

## TEACHING BIOETHICS



# Teaching bioethics

Report from a seminar. November 2001

Organized by the Nordic Committee on Bioethics

## **Teaching bioethics**

### **Reports from a seminar. November 2001**

Nord 2002:2

© Nordic Council of Ministers, Copenhagen 2002

ISBN 92-893-0753-6

ISSN 0903-7004

Print: Phønix-Trykkeriet as, Denmark 2002

Cover design: Peter Waldorph

Layout: Salvör Aradóttir

Copies: 800

Printed on paper approved by the Nordic Environmental Labelling.

This publication may be purchased from any of the agents listed on the last page.

#### **Nordic Council of Ministers**

Store Strandstræde 18

DK-1255 Copenhagen K

Phone (+45) 3396 0200

Fax (+45) 3396 0202

Homepage: [www.norden.org](http://www.norden.org)

#### **Nordic Council**

P.O.box 3043

DK-1021 Copenhagen K

Phone (+45) 3396 0400

Fax (+45) 3311 1870

#### **Nordic Committee on Bioethics**

The *Nordic Committee on Bioethics* was established 1988 to identify and survey ethical issues related to legislation, research and developments in biotechnology in the Nordic countries and internationally. The committee has two members from each of the Nordic countries. It contributes to the public debate by organising workshops on selected items, publishing reports and policy documents, and spreading information to national authorities and national ethical committees.

#### **The Nordic Council of Ministers**

was established in 1971. It submits proposals on cooperation between the governments of the five Nordic countries to the Nordic Council, implements the Council's recommendations and reports on results, while directing the work carried out in the targeted areas. The Prime Ministers of the five Nordic countries assume overall responsibility for the cooperation measures, which are co-ordinated by the ministers for cooperation and the Nordic Cooperation committee. The composition of the Council of Ministers varies, depending on the nature of the issue to be treated.

#### **The Nordic Council**

was formed in 1952 to promote cooperation between the parliaments and governments of Denmark, Iceland, Norway and Sweden. Finland joined in 1955. At the sessions held by the Council, representatives from the Faroe Islands and Greenland form part of the Danish delegation, while Åland is represented on the Finnish delegation. The Council consists of 87 elected members – all of whom are members of parliament. The Nordic Council takes initiatives, acts in a consultative capacity and monitors cooperation measures. The Council operates via its institutions: the Plenary Assembly, the Presidium and standing committees.

Introduction.....	7
Introduktion.....	9
What is bioethics? .....	11
Dag E. Helland, Department of Molecular Biology, University of Bergen, Norway	
Why do we need bioethics? .....	25
Göran Hermerén, Department of Medical Ethics, Faculty of Medicine, Lund University, Sweden	
How can ethics be applied? .....	47
Lars Hertzberg, Åbo Akademi University, Finland	
Teaching of bioethics in Norway.....	61
Dag E. Helland, Department of Molecular Biology, University of Bergen, Norway	
Education in bioethics in Sweden: ethics/bioethics in study programmes related to biology and medicine .....	65
Hertha Hanson, Högskolan i Halmstad, Halmstad, Sweden	
Education in bioethics in Finland .....	69
Martti Lindqvist, Institutionen för Folkhälsan, Mäntyharju, Finland	
Education in bioethics in Iceland .....	73
Vilhjálmur Árnason, Department of Philosophy, University of Iceland, Iceland	
Teaching of bioethics in Denmark .....	91
Linda Nielsen, Institute of Law, University of Copenhagen, Denmark	

**Education in bioethics:  
initiatives of the European Union ..... 95**  
Line Matthiessen, European Commission, DG Research,  
Directorate E – Life sciences, policy aspects – bioethics, Brussels, Belgium

**Bioethics education in Industry ..... 107**  
Lene Lange, Science Director, Molecular Biotechnology,  
Novozymes A/S, Denmark

**Problem based learning in medical ethics:  
possibilities and problems ..... 111**  
Jan Helge Solbakk, Center for Medical Ethics,  
Faculty of Medicine, University of Oslo, Norway

