The Teaching of Ethics

The World Commission on the Ethics of Scientific Knowledge and Technology (COMEST)

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1. Introduction

There is a growing concern about the importance of teaching ethics at university. The world faces great challenges, most of them indirectly or directly related to science. Technological disasters, environmental degradation and growing social and economic imbalance between rich and poor have led to an increasing mistrust in science, often directed against the development and applications of new technology, notably biotechnology.

The development towards a higher degree of contract research and business-led research, has taken this scepticism even further. The growing understanding that science is not free from the scientist's disciplinary background, interests, values, viewpoints and relations to other actors in society, underlines the need for the teaching of ethics as well.

Scientists face ethical problems in their choice of education and research field, in their choice of research projects, in how they carry out their research, and in how they deal

with publication and media. How can we make sure that the scientist maintains high standards of scientific integrity and quality control when the relationship between the researcher and other actors such as universities, the state, corporations and international trade organizations are changing? How can one increase the young scientist's ability to distinguish right from wrong and to feel social and environmental responsibility?

Today most people agree that one must establish good strategies for securing sustainable development. The teaching of ethics can play a decisive role in the work for sustainability. Ethical values are the principal factor in social cohesion and, at the same time, the most effective agent of change and transformation. In considering the ethics of sustainability, our moral responsibility towards future generations is of prime importance. In living up to this responsibility, we must strive to achieve balance and continuity between meeting the needs of today and the challenges of the future.

1.1 Background

Some steps have already been taken towards the teaching of ethics by the United Nations. At the world conference on sustainable development in Johannesburg 2002, the world leaders reaffirmed the need for sustainable education. UNESCO was designated the lead agency for the promotion of the Decade of Education for Sustainable Development starting in 2005 (United Nations 2002).

An initiative to strengthen the teaching of ethics was already taken in 1999 at the World Conference on Science and the use of scientific knowledge held by UNESCO and the International Council for Science (ICSU). In the Declaration on Science and the Use of Scientific Knowledge made at this conference, section 41, it is stated:

All scientists should commit themselves to high ethical standards, and a code of ethics based on relevant norms enshrined in international human rights instruments should be established for scientific professions. The social responsibility of scientists requires that they maintain high standards of scientific integrity and quality control, share their knowledge, communicate with the public and educate the younger generation. Political authorities should respect such action by scientists. Science curricula should include science ethics, as well as training in the history and philosophy of science and its cultural impact. (UNESCO 1999).

The plan of action from this same conference, "Science Agenda - A Framework for Action," states in point 71:

The ethics and responsibility of science should be an integral part of the education and training of all scientists. It is important to instil in students a positive attitude towards reflection, alertness and awareness of the ethical dilemmas they may encounter in their professional life. Young scientists should be appropriately encouraged to respect and adhere to the basic ethical principles and responsibilities of science. (UNESCO 1999).

UNESCO's World Commission on the Ethics of Scientific Knowledge and Technology (COMEST) has committed itself to put this Declaration into action. The recommendations for research ethics promoted in this paper are a part of this work.

2. Ethics

2.1 Ethics and morality

Ethics is the systematic investigation of questions of right and wrong, good and bad. It reflects on the different moral principles and evaluates them critically. In many cases our principles survive this critical scrutiny. However, often the critical reflection shows that some principles are unsatisfactory; they have to be modified or totally rejected. Sometimes we find other, more satisfactory principles that replace them. The aim of ethics is to find a set of moral principles that there are good reasons for accepting and that ought to guide us in our lives. All scientists should commit themselves to high ethical standards and should behave properly in their professional life.

The study of ethics is important not only for our individual lives, but also for developing the insight and competence we as a community need in order to face the challenges of the present and the future in a reasonably successful way.

2.2 Ethical challenges

Many of the most important ethical predicaments the world community is facing today arise in connection with science, in scientific research, and in the development and applications of new technology, notably biotechnology. Scientists face ethical problems in their choice of education and research field, in their choice of research projects, in how they carry out their research, and in how they deal with publication and media. The applications of science and technology has consequences for almost all aspects of our life: the media, travel and transportation, internationalization, immigration, growing cultural pluralism, growth of international corporations, development of new weapons, depletion of resources, deterioration of the environment. Many of these possibilities that are opened by science are destructive and negative. But science also makes possible better living conditions, improved medical care, more awareness of the needs of people in other parts of the world and greater possibilities to help them.

The last decades have seen a rapidly growing awareness of these ethical issues and of the need to deal with them. This rising interest in ethics seems to be mainly due to seven factors:

1. The rapidity of the changes. As much has been published during the past 12 years as during the whole earlier history of mankind. This rapid acceleration in scientific output has been going on for a long time and it seems to continue that way. Changes are hard to measure, but if changes to any degree match the speed of publications, we may go through more change in just a few years of our lives than earlier generations did in their whole lifetime.

2. Increased contact between cultures strengthens our awareness that many of our norms and values are culturally conditioned and makes us ask which ones we ought to accept, and why.

3. Internet, satellite TV and other media that cross national boundaries create particular ethical issues. What is forbidden in one country, for example, unwanted advertising or marketing directed to children, may be legal in other countries, and cannot

easily be stopped at borders. Spam is an example of material that cannot be stopped as long as some countries regard it as a basic right to send whatever you will to anybody.

4. A fourth factor that seems to have contributed to the increased interest in ethics, is that many upholders of ethical traditions have been weakened during the last generations, for example, the family, religious institutions, neighbourhoods and other close social groups. Their influence is smaller, and they feel uncertain with respect to these new ethical challenges and less competent to give advice.

5. The new developments in science and technology have made the range of our possibilities and the magnitude of the consequences of our actions greater than ever before. These new possibilities have led to much good, but they have also been misused, for warfare and destruction of people and our environment.

