civil society dictates the conduct of scientists, yet scientists seem to respond indifferently towards it. However, he said that scientists should conform to the common goal of society and moreover, create new values for civil society and try to arrive at a consensus in our society which eagerly pursues economic development. He referred to the example of Sweden, where they value sustainable development and established Ministry of Sustainable Development, expanding its sphere of influence to various sectors such as education, especially civil engineering education.

In addition, Mr. Lee Jae-sung of KOFST remarked on the increase of the government's R&D budget, and emphasized the importance of R&D distribution. He introduced the current efforts of KOFST to support the adaptation of the ethical code, and research into the investment efficiency of the recently increased national science and technology R&D.

Status of Scientists

Prof. Jun Bang-Ook mentioned that in discussing the social responsibilities of scientific researchers, attention is only paid to how the government or market defines scientific researchers. Yet in the public's perspective the more relevant issue deals with the status of scientists. Also, scientific researchers hold a superior position in society compared to

common citizens; however they should not forget their responsibility and role as citizens in civil society.

Prof. Ku In-Hoe referred to scientists' status as one based on expertise. Scientists differ from general laborers in their ability to utilize expert knowledge and judge research risks, and they have a duty to inform the public of these risks. Some participants stated that because opportunities to apply expert knowledge occur rarely in reality, scientists can be portrayed as technical laborers in a specialized field, and therefore the Code of Ethics should take into consideration the other position of scientists.

Scientists' Awareness

Prof. Sung Joon Yong of Yonsei University highlighted the role of ethical-minded research supervisors or professors, considering the apprentice system of university laboratories. By training scientists properly from the beginning in college, one could prevent further serious problems. He stated that despite possible resistance due to the indifferent and disapproving view of scientists and engineers, who complain of more duties imposed, the Code of Ethics should be established and written in detail above the general level of conception.

Mr. Lee Jong-min, Secretary of the Center for Democracy in Science and Technology shared the results of a young scientific researchers' discussion session two weeks ago. They pointed out the scarcity of opportunities open for them to participate in research integrity policy and code of ethics. They voiced the necessity of the third institution, given the research institutions' limits in leading projects especially in commercial research. Regarding ethics education, there were various opinions; for example, some stated that it is not necessary, or that once a semester or one semester should be sufficient. Also, issues on reeducation of senior researchers and part-time researcher training were discussed. Regarding whistle blowing, the need for a consulting desk rather than anonymous reporting was mentioned to reduce the fear of consequences.

Dr. Kim Woo Jae of Pohang University of Science and Technology illustrated the change in scientists' responses to the Hwang scandal in Korea. When the media was feverishly covering Dr. Hwang Woo-Suk, scientists remained silent even though they sensed a problem, because his media appearance served to increase R&D funding. However, after the exposé, scientists were frustrated with the accusations of silence they received and with the lack of solutions to problems in scientific research. In reality,

scientists are obliged to submit reports, emphasizing the economic value of their research in order to receive funding, regardless of whether they are sure if it will bring economic profit or not. Therefore, taking into consideration these circumstances, the Code of Ethics would be ineffective, if not concrete.

Prof. Shin Joong-Sop of Kangwon National University presupposed that if scientists' are not socially acknowledged, their profits will not be protected. He claimed that scientists as an interest group should convince the public that scientific development accompanies the progress of humankind, and scientists should recognize that their profit depends on this persuasion.

Prof. Hur Sang Soo of Sungkonghoe University asked for understanding for the difficulties faced by scientists. He stated that scientists should maintain their balance, and not be overpowered by society. He suggested that in addition to focusing on social regulations or control, the code of ethics should also protect the rights of scientists and engineers, such as their rights as citizens and their patent holdings.

Dr. Kim Young Jong of Kanazawa Institute of Technology in Japan talked about the meeting on a code of conduct for scientists that was held in Japan in April. He pointed out that whereas the forum was organized by the Korean National Commission for UNESCO in Korea, academic institutions took the lead in arranging code of conduct discussions with the participation of prominent scholars in Japan. He wished that the discussion would stimulate the interest of more diverse audiences in Korea, too.