**Methods of teaching bioethics ..... 121**  
Birgitta Forsman, Department of Philosophy,  
Lund University, Sweden

**Teaching bioethics  
group report and final discussions ..... 135**  
Helge Klungland, Faculty of Medicine, Norwegian  
University of Science and Technology, Trondheim, Norway

# Introduction

Ethical issues in biotechnology and medical research have in recent years become increasingly important topics of concern and debate. Developments in biotechnology have been fast and have brought with them a number of ethical problems. As obvious examples one can take the unexpected advances in cloning techniques and embryonic stem cell research. These are also good examples of issues where both biological and ethical aspects of application are much debated, not only by biotechnologists and ethicists but also by the general public. For such general debate to be fruitful there is need for dissemination of reliable information on both biotechnological and ethical aspects of the issues. The technologies must be clearly described and the real ethical problems clearly defined.

With the intensifying bioethical debate, the need for substantial education in bioethics at the university level has also become apparent. The need for education is, however, by no means restricted to the universities and applies at least to all those groups that potentially take part in making decisions on bioethical issues. Bioethics is already a part of the curricula in many medical, health care and science departments in the Nordic countries. However, there is no consensus on how to conduct this teaching, e.g. whether there should be special courses on bioethics or integration of ethics into traditional courses. There also seems to be a lack of well qualified teachers of bioethics.

With the quite urgent need for bioethical education in mind, the Nordic Committee on Bioethics last year decided to organize a seminar on the teaching of bioethics. The main themes of the seminar were to define the need for bioethics, to describe the present status of education in bioethics in the Nordic countries, to describe and compare different approaches to teaching bioethics in the Nordic countries, and to consider a common Nordic approach to promote education in bioethics.

The seminar was held at Schaeffergården in Gentofte, Denmark, 26-27 November 2001. It was attended by about 40 guests and committee members

from the Nordic countries, including the speakers, and 6 guests from the Baltic countries.

This report contains the introductory lectures given by the invited speakers and a summary of discussions which were carried out in four discussion groups on the second day of the seminar.

March 2002

Guðmundur Eggertsson

Chairman of the Nordic Committee on Bioethics

University of Iceland

Reykjavík



# Introduktion

De sidste år har der været voksende opmærksomhed og debat omkring etiske spørgsmål i forbindelse med bioteknologisk og medicinsk forskning. Adskillige etiske problemstillinger har fulgt med den hurtige udvikling indenfor bioteknologiområdet. Den uventede fremgang indenfor kloningsteknik og forskning i stamceller fra fostervæv er tydelige eksempler på dette. Begge disse områder er også områder, hvor både biologiske og etiske aspekter ved anvendelse af forskningsresultater er genstand for stor diskussion, ikke kun blandt bioteknologer og etikere men også blandt offentligheden. Hvis den offentlige debat skal være frugtbar, er formidling af information om både de bioteknologiske og etiske aspekter i denne forbindelse afgørende. Der må redegøres meget nøje for teknikken, og de etiske problemer defineres tydeligt.

I takt med den voksende debat bliver behovet for grundlæggende uddannelse i bioetik på universitetsniveau mere og mere påtrængende. Behovet for uddannelse er dog ikke udelukkende begrænset til universiteterne, men gælder alle de instanser som eventuelt vil deltage i beslutningsprocesser på det bioetiske område. Bioetikken indgår allerede som en del af pensum på mange medicinske, sundheds-, og naturvidenskabelige uddannelser i de nordiske lande. Der er dog ingen overenskomst om hvordan denne uddannelse skal praktiseres, d.v.s. om den skal være i form af specielle kurser om bioetik, eller om uddannelsen i etik skal integreres i den traditionelle uddannelse. Der ser også ud til at være mangel på kvalificerede lærere på det bioetiske område.

Med udgangspunkt i behovet for uddannelse indenfor bioetik besluttede Nordisk komité for bioetik at arrangere et seminar omkring undervisning i bioetik. Seminarets hovedtemaer skulle være; definition af behovet for bioetik, at beskrive den nuværende status indenfor uddannelse i bioetik i de nordiske lande, at beskrive og sammenligne de forskellige måder undervisning i bioetik praktiseres på i de nordiske lande, og at overveje fælles nordiske retningslinier med hensyn til uddannelse indenfor bioetik.