6. Concern for the environment. As the magnitude of man's impact on the environment is increasing, mainly through over-exploitation of resources and through pollution, our environment is deteriorating fast and there is growing concern that something must be done, that development must be sustainable and that the precautionary principle must be applied wherever one deals with complex systems whose behaviour is difficult to predict.

7. A seventh and particularly important reason for this rise of interest in ethical issues is that one particular branch of modern science and technology, gene technology, has created new situations, which are radically different from those one has been confronted with earlier. One cannot fall back on traditional ethics, which has been developed in encounters between humans. "The golden rule": do to others what you want others to do to you, may be useful when we stand face to face with other humans, but it is of little direct use when we are manipulating genetic material. This is a main reason why we in this field have so widely differing ethical intuitions and even conflicting legislation. The laws concerning, for example, embryonic research, differ widely from country to country.

These seven factors: rapid changes, increased cross-cultural contact, weakening of national boundaries, decline of the upholders of ethical traditions, magnification of our power to do good and bad, deterioration of the environment and creation of totally new ethical situations through biotechnology, are probably some main causes why more and more people stop and ask questions that only philosophers and some theologians asked before: What shall we do? What is right and what is wrong?

In all parts of the world this has led to an increased interest in ethics. If the above analysis of the causes of this situation is right, this interest is not a matter of fashion, one of the many intellectual trends that rise and fall. It is likely to stay, like the changes that brought it about.

2.3 What shall we do?

One main thing to do is to develop competence in ethics and use it to deal with the issues that face us. Ethics is a field of study, one of the first fields where mankind attempted to gain insight through disciplined thought. This study has never been more intensive than now. As in other fields of scholarship, if one neglects what has been done, one is likely to repeat errors and mistakes and propound views that have been thoroughly studied and found to be inadequate and lacking.

One common error is to think that the rightness or wrongness of an act is proportional to the strength of our feelings when we contemplate the act. A brief reflection

makes us aware that this is not so. For example, if we read an article in the newspaper reporting that one hundred children in Africa have starved to death, we would probably pause for a while and think "How sad", before we turn the page to the sports section. If the report is illustrated with pictures of the starving children, we would probably feel sadder, and if we watch the news on live TV, strong feelings might develop in us. If we are in Africa with the children, we would be even more powerfully affected by what happens. If we have come to know some of the children and formed emotional ties with them, we would probably be overwhelmed with grief and certainly have done all we could to help them. And were they our own children, our agony would know no limit.

These are well known phenomena that have been studied by psychologists and moral philosophers. David Hume, in his *Treatise of Human Nature* (1739), discussed the phenomenon (though with other examples), and its implications for ethics. A key issue of ethics today, is how we can find out what is right or wrong when the strength of our feelings is no reliable guide. Particularly in modern science, where one is carrying out experiments in a laboratory and where what happens in test tubes seldom gives rise to strong moral feelings, systematic reflection on moral issues becomes a must.

We all know, at least vaguely, what it is to know a scientific field, like nuclear chemistry, biotechnology or law. But what is it to know ethics? What have ethicists learned through their training? One thing that ethicists do learn, if they get a proper training, is argumentation, that is, to offer a set of reasons or evidence in support of a conclusion. An argument is supposed to provide evidence, give us reasons to believe. We could emphasize this by talking about '*rational* arguments'. An argument is hence not just a set of statements that are designed to sway an opponent. Advertising and rhetoric do not qualify as arguments in this sense. Nor would a series of statements that starts from beliefs that the opponents do not share, be the kind of arguments one wants. In such cases, the beliefs from which one starts must themselves be supported by arguments until one reaches common ground. To distinguish good arguments from bad ones, and to be able to construct good arguments, is something one must learn. It is of crucial importance for fruitful discussions and learning this should also be a main aim of the teaching of ethics to scientists.

2.4 Why arguments?

Here are three arguments for the emphasis on arguments:

First: arguments are a way of finding out *which views are better* than others. One main theme in moral philosophy, as in science, is to clarify why and how arguments can help us sort the good views from the bad ones.

Second: arguments *stimulate inquiry*. In arguing for or against an issue, we discover that various factors are relevant for the issue, factors that we had not thought about and that it may become crucial to explore. For example: who is affected by what we are about to do, in what ways, with what probabilities, with what information, with what freedom to decide, and so on.

Third: arguments demonstrate *respect for the other*. We approach the other as an autonomous human being, capable of making up his or her own mind, not as an entity to be manipulated by rhetorical devises, appeal to authority or other strategies. These other strategies come in many varieties. They may be appeal to religion, appeal to the strength of

one's feelings, to traditional ways of dealing with the issues, to what the majority regards as right, how it is dealt with in other places or other countries, etc.

Emphasis on arguments is important not just out of consideration for the autonomy of the other. It is also an important part of social ethics. Emphasizing arguments will make life more difficult for political leaders and fanatics who spread messages which do not stand up to critical scrutiny, but which nevertheless often have the capacity to seduce the masses into intolerance and violence. Rational argument and rational dialogue are of the outmost importance for a well-functioning democracy. To educate people in these activities is an important part of all teaching, and in particular the teaching of ethics.

3. The Teaching of Ethics

3.1 The aim of the teaching of ethics

In view of the above, the central aim of the teaching of ethics should be to develop the students' ability to recognize and analyse ethical issues in order to be able to reach decisions on how to act ethically. This comprises several partial aims:

- the study should increase the students' awareness of ethical issues
- provide a deeper understanding of ethical matters and greater clarity in ethical questions
- place ethical problems in a wider context and make explicit the alternatives that we may choose from, and how their various positive and negative consequences are experienced by those who are affected
- develop the skill for ethical analysis and argumentation
- determine areas where social practice or legislation is at odds with ethical standpoints which seem to be well-founded

As for the first of these points, it is important that the ethics courses are open to cultural and traditional differences. There are great regional differences concerning what are viewed as the most actual ethical problems. The challenges are also quite different in poor and rich countries. Religious differences as well will affect the way ethical dilemmas are viewed and reflected on in different places. It is, however, also important to locate issues that ought to be reflected on and discussed, but which are so deeply ingrained in a culture that they tend to go unnoticed.