Ethics Education

Prof. Cho Eun Hee described the discrepancy between the understanding and the expectations regarding the effects of ethics education and the lack of common understanding among researchers. She asserted that there is an urgent need for firm common understanding, and not only education for students but also senior researcher education should be reinforced.

Prof. Yi Sang Wook, examining the results of a survey on research ethics classes at Chonnam National University Graduate School, conducted by Prof. Cho Eun Hee, pointed out that graduate students who major in biotechnology limit research ethics to bioethics and understand it in a very narrow and abstract scope. They also regard ethics education as simple and easy. However teaching research ethics is more than a transfer of knowledge; it should be internalized and encourage self-reflection.

Additional commentary suggested applying a practical approach to STS or ethics education in both theory and application.

Others

Prof. Kang Shinik introduced a case where the Society of General Internal Medicine modified the Hippocratic Oath into a Charter according to contemporary conditions in 1998. The Korean Dental Association established a Code of Ethics and guidelines based on this charter, proposing that it would be a good reference to prepare a similar code of ethics for scientists and engineers. He explained that much of the current medical ethics education started and developed voluntarily, even though some expressed doubts about the progression from education to an ethical mind. Ethics should not be understood as an impediment to the research process but rather as an indispensable factor for survival, and the code should be formatted where scientists can declare their own values as a group based on an ethical contract with society.

Reactions of Presenters

Prof. Cho Eun Hee: Interest in the Ethical Code and research procedures that call for ethical consultation increased. However scientists are too occupied with their research to study or learn about research ethics on their own. Therefore, I treat education as the most urgent issue.

Prof. Yi Sang Wook: Since there is not a clear distinction between misconduct and proper research, scientists should actively project ethical values and judge based on their common understanding as a group. That is the way to secure freedom of research. In this common understanding social values should be projected, and in reverse values respected in the scientific community should be diffused in society. This interaction between values and society is crucial, and it should be reflected in the code.

Prof. Lee Sang Ha: Since the Hippocratic Oath is a vocational ethical code, established in a uniform society with religious connotations, the extent of its influence on contemporary, pluralistic society is still uncertain. It is very confusing whether the Code of Ethics would be a general proposal asking for social responsibility, or a just conduct provision as in the U.S., England, and Germany. In some countries neutral science and technology policy evaluation institutions are actively operating, yet in Korea only a few consultants are doing this job; the situation needs to be improved.

Dr. Son Hwa-Chul: I wanted to assert the importance and the power of scientists and engineers. Civil society should demand responsibility commensurate with their power, and scientists should vest responsibilities onto themselves. Distinctions between the citizen and the scientist do exist, and scientists possess a certain authority that citizens do not have. The code of ethics should spell out scientists' responsibilities, and scientists should accept them.

Prof. Kang Shinik: Despite its relatively systematic status of ethics, problems still exist in medicine. IRB still causes disputes, and the logic of capital is expanding. It is worth paying attention to the European case where neutral, third institutions deal with ethical issues, rather than the American IRB. Ground should be prepared where not only the ethics experts, but also the people in the field and the public can participate in discussion.

Prof. Song Sang-yong: I have tried to get a relatively higher participation of scientists in this forum, but few responded. Much more scientists joined in the making of the "Charter for Scientists and Engineers" in 2004. Nowadays ethics is getting wider attention among scientists. In Korea, however, scientists react very sensitively to ethics issues. There is a misconception that ethics is antiscientific.

This forum, as a consultation meeting, was organized to hear opinions on the UNESCO Recommendation 1974 and its improvement. I hope that it will eventually lead to the Universal Code of Ethics for Scientists. I also would like to see the Korean version of the Code made by the joint efforts of the Korean National Commission for UNESCO, the Korea Federation of Science and Technology Societies and the Korean Academy of Science and Technology.