Seminaret blev afholdt på Schæfergården i Gentofte i Danmark, dagene 26.-27. november 2001. Der var omkring 40 gæster og komitémedlemmer fra de nordiske lande, inklusive talerne og 6 gæster fra de baltiske lande.

Denne rapport indeholder seminarets indledende forelæsninger samt en sammenfatning af de fire gruppediskussioner fra seminarets anden dag.

Marts 2002

Guðmundur Eggertsson

Formand for Nordisk komité for bioetik

Íslands Háskóla

Reykjavík

# What is bioethics?

Dag E. Helland, Department of Molecular Biology, University of Bergen, Norway

## Introduction

The increasing interest in bioethics over the last ten or twenty years can be demonstrated in different ways. The world leading weekly scientific journals Science (published in the US) and Nature (published in the UK) have in almost every issue over the last years had articles and comments dealing with bioethical questions. By the year 2002 the word bioethics has become a commonplace.

Most nations in the western world have over the last years established different committees dealing with the development of biotechnology and how the society should react to the new technologies. A number of countries also have passed laws to regulate the application of new biotechnological knowledge. Within the EU there are committees dealing with bioethical questions and working on legislations to regulate biotechnology in the member states. And within the Nordic countries there has been a Committee on Bioethics organized through the Nordic Council of Ministers with two members appointed by the government in each of the five Nordic countries.

In addition several universities have developed courses for teaching bioethics at different levels and also organized centers focusing on research in bioethics.

During the last years a number of elementary and more advanced textbooks with titles like “Introduction to Bioethics”, “Basic Bioethics” or “History of Bioethics” have been published to support teaching of this subject.

Through the Internet there is a vast access to different programs related to bioethical questions and to different organizations and centers dealing with bioethical questions.

In recent years there have been numerous international meetings covering different aspects of bioethics and often focusing on specific subjects such as xenotransplantation, GMOs, cloning or stem cells, following the development in biotechnology.

Bioethics is definitely a growing field, making it important to be taught at different schools and universities. That is the background for this meeting and the following publication.

## What is bioethics?

In spite of the growing interest in bioethics and implementation of bioethical evaluations in different research programs and policymaking processes, a clear definition of what bioethics is, could or should be, is not universally agreed on.

The word *bioethics* consists of two parts derived from Greek: *bios* meaning life and the adjective *ethicos* meaning good or bad, right or wrong. Ethics is the philosophy behind moral or the theoretical basis for moral (moral derived from the Latin word *moris* meaning manners). Based on this, bioethics should deal with ethical problems of life and also of death since death is a function of life. Ethics deals with values and bioethics should therefore deal with values related to life and life processes. The main problem getting a clear definition of bioethics is therefore the definition of life. It is beyond the scope of this essay to go into defining what is meant with the concept *life* in a broader context.

One of the first formal definitions of bioethics to be found in the literature is given by the philosopher Samuel Gorovitz in *The Monist* 60 in January 1977 in the article “Bioethics and Social Responsibility”. He defines bioethics as *a critical examination of the moral dimensions of decision-making in health-related context and in contexts involving the biological sciences*.

This is a wide definition of bioethics including all medical and biological procedures, politics and priorities in the past, present and also into the future.

Is such a wide definition useful? It is definitely clear that a more narrow definition is often used and the concept of bioethics limited to ethical problems related to the research and application of modern biotechnology based on developments in cell biology, molecular biology and gene technology.

Medical ethics is by itself complex and can at least be divided into clinical medical ethics, institutional medical ethics and health care ethics; all three areas covering many different subdisciplines.