For students working in other cultures than their own, for example in connection with field work, it is crucial to be aware of regional differences. In the students' later professional work it is important to keep these differences in mind. Different countries and different regions often face different ethical problems. Regional differences in the urgency of different ethical problems and in ways of dealing with them should be taken into account in courses held in different parts of the world.

For the developing countries it is particularly important to build up competence in ethics. These countries are exploited in so many ways, through unfair trade agreements, bad treatment of workers, takeover of natural resources, land, water, etc., patenting of biological material or of insights based on traditional knowledge, introduction of plants or cultivation methods that destroy traditional life styles and cultures, and also tests on new drugs under conditions that are illegal in most developed countries. The examples can be multiplied, but they show that the developing countries stand the most to gain by building up ethical competence, preferably combined with competence in other fields.

3.2 Topics to be covered

The next points listed under **3.1 The aim of the teaching of ethics** all deal with important features of ethical argumentation. In order to do justice to them, the students should become familiar with *the structure of normative argumentation* and all the various notions and distinctions that one must take into account in order to reach sound ethical decisions, such as:

- *Basic ethical notions*: norms, values, comparison of values, preferences, intentions, actions, alternatives, consequences, risk, precautionary principle, choice, control, autonomy, responsibility, informed consent, paternalism, justice, human rights, empathy, known victims versus anonymous ones, future generations, the ethical relevance of special relations, such as parent-child, teacher-student, employer-employee, etc., double effect, ethics, law and codes of conduct, whistle-blowing.
- Some main types of *ethical theories*, their strengths and weaknesses, particularly consequentialism, utilitarianism, virtue ethics, deontological theories, and contractualism.
- Some views on *ultimate justification* in ethics, notably reflective equilibrium.
- *Ethical issues in the various sciences*: protection of the environment, pollution, nuclear energy and nuclear waste, sustainable development, privacy, animal welfare, euthanasia, stem cells, cloning, genetically modified organisms, weapons research.
- *Research ethics*: ethical and social responsibility of scientists, experiments on human subjects, plagiarism, proper credit, contract research, benefit sharing and conflict of interest in international collaborative research projects, secrecy, information fraud and information monopoly, popularization of science, how to deal with publication and media, communication of probability and uncertainty, especially in connection with complex systems in biology, medicine and the environment, intellectual property rights, patenting, justice in the allocation of research resources.
- *Other subjects*: The above subjects cannot be taught in a vacuum. The basic ethical notions can only be understood within the context of ethical theories. And in order to fully understand the finer points in ethics one has to know the discussion of the various difficulties as it has gone back and forth through the *history of ethics*. Further, one has to have some knowledge of other areas of philosophy and of other disciplines:

- how could I, for example, reflect on the "ethical problems raised by the patenting of human genes" if I have absolutely no knowledge of *law*?

- how can I refer to "scientific facts" in a discussion about ethical problems without having carefully thought about what counts as "scientific evidence", which takes a course in *epistemology* and *philosophy of science*?

- in order to appreciate what is at stake in the debate about stem cell research, is it not important to know that throughout the 20th century, biology textbooks taught (as a dogma) that cell differentiation is not reversible? A major point in the *history of science*.

- finally, when arguing around the intricate problems linked with technology transfer from Northern ("developed") to Southern ("emerging") countries, am I

allowed to ignore the themes of *political philosophy* (theories of justice, of democracy, of international relationships)?

Of course, there will not be time for a thorough study of all these subjects within a short study of ethics. However, in order to take a qualified position on ethical issues one must know enough about these subjects to know where one has to tread carefully.

3.3 Courses, written work

We recommend strongly that ethics be taught in courses where the students are not just listening to lectures, but get ample opportunity to write essays which should be read and commented upon by a teacher who is thoroughly familiar with the issues. Discussion groups and conferences should not take the place of a thorough systematic introduction to ethics. They may be a supplement to systematic teaching, but they cannot replace it.

It is important that the teaching be tied to concrete examples from the students' fields, preferably examples that the students find difficult and which therefore motivate them to careful analysis and independent reasoning. Often it motivates students to start with such examples and work one's way into the ethical analysis. However, we leave these pedagogical issues to the people teaching the courses.¹

3.4 Levels of teaching

There is need for teaching at three levels:

1. Elementary ethics courses that all students ought to take

It is desirable that all science students get some basic knowledge of ethics. We therefore recommend that all students get at least one course of ethics. Even in such an elementary course it is important that all main factors that go into the evaluation of the rightness or wrongness of a course of action – as listed in "Topics to be covered" above – be touched on. There will be no time to go into depth on all of these, but it is important that the students learn not to neglect factors that in many cases can be quite important for making the right decision.

2. More advanced courses that are part of the Ph.D. requirements in the various sciences In connection with the work on their Ph.D. dissertation, students should consider carefully the ethical issues that are raised in the dissertation, both the internal problems of research ethics and the external problems that arise in connection with the likely applications of the results reached in the dissertation. They should also consider other ethical issues that they are likely to encounter in their later professional life.

3. Courses that lead to a Ph.D. in ethics, suitable for teachers of ethics for scientists

Teaching ethics for scientists requires not only a solid competence in ethics but also a thorough knowledge of the science whose ethics is being discussed. Much can be achieved by co-teaching, where a scientist and an ethicist teach together. Within scientific research much can be gained by having ethicists work as members of research teams. Most scientific research projects cannot be worked out by a single individual; they require a team

¹ The Association for Practical and Professional Ethics (USA) has developed a set of booklets with a number of different cases and ethical dilemmas that are suitable for discussion in courses. (See 1.5 in the appendix)

of researchers and a stimulating environment. It is perfectly feasible that ethicists could be members of research teams in chemistry, or in computer science, etc. In Switzerland a group of biologists working on human stem cells declared that their project was funded by federal institutions because they had worked with a philosopher, and because the ethical argument was included in the protocol they submitted for funding. However, this kind of team work requires that the members of the team communicate well, and that in turn presupposes some basic knowledge of one another's fields. It is highly desirable, both for teaching and for research on the ethical issues in a certain field of science to have at least some people with a solid double competence, people who combine research competence in the scientific field in question with research competence in ethics.²

A Ph.D. programme in ethics is very much like other Ph.D. programmes: it requires a combination of a thorough, broad study of ethics and other related disciplines and a dissertation. The broad study is a most important part of such a programme; acquiring the necessary competence takes about two full years of intensive coursework with steady essay writing and feedback on the essays.

3.5 The importance of double competence

In order to deal adequately with ethical issues in a certain area, one has to be very familiar with the area. Otherwise, one will not have enough information to judge the possible alternatives and the probabilities of the various consequences that are crucial for the ethical discussion. One also has to know ethics well enough to be aware of crucial distinctions and considerations that make the difference between good and bad arguments. Without such double competence scientists tend to think that ethics is a matter of expressing one's convictions, and ethicists tend to present arguments and considerations that have little bearing on the real issues.

One also often encounters the view that a good scientist can pick up the ethics he or she needs very quickly. However, the experience in the Norwegian ethics programme is different. Again and again the research fellows, who often were among the best researchers in their field, found that they needed more time for their ethics dissertation than they needed for their science dissertation. The four year fellowship support that was given by the ethics programme often turned out to be a little short.

3.6 Quality

Quality work in ethics, as in other scientific and scholarly fields, consists in the generation of new ideas that are well supported and argued for, and the main measures of quality are publications that reach the foremost researchers in the field and are made use of and quoted by them. This requires articles in journals that are likely to be read by researchers and books published by publishers with wide distribution in the scholarly community.

² That it is possible to develop such double competence is shown by an ethics programme in Norway, sponsored by the Norwegian Research Council. Through this programme about 25 people who already have research competence in one field have been given four-year scholarships to take a doctorate in ethics. (See appendix)

Teachers and students of ethics should therefore publish at least some of their work in such a manner that they reach the foremost researchers in the field. This requires publication in a language that these researchers can read. In addition, one should, of course, encourage publications, seminars and lectures that reach a wider audience. Thus, for example, one may make it a requirement for a Ph.D. that in addition to a thesis, the candidate publish a popular presentation of some of her/his work.

Ethics is of concern to all. We all have our views on ethical issues, and we express them. However, this does not qualify us to teach ethics. Teaching of ethics does not consist in imparting to others our ethical views, but in enabling others to take their independent stand on ethical issues. This requires a thorough and broad competence in ethical theories and ethical argumentation. It is the duty of people in charge of teaching programmes in ethics to see to it that the teachers have such qualifications.

3.7 Developing countries

Many countries do not presently have people with the kind of qualifications in ethics as outlined above. This holds for many rich countries as well as for developing nations. Rich countries can meet this challenge by establishing programmes to build up competence in ethics, as Norway has done (see note 2).

Developing countries would need support from abroad to develop such competence, either by establishing ethics programs of their own or by sending students to good Ph.D. programmes abroad. In many developing countries there is a lack of qualified teachers and dynamic materials for the ethical programmes, and the researchers and teachers in ethics have little opportunity to participate in international conferences and/or training courses to further their skill and update their knowledge. It is a challenge for UNESCO and other international organizations to provide the economic means for such solutions, as a timely help to improve the ethics teaching in these countries.

It would also be highly desirable to develop teaching material for use in ethics courses. In addition to text books commissioned from the foremost researchers in the field, this material should include video recordings and courses that provide for interaction with students over the Internet. Such courses could reach very many students at a low cost. They should be taught by top people in the field, and the feedback to students should be given by highly competent ethicists. It seems that the development of global-wide courses of this kind would be a project especially suitable for UNESCO.

4. **Recommendations**

COMEST recommends the following initiatives for building up worldwide competence in the ethics of science:

1. Universities and other institutions of higher education are encouraged to establish ethics teaching at three levels:

Elementary ethics courses for all students

More advanced courses that are part of the Ph.D. requirements in the various sciences

Courses that lead to a Ph.D. in ethics, suitable for people who already have a Ph.D. in some other field.

It is crucial that these courses be taught by teachers who have demonstrated their research competence in ethics.

2. In countries that have few people with Ph.D.s in ethics, research councils and other organizations with nationwide responsibilities are encouraged to establish ethics programmes to build up such competence or to enable students to follow good Ph.D. programmes abroad.

3. UNESCO and other international organizations that care for teaching and research are encouraged to develop courses in ethics, using video and computer technology to ensure that students not only hear lectures, but get ample opportunity to hand in written work and get feedback on it.

4. Partnerships consisting of participants from countries of the North and countries from the South and possibly also from international organizations such as the International Council for Science (ICSU), Third World Academy of Sciences, All European Academies (ALLEA) and UNESCO should be encouraged. UNESCO will be asked to facilitate this.

5. COMEST will urge UNESCO and other international organizations, for example the World Bank, to support ethics teaching in developing countries, where the need for competence in ethics is especially pressing.