A more narrow definition of bioethics could be limited to ethical questions related to research and application of biotechnology in medicine and biology, implying that *bioethics focuses on problems related to the impact of modern biology, based on the development of molecular biology, on humans, animals, plants and the environment.*

It is not the goal of this essay to go into a detailed discussion of the different definitions of bioethics. However, one way of approaching the problems raised by on one side a wide and on the other side a more narrow definition of bioethics could be addressed by asking what should not be included in the definition of bioethics.

Furthermore it is important to distinguish between risk evaluation and risk assessments on one side and ethical problems on the other side. A risk benefit analysis is important but fundamentally different from an ethical evaluation of a new technology or procedure. Operations or actions resulting in a high risk of harming people, animals or the environment, unnecessarily and with no benefit of any kind, is by itself unethical, independent of any ethical questions related to the action or operation.

Development of bioethics requires the cooperative efforts of philosophers, physicians, scientists, lawyers and theologians as well as social and political scientists. Committees on bioethics are usually constituted of people from these different areas, and quite often some laypersons are also participating.

Since no one single field can claim they own the territory of the study of life, bioethics is definitely interdisciplinary.

In Norway several of the issues raised in bioethics have been discussed in so called laypeople conferences and the conclusions from these conferences have been published. It is interesting to observe that the conclusions from such conferences do not differ fundamentally from conclusions reached by more professional groups! This indicates that both professional groups and layperson groups base their conclusions on some fundamental ethical values.

At the different seminars and conferences organized by the Nordic Committee on Bioethics the issue of a Nordic dimension in bioethics has been addressed. From these discussions it can be concluded that there definitely is something which can be called a Nordic dimension in bioethics. This dimension is complex and connected to issues like religion, history, language, ethnic homogeneity and similarity, population size and geography. It has been difficult to pinpoint the exact nature of the Nordic dimension. However, experts from the Nordic countries, which have experience from serving in EU committees, have all observed clear differences between participants from different parts of Europe, especially in their strategy of approaching bioethical problems and questions. These differences should be of great challenge and are of importance in developing more universal views on how to solve bioethical issues.

Following the 11<sup>th</sup> of September terrorist attacks in the US and the threat of bio-terrorism, discussion of bio-weapons will for sure be included as a subject in future bioethical committees and seminars.

## Ethical challenges in modern biotechnology

Modern biotechnology, and also to some extent developments in medicine, is based on progress in molecular biology and gene technology. Based on these developments bioethics has evolved. In order to give a meaning to the concept of bioethics, a good understanding of the biology behind these developments is necessary. Following are examples of the different problems dealt with by bioethical committees over the last ten years. These examples in a way define what bioethics is in practice.

### *The rise of gene technology*

The first and rather simple experiments conducted in the early seventies when DNA was cut into defined fragments by the newly discovered restriction enzymes and ligated into the small bacterial chromosomes called plasmids, led to a partial moratorium initiated by the scientists involved. They organized two conferences at Asilomar in the US in 1973 and 1975 where they discussed the risks involved in working with viruses and making recombinant DNA molecules. Following this meeting, a general public awareness was aroused, leading to guidelines for recombinant DNA work in sev-

eral countries. Most scientists performing recombinant DNA work followed these guidelines even if no national guidelines had been made. Norway got its Law on Gene Technology in 1993.

During the 20 years of development of recombinant DNA technology there is no evidence of any unique hazard associated with this technology. Throughout these years millions and millions of different recombinant DNA molecules have been generated in the laboratories. Most of these molecules have been constructed so that they only can replicate in specific laboratory model organisms.

Questions have been raised whether man is playing God by creating such new recombinant DNA molecules. Most people with a scientific understanding of the nature of the genetic material and its ability to recombine will say no to such questions. However, it is difficult to give a simple answer or evaluation.

The different problems initiated by the development of recombinant DNA technology were the first questions concerning bioethics, using the more limited definition of bioethics as discussed above.

#### *GMOs and genetically modified food*

Following the work with recombinant DNA in simple laboratory model organisms like the bacterium *Escherichia coli*, techniques were also developed to genetically modify other organisms (GMO). Depending on the organism and the purpose of the modification, different techniques had to be developed.