6. In particular it is proposed that UNESCO, possibly in cooperation with the World Bank and national programmes for aid to the developing countries establish fellowships for the implementation of the programme *The Teaching of Ethics*.

7. It is proposed that UNESCO Chairs be established for the programme *The Teaching of Ethics*.

8. It is proposed that UNESCO establish an award for the best teaching programme in ethics to be given out every year or every two or three years, depending on how many programmes get started.

9. It is proposed that COMEST establish a board of experts in ethics, with top ethicists from the various continents. This board shall ensure that the various courses and programmes maintain a very high quality. This is of crucial importance for the success of the programme and for the willingness of top ethicists to devote time and energy to collaborate in carrying it out. This board should have the following tasks:

- (i) evaluate proposals for teaching programmes in ethics
- (ii) develop a global certification system for ethics, and serve as an accreditation board to determine whether teaching programmes in ethics in different parts of the world maintain satisfactory quality with regard to teachers, curricula, required student work and teacher feedback on such work
- (iii) serve as an evaluation board for the UNESCO Chairs proposed in point 7 above. (That is, the board of experts specifies the qualifications that should be mentioned when the Chairs are to be filled and receives evaluations of the

candidates from experts in the field. On the basis of these evaluations it then recommends to UNESCO who should be appointed.)

(iv) decide which teaching programme shall be awarded the UNESCO award proposed in point 8 above.

The board should be small, maximum seven members, and should contain at least one member from the regions of Africa, South East Asia and South America, in addition to a similar number of top ethicists from Europe and North America. Several of the members should be women. Our committee has been in contact with a large number of ethicists to get their views on who would be particularly strong candidates from Africa, South East Asia and South America. They have come up with several candidates and to a large extent agree on who are the outstanding ethicists in these three parts of the world. Our committee shall be happy to nominate a slate of candidates for the board if it should be established.

ANNEXES

- 1. Examples of existing programmes
- 2. COMEST working group members

1. Examples of existing programmes

During the 1990s a number of national programmes were established for the teaching of ethics. Ethics has become a popular field of study and ethics courses are taught in many universities, interest organizations, and companies. At the universities the aim of the courses is often to raise young scientists' awareness of important ethical aspects of their studies and of their later professions.

There are, however, great regional and national differences in the quality and content of the courses. The countries of Latin America, Asia and Africa tend to have less developed programmes. In Europe and the United States of America there is a multitude of courses and programmes directed towards different scientific fields. However, there are regional differences and divergence in the quality and content of the courses. COMEST has selected a few courses in ethics that can serve as examples of high quality programmes:

- 1.1 Course in Engineering Ethics offered by the Institute for Science, Technology and Society. Tshinghua University, Beijing, China
- 1.2 Course in 'Biological Ethics' at Beijing University, China
- 1.3 Harvard University Center for Ethics and the Professions
- 1.4 Harvard Graduate School of Business Administration
- 1.5 Association for Practical and Professional Ethics, Bloomington, Indiana
- 1.6 Master programme in 'Health, Human Rights and Ethics', Andrija Stampar School of Public Health, Zagreb, Croatia/Council of Europe
- 1.7 Master in Applied Ethics at Utrecht University (the Netherlands)
- 1.8 European Union
- 1.9 The Norwegian Research Council's Ethics Programme
- 1.10 Internet based course in research ethics offered by The National Committees for Research Ethics in Norway

1.1 Course in Engineering Ethics offered by the Institute for Science, Technology and Society. Tshinghua University, Beijing, China

The objective of the course is through the systematic study of the fundamental ideology of engineering ethics, and through the analytical study and discussion on representative cases from China and abroad to:

- 1. promote the ethical literacy and awareness of social liability of the students;
- 2. promote the acquisition of comprehensive knowledge on:

[1] the ethical issues solicited with the momentous engineering projects in modern society;

[2] the codes and standards of ethics for professional engineers;

[3] the social and ethical responsibility of engineers; etc.

Content of the Course:

1. Engineering Ethics, including traditional and modern engineering, particularly the ethical issues emerging in bioengineering, medical engineering, computer networking, atomic energy and environmental engineering;

2. The codes and standards of ethics and norms of behaviour for professional engineers;

3. The ethical guidelines in project designing, decision-making and the legal right, duty, and ethical responsibility, etc. of the individual, organization, employee and employer.

Detailed outline of the course:

- A. The ethical evaluation of engineering activities
 - 1. Different perceptions of engineering activities
 - 2. Basic concept, theory and ideology of ethics
 - 3. Fundamental ethical principles in engineering activities
- B. The interrelationship between science, technology and ethics
 - 1. Whether science and technology are value-free in merit?
 - 2. Different points of view existing in history on the interrelationship between science, technology and ethics
 - 3. The interrelationship between science, technology and ethics
- C. Ethical issues in the planning, decision-making, implementation and the management process of engineering projects
 - 1. Value-choice about target and instrument in the decision-making on planning of the engineering activity
 - 2. Justice in allocation of cost, benefit and risk in the engineering projects
 - 3. Quality-guarantee issue in the project implementation and the rights and responsibility of the engineer
 - 4. Validity and rationality of the regulations for engineering project management
- D. The ethical literacy and social responsibility of engineers
 - 1. The implication of the modern social responsibility
 - 2. Professional ethical norms and responsibilities of the engineer
 - 3. Engineers are responsible to those who are responsible for the project