Microorganisms have been modified to study basic scientific problems, to produce different proteins in vast amount for further characterizations or for use of the proteins as therapeutic agents. The first proteins to be made for therapeutic use were human insulin and human growth hormones. Two decades ago it was generally thought among scientists and within the pharmaceutical industry that a large number of pharmaceutical agents could be produced in microorganisms. This has turned out not to be true and much more difficult than first expected. Today only one human vaccine, the Hepatitis B vaccine, is produced in yeast.

Genetic modification of plants turned out to be rather easy and today several thousands of different transgenic plants have been created in the laboratories. There are several purposes for making the transgenic plants and these can be listed as follows:

- To study basic biological problems. Most transgenic plants have been made for this purpose.
- To increase the stability of the products. Tomato plants were genetically modified for this purpose. By destroying the gene encoding the protein responsible for ripening, the ripening process was slowed down.
- To change the quality of the products. A good example is plants producing flowers for decoration. By introducing genes encoding enzymes which change the metabolism of the compounds giving the different colors, flowers with new colors can be produced.
- To optimize growth under different conditions. Plants can be modified in a number of different ways to accept growth under more extreme conditions than they usually grow at.
- To create plants resistant to herbicides and to insects. It is not easy to spray a field with herbicides without killing or affecting the plants of commercial interest. Introducing into plants genes encoding enzymes, which abolish the effect of herbicides, is an efficient way of avoiding their negative effect. Then higher concentration of the herbicide can also be used.

Insects have always been a problem for plant growers and it is difficult to get rid of them. Spraying is an often used strategy. However, the compounds used as insecticides are almost always also toxic to humans or animals eating the plants. Introduction of a gene from a bacterium encoding an insecticidal protein has been a widely used strategy to create plants resistant to attacks from insects.

So what are the ethical problems related to the use of transgenic plants? Several questions have been asked: Will introduction of one or a few genes make other changes to the plant than the one or few planned and will these unknown modifications render the plant less suited or unhealthy as food? No



clear answers can be given to these questions since there are not enough studies conducted and the problems raised are of a rather complex nature.

Another important question is: Will the genes introduced to the crop plant be transferred to related species? This could be a serious problem if the genes for herbicide resistance were transferred to other species. Another aspect that has been addressed is: has the consumer the right to know if the food bought contains GMOs or products thereof. In Europe there is more or less a consensus regarding labelling of food from GMOs while in the US the discussion on this issue has only started more recently.

The questions briefly mentioned above are typical examples that need a wide bioethical evaluation based on ethical as well as biological understanding.

Transgenic animals have also been made for different reasons:

- To study basic biological problems and to create model organisms for medical experiments. Most transgenic animals have been made for this purpose. The most used technique is to produce *knockouts*. These are animals where a gene has been disrupted allowing direct studies of that specific gene and its gene products both through development and in the adult animals. This technology has been used to answer a number of important biological questions and is a general strategy to study genes of unknown function.
- To create animals for production of pharmaceuticals. Milk producing animals, like cow, sheep and goat, secrete proteins in their milk. Several experiments around the world have been conducted to produce transgenic animals secreting proteins of pharmaceutical interest in their milk. So far this has not been a great success.
- To create animals for xenotransplantations. In parallel with the progress in transplantation surgery there has been an increase in the demand for organs to be transplanted. As long as artificial organs are not available, several scientists have been engaged in experiments to genetically modify animals like the pig so that tissues or organs from the modified species will not be easily rejected when transplanted into humans. So far this has not been a success.

- Furthermore it was shown in 1997 by several groups that endogenous retroviruses in the pig genome can be activated and can infect human cells. Such infections could cause new human diseases and be widely spread. Therefore the interest and optimism in xenotransplantation has been strongly reduced in the last three to four years.
- To optimize growth under different conditions. Fish farming is a world wide and growing industry. If the fish could grow faster, be fed more efficiently and be resistant to infection by microorganisms, the economy of fish farming would be strongly improved. Several transgenic fish have been produced. However until now this has not played any important practical role. In Norway the fish farming industry has resisted research on transgenic fish as it is believed that GMO-fish will be difficult to sell.

Bioethical evaluation of making transgenic animals is a difficult issue. Since there is opposition against using animals for medical research, there is also opposition against producing transgenic animals. A fundamental and fundamentalistic question is: Are animals and humans on the same moral level with respect to how they can be treated?

This is a difficult question that has to be dealt with in bioethics.

### *Gene Therapy*

The first experiments on gene therapy in humans were done around 1990. Gene therapy is a procedure where either a defect gene is replaced by a complete gene or a therapeutic gene is introduced on a vector into a cell, either allowing the cell to produce important substances or, for cancer therapy, to kill the cell. It has been proposed on theoretical grounds that gene therapy can be used to treat inheritable diseases, diseases caused by infections of microorganisms, and cancer. Possibly genes introduced in this way can also be used for vaccination.

Gene therapy is generally divided into two different groups:

- Changing the genetic material in somatic cells
- Changing the genetic material in germ cells

In the first case the genetic modification can not be inherited to the next generation. There has been very little general opposition and basic bioethical discussion connected with such an approach. In the other type of gene therapy the genes of interest are introduced into the gametes or soon after fertilization. The genetic modification will be inherited in the same way as discussed above for transgenic animals (e.g. knockout mice). Some scientists have argued for such therapy although in general there is much opposition. In Norway such treatments are prohibited by law.

Since the start of gene therapy experiments there have been many setbacks, and although many scientists think it will be possible in the future, there is a number of obstacles to be overcome before gene therapy is efficient enough for more general use.

#### *Genomics, gene testing and bio-banks*

Starting in 1995 the complete gene sequence of almost 100 different microorganisms will have been published by the end of year 2002. In addition, the genome of the eukaryotes yeast, the fruit fly, a nematode, a plant genome and the human genome have also been sequenced. Soon the mouse genome will be included on the list.

Genetic testing of a number of different genes is now everyday practice and genetic testing can be divided into:

- Forensic medicine
- Preimplantation testing
- Prenatal testing
- Postnatal testing
- Disease related testing
- Risk evaluation / screening

Application of gene analysis in forensic medicine has solved many difficult cases and there are few ethical problems related to this application.

Genetic testing of the embryo prior to implantation is ethically very complex and is the first step toward selecting the genetic constitution of the person to be born. The same is true for general prenatal testing.

Postnatal testing is fundamentally different since here the person, if not a child, can choose to be tested. Such genetic testing can be related to a disease in order to get more detailed information about treatment and prognosis. General screening for certain diseases is still difficult but it has been important to study the inheritance of some diseases.

In the future genetic testing will be widely used and the purpose of testing and the question of who should have access to the data have to be evaluated by ethicists.

Biobanking is important for many different medical investigations and several countries are now developing legislation to regulate the use and access to biobanks.

### *IVF and cloning*

Assisted fertilization (In Vitro Fertilization; IVF) was first developed as a practical approach for breeding farm animals. Based partly on this technology it also started about 25 years ago to be applied to persons with problems getting pregnant. Several different techniques are available dependent on the medical problem.

In 1996 the cloning of the sheep Dolly was reported. Dolly had the same genetic background as an adult animal. Clones of organisms are genetically identical. Cloning is well known from microbiology and plant breeding and occurs also in some lower animals. However, the cloning of Dolly was the first documented case of the cloning of a mammal. The technology for cloning Dolly was based on the experience from IVF and some techniques from cell biology.

IVF technology and cloning of animals are definitely of importance for basic biological and medical research as well as for the agricultural industry.

The ethical questions mainly concern applying these technologies to humans. There are scientists claiming they are ready to start cloning humans! The scientists behind the cloning of Dolly are opposing cloning of humans both for the reason that there is a very high risk of getting deformed individuals and furthermore for ethical reasons.

IVF technology can not only be used to help parents without children. It can also be used to let another woman carry the child – a surrogate mother.

Another important problem related to IVF is that in order to get a pregnancy, several fertilized eggs have to be implanted giving the possibility of several babies.

The uses of IVF technology have to be analyzed continuously by bioethicists.