- 4. The dilemma for the whistle-blower interest conflict vs. ethical conflict
- E. Engineering and sustainable development
 - 1. The impact of modern engineering activities on the environment
 - 2. Rational resource utilization and protection of ecological environment
 - 3. Green manufacturing and recurrence economy
 - 4. Different responsibilities of the engineer towards different communities (the weak community, future generations, etc.)
- F. Ethical issues in information technology engineering (computer, the Internet)
 - 1. Intellectual property rights and knowledge sharing
 - 2. Citizen privacy right and the security of public information
 - 3. Information fraud and information monopoly
- G. Ethical issues in bioengineering
 - 1. Stem cell research and human cloning
 - 2. Genomic modified food
 - 3. Privacy in gene inspection
 - 4. Benefit sharing in the exploitation of genomic resources
- H. Ethical issues in medical engineering
 - 1. The human being as object of experiment and animal welfare vs. experiment
 - 2. Substitute mother and subscription or trade of sperm and ovum
 - 3. Subscription and trade of human organs
 - 4. Justice in the allocation of research resources in medical science
 - 5. Intellectual property rights protection on medicine and the control of disastrous diseases
 - 6. Technology for survival and euthanasia
- J. Ethical issues in the engineering of nuclear energy
 - 1. Patriotism vs. humanism in weapon research and development
 - 2. Nuclear safety and expansion
 - 3. Nuclear waste disposal

Teaching methodology

Combination of lecturing and discussion; theoretical inquiry linked to case study.

Examinations

Written paper and interview.

1.2 Course in 'Biological Ethics' at Beijing University, China

In 1991, the Course 'Biological Ethics' was offered to graduate students and doctoral students of the Center for Scientific Law Research, Department of Law, Beijing University.

From 1993 to 1999, the Course 'Biological Ethics' has been given as an obligatory elective course to preparatory class students of Beijing Union Medical College.

In 2000, the Course was offered as an elective course for all students at Beijing University.

From 2001 up to the present, the Course has been given to all students at Beijing University as an obligatory elective course, with the purpose of improving students' scientific as well as human attainment.

The Course is given once each academic year, two hours each week. The maximum number of students in class is limited to 150, including undergraduates and graduates.

The teaching material of this Course was written by Professors Gao Chongming and Zhang Aiqin. In April 1999, the Beijing University Publishing House published the teaching material as a textbook, 260,000 words long. It is the first edition in China designed for a course in 'biological ethics' in colleges. It was selected as a textbook by some comprehensive universities in China. In 2003, Beijing University Publishing House published 'Fifteen Lectures in Biological Ethics', the second edition of the previous textbook. It is published and issued as a current textbook for all colleges in China.

1.3 Harvard University Center for Ethics and the Professions

The University Center for Ethics and the Professions encourages teaching and research about ethical issues in public and professional life. The aim is to help meet the growing need for teachers and scholars who address questions of moral choice in business, education, government, law, medicine, and public policy. The Center brings together people with competence in philosophical thought and people with experience in professional education; and promotes a perspective on ethics informed by both theory and practice.

A guiding principle of the Center is that moral and political theory can help identify and clarify ethical issues in public life. The Center explores the connection between the problems that professionals confront and the social and political structures in which they act.

Among the issues addressed are conflicts within professional roles arising from competing understandings of the purposes of a profession; conflicts between duties of professional roles and those of general morality; the duty of professionals to serve the public good; legitimacy of professional authority; and accountability of professionals. The agenda also includes many of the topics prominent in recent philosophy, including justice, rights, liberty, community, and relativism, but situates them in the context of professional practice and public policy. More generally, the Center is concerned with the process of moral deliberation in which professionals and other citizens confront their common ethical problems, and the entire range of issues that arise in the practical ethics of public life. For further information: http://www.ethics.harvard.edu/welcome.php

The Center continues to provide ethics education for some faculty and students. But nearly all the faculties have created their own programmes and courses, and have their own group of faculty who specialize in ethics: <u>http://www.ethics.harvard.edu/activities.php</u>

One example of the ethics courses taught at Harvard is the Harvard Graduate School of Business Administration:

1.4 Harvard Graduate School of Business Administration

Harvard Graduate School of Business Administration offers a wide range of popular elective courses in business ethics, classes that draw as many as 250 students. Courses have included: "The Business World: Moral and Social Inquiry through Fiction", "Managing for Organizational Integrity", "Moral Dilemmas in Management", "Profits, Markets, and Values", and "Management, Literature, and Ethics". Another elective, "Entrepreneurship in the Social Sector", has become part of the Business School's Initiative on Social Enterprise. The Initiative's ultimate goal is to help students discover ways to use their business training to contribute to their communities and to society at large. The elective course, "Globalisation, Culture, and Management", explores the role of business and ethical values in international and non-U.S. contexts. A second course, "The Moral Leader", uses a combination of fictional works and traditional cases to examine the moral issues commonly faced by leaders of organizations. <u>http://www.ethics.harvard.edu/activity/schools/hbs.html</u>

1.5 Association for Practical and Professional Ethics, Bloomington, Indiana

Programme in Research Ethics:

The Association for Practical and Professional Ethics has published six volumes of case studies in research ethics. Each summer since 1996, the Association has convened a workshop in Bloomington for graduate students in the sciences and engineering; each participant writes a case study and commentary. Workshop faculty add their commentaries to the cases, which are then collected and published. Individual cases focus on a variety of topics, including student-mentor relations, authorship credit, whistle-blowing, conflict of interest, issues in research using human subjects, and intellectual property. The case studies are useful in a variety of contexts, ranging from undergraduate- and graduate-level courses through faculty development initiatives. http://php.indiana.edu/~appe/home.html

List of Study Opportunities in Practical and Professional Ethics in the US 2002: <u>http://php.indiana.edu/~appe/study.html</u>

1.6 Master programme in 'Health, Human Rights and Ethics', Andrija Stampar School of Public Health, Zagreb, Croatia/Council of Europe

The Master programme 'Health, Human Rights and Ethics' is especially designed to educate professionals from the countries in South East Europe in ethics in relation to health (care) and human rights.

The education programme

Health, Human Rights and Ethics consists of a two-year education programme, with a total of 1,800 student working hours. The programme includes 12 modules focused on the state-of-the-art in bioethics, and 5 modules focused on practical skills. When completed successfully, the programme leads to a recognized master's degree in bioethics, awarded by the University of Zagreb.

Entrance requirements

The programme will enrol students with a Bachelor degree in other sciences.

- 1. The entrance requirements will be broad and general:
- (a) Bachelor degree,
- (b) sufficient fluency (oral and written) in English. All teaching will be in English. The students from countries where English is not used as a language of education and instruction are required to take the English as a Foreign Language (TOEFL) test.
- (c) only candidates under 36 years of age will be eligible for financial aid scheme

Educational vision

This programme aims at creating a network of people in the region of South-East Europe who are skilled and well educated in ethics. This network is important for the further development and understanding of ethical issues not only on the health care level but also on the societal level. The network will also be important for the promotion of human rights in order to strengthen the importance of ethical values in the region.

The programme will offer a theoretical and practical immersion in health care ethics, paying particular attention to European philosophical and spiritual traditions, especially in the South-East Europe region. It will involve the best teachers from bioethics departments and institutions from various parts of the world. The programme has a strong interdisciplinary character, directing ethical reflection to public health and social problems which are pertinent to the health care systems and societies in South East Europe. This character is reflected in the close co-operation of teachers, not only from different cultures and traditions, but also from heterogeneous professional backgrounds.

In order to stimulate and promulgate the critical reflection and moral sensitivity of students, the emphasis in the programme will be on creative self-activity and individual growth, nurtured within a learning environment of mutual respect and interaction and small-group discussions.

Aims of the programme

- 1. To enhance the moral sensitivity of students
 - a. to make students aware of the normative dimensions of health care decisions, so that
 - they are able to identify which aspects of decisions are technical in nature and which are ethical
 - they are able to assess how technical and ethical aspects are related to each other
 - b. to develop skills in analysing the normative dimensions of health care decisions (identifying moral principles and rules; critically analysing moral arguments)
 - c. to develop skills in exploring and justifying personal decisions regarding ethical issues as they arise in specific health care contexts.
- 2. To understand the ethical and legal principles and values which underpin good health care.
- 3. To reflect critically about the most salient ethical issues in today's health care

(scientific research, environmental health, health policy, professional relationships, health care institutions, genetics and reproduction, end-of-life care, health promotion).

- 4. To provide knowledge and understanding of the interrelations of public health and ethics.
- 5. To understand the basic concepts and values connected with human rights and their importance not only on the level of health care but also on the global policy making level.
- 6. To understand the ethical issues which arise particularly in the context of the countries in transition.

Teaching methods

Each module will require extensive preparation by the students of materials and literature that will be provided in advance. This preparation will be done in the student's own environment. Once the teaching in Zagreb has started, the students will be immersed in an intensive education programme. The teaching focused on a particular subject area will be scheduled as follows. In the morning sessions plenary teaching will be provided. Usually two lectures will be given, held by experts in the subject; one lecture will be oriented to the theoretical dimensions, while the second one will present practical experiences. The afternoon sessions will require the active participation of each student; it will involve small group exploration and discussion of practical problems and cases. Several evening sessions will furthermore explore the subject area from daily life experiences, as reflected in films, literature such as poetry, music and theatre, necessitating discussion of the topics from the personal setting of the participants.

The four modules focused on practical skills will require intensive self-activity on the part of the students. They will be given a particular assignment, e.g. studying the literature concerning a specific topic, and will be requested to prepare a written paper that will be presented during the final days of the week. The teacher will be available for consultation during the week. They will also be trained in teaching ethics and in participating in public debate.

Teaching staff

Each module will be coordinated by a scholar in bioethics with international reputation. This programme is the result of an international effort; the best scholars in particular subject areas have been involved. The teaching staff in general will be mixed: philosophers, lawyers and social scientists will cooperate with health care professionals, so that there will be an appropriate balance between theory and practice. The teaching staff will be from South-East Europe countries (approx. 40%), other European countries and the United States of America (60%).

Course materials

Prior to the start of each module, the students will receive an information package including the syllabus of the programme, as well as reading materials and preparatory assignments.

For each module, a comprehensive reader with literature will be available; this literature has to be studied in advance. Also one or two 'important' books in the subject area of each module must be read before the start of the module. The programme coordinators will select 10 books that will serve as a mandatory basic reading package for all students.

Examination and evaluation

• examination of students

At the close of each module, students will have to perform an examination; this will usually be a written examination with open questions testing whether the student has accomplished the objectives of the module.

• evaluation of students

Students will also be evaluated on the basis of their presence and active participation in each course; they will have to do individual practical assignments, and make presentations the modules.

• practical skills

Each student will receive assignments to be completed during the Practical Skills modules; the products will be written papers as well as individual presentations during the teaching week. The final module requires the completion of a publishable scientific paper.

• evaluation of teaching and modules

All modules and teaching activities will be evaluated by the participating students. For these evaluations a written standard evaluation form will be used. An open and oral evaluation will also be performed in a closing session of each module.

The results of the students' examinations and module's evaluations will be reported to the Programme committee. The Programme Committee will involve the Examination Committee of the University of Zagreb which will deliberate on the fulfilment of the criteria for the Master's Degree.

1.7 Master in Applied Ethics at Utrecht University (the Netherlands)

From 1 September 2003 Utrecht University offers a master's programme in applied ethics, which is a year long study and is held in English. The study is targeted on students of various backgrounds (for example medicine, veterinary medicine, biology, philosophy, theology or law) who have completed a bachelor degree (or a comparable course of study) and want to obtain a basic academic competence in ethics. The programme focuses on the interaction between moral practice and ethical theory.