### *Stem cells*

Research on stem cells has been going on for many years but due to recent advances in establishing stem cells from fetuses this has been an important new field of research. Studies of stem cells will help understanding the development and function of organs in mammals. These studies may also offer a way of treating different diseases for which there is no cure available. The main problem stem cell researchers have working with human stem cells is the accessibility of enough fertilized embryos and fetuses. For some experiments there is also a need to create new embryos by cloning, a procedure called therapeutic cloning as cells derived from such embryos can possibly be used for treatment of several human diseases. Studies and application of stem cells derived from adults raise only a few ethical questions and little debate. However, studying stem cells from fertilized eggs, embryos and fetuses raises difficult ethical questions related to the value of the unborn.

### *Patenting life*

Discussions around problems related to patenting cells, microorganisms, genes and gene sequences have been central to bioethical committees. Different countries have different laws or regulations for this. Committees organized through the EU system have played an important role in standardizing the debate and implementing rules and regulations. This is definitely a question, which has to be dealt with at international levels.

The basic problems are to what extent life processes can be patented and to define the differences between the discovery of such processes and other more technical inventions.

### *Facts and myths / Hope and hype*

Can the scientists and the pharmaceutical industry keep their promises? Or asked in a different way: is there too much optimism in biotechnology? And should the different promises be scrutinized by ethical evaluations?

In 1984 the etiological agent causing AIDS was identified. The genome of the virus, now given the name HIV, was sequenced less than one year later. Leading scientists promised a vaccine and efficient drugs within a few years. Still we are far away from getting a vaccine and the drugs available are not very efficient! Are such promises morally wrong?

Gene therapy, when first introduced 12 years ago, was promised to be developed to cure a number of different diseases. Today nobody can for sure say that this is a therapy for the future.

The possibility of xenotransplantation was a promise to those waiting for organs to be transplanted. Today, for several different reasons, there is not much progress in developing this technology.

Genetic screening for different diseases has turned out not to be as efficient as first promised.

And finally, development of therapies based on stem cells either from adults or embryos is the latest technique promised to make it possible to develop therapies for a rather large number of diseases where no therapy is available today. Is there any reason to believe that the scientists promoting these studies are right this time? And are the promises so well founded that one should allow research on fertilized human eggs or embryos and produce embryos exclusively for such experiments.

Experiments using transgenic animals have shown that the effects after knocking out genes or inserting extra or new genes, are different from what was expected indicating that gene regulation is much more complicated than anticipated.

The problem of false promises is based on the complexity of the living cell and the living organism. The development of molecular biology, gene technology and cell biology is based on reductionistic thinking and approach to the study of biological phenomena.

This approach has been extremely fruitful.

But applying this technology is to go in the opposite direction – from a simple system to obtain such a complex effect as curing a disease by introducing one or a few genes into a cell or implanting selected cells derived from stem cells into an organ like the brain (for Parkinson Disease). These genes or cells have to operate and interact with other genes and cells in a body consisting of many trillions of cells.

### **How should bioethics be included in research programs and curricula?**

All students in biology, medicine, agriculture and similar subjects should get some teaching in bioethics. First of all it is important that they get an introduction to the current debate in their own country as well as to the general international debate.

For the students to be prepared to participate actively in the discussions, create their own independent standpoint and be able to argue for these, it is of importance that they get a good introduction to ethics and the way ethicists approach the problems of bioethics.

Subjects like risk evaluation and assessments and animal ethics also have to be included in the curricula.

For medical students bioethics will most often be included in their more general training in medical ethics. Problems related to specific subjects like gene therapy, xenotransplantation, cloning, stem cells and biobanking should be used as case studies in such teaching.





# Why do we need bioethics?

Göran Hermerén, Department of Medical Ethics, Faculty of Medicine,  
Lund University, Sweden

## Social changes

First, as a starting point, a brief reminder. During the last few decades, a number of important social changes have taken place, including:

Liberalization

Demographic changes

Improved educational opportunities

Globalization

Active press and other media

Immigration

New technologies

All such changes, including the downfall of