An MA in applied ethics has thorough knowledge of different ethical theories; is familiar with important methods and discussions in applied ethics; and is acquainted with the meaning of juridical and political frameworks of ethical argumentation. In the programme these themes are elaborated in several fields of applied ethics, like medical ethics, animal and environmental ethics, and political ethics.

The master's programme is suitable for students in philosophy and theology who want to specialize in applied ethics, as well as for students in other natural sciences or humanities who seek entrance into concrete ethical discussions. <u>http://www.ethics.uu.nl/</u>

1.8 European Union

The Socrates student exchange programme provides a course in ethics twice a week in the 4th semester. The content of the programme is professional liability in the countries of the European Union, ethics in research, diagnosis, treatment and teaching, bioethics. http://www.univie.ac.at/master_clinicalpsych/c_description4.htm

1.9 The Norwegian Research Council's Ethics Programme

The Research Council's ethics programme was a ten year programme, starting in 1991 and ending in 2001. The primary goal of the programme was to improve the scientist's ability to meet ethical challenges and in this way strengthen ethical competence. One of the main goals of the programme was to qualify 25 people for ethics research at doctoral and postdoctoral level. The programme also aimed at increasing recruitment to research in ethics, in basic ethics and applied ethics, and to increase the number of people and milieux which combine competence in an outside field with competence in ethics research.

In Norway ethics is part of the curriculum for the "examen philosophicum" (compulsory introductory exam in philosophy for all university students). More advanced courses in ethics are part of the requirements in philosophy and theology.

The two most distinctive features of the ethics programme were the emphasis on double competence and the qualifying part, which consists of research courses at the highest international level.

The programme offered one year scholarships for the study of ethics to people who already had a Ph.D. or equivalent research competence in a scientific field. Those favoured were applicants who were doing very well in their scientific field and could be expected to make a career in that field, and those who were avoided were people who had not succeeded in getting a job in their own field and were searching for something else to do.

Five such courses were arranged per year, and the instructors were among the top people in their respective fields. Those who did very good work in the courses were offered three year scholarships to work on a dissertation.

Each qualifying course normally lasted one week (10-12 two-hour lectures over 5-6 days). Two to three months before the beginning of the course the participants were provided with a literature package consisting of 500-1000 pages of articles and books which they were expected to have read before the course began. After the course the participants had to write an essay which was read and graded by the lecturer. Participants were encouraged to rewrite their essays in view of the lecturers' comments and submit them for a second round of comments. The overall workload for one course was estimated at about 6 weeks of full-time work.

The qualifying courses were intended to make the participants familiar with ethics, its research results and the methods needed in order to conduct research in basic and applied ethics. The essays written for the courses were also a very reliable basis for selecting fellows for the three-year dissertation fellowships.

The courses were primarily meant to cover the qualifying need for the grantees of the programme, but they were also highly relevant for other groups, such as, for example, external research fellows and researchers and professionals from various fields, including many members of the various Norwegian ethics committees.

The fellows who were working on their dissertations were followed up with intensive and competent advising, colloquia, and annual gatherings for all fellows and advisers. Many research fellows continued to follow courses even after they had completed their qualifying year in order to develop further their competence within those areas of ethics which were of special relevance to their projects. <u>http://www.uio.no/etikkprogrammet/NEP/NEPkurs.htm</u>

1.10 Internet based course in research ethics offered by The National Committees for Research Ethics in Norway

The National Committee for Research Ethics in the Social Sciences and the Humanities, NESH and The National Committee for Medical Research Ethics, NEM give virtual ethics courses to researchers and Ph.D. students. Professionals in ethics supervise the courses. The study is part-time, lasting for half a year. The aim of **the course in medical research ethics** is to enable the students to:

- Identify episodes in the history of research and in more recent times that have led to guidelines and legislation with the aim of protecting research participants.
- Identify the ethical guidelines behind the assessment of research that includes human beings.
- Show an ability to apply ethical principles in specific instances and argue for how a case should be solved.
- Have knowledge on how to behave towards vulnerable groups and under what conditions they can be included in the research in a proper way.
- Have knowledge on the different roles and responsibility relations between scientist, governmental bodies and ethics research committees.

The participants are invited for a two-day gathering at the start of the course. The course comprises weekly lessons, examples, curricula and supervising. A *classroom* is established on the Internet where participants and teachers can meet. The course is only available in Norwegian.

2. COMEST working group members

Fagot-Largeault, Anne	Chaire de philosophie des sciences biologiques et médicales, Collège de France; Member, Académie des sciences, Chevalier de la Légion d'Honneur; Officier de l'Ordre National du Mérite. Books and articles in Philosophy of Science and in Medical and Environmental Ethics
Føllesdal, Dagfinn (Chair)	C.I. Lewis Professor of Philosophy, Stanford University; Past President, Norwegian Academy of Science and Letters. Chair, Norwegian Research Council's Ethics Programme 1991-2001.
Hu, Qiheng	Professor of Automatic Control; past Vice-President of the Chinese Academy of Science; Vice President, Chinese Association for Science and Technology; President Internet Society of China.
Kapitza, Serguey	Vice President of the Russian Academy of Sciences, Director, P.L. Kapitza Institute for Physical Problems, Moscow.
Moserová, Jaroslava	MD, DSc, Associate Professor, Senator, Senate of the Czech Republic, Prague.
Murakami, Yoichiro P.,	Othmer Distinguished Professor of the History and Philosophy of Science and of Ethics of Science and Technology, Dean of Humanities, International Christian University of Tokyo.

Secretary: Lillian Eriksen, Oslo

The working group was appointed by COMEST on 12 December 2002. It has had two meetings, one in Paris on 26 January 2003, where the report was planned, and one in Oslo from 10 to 12 May where a draft of the report was discussed. The report was submitted to COMEST on 27 August 2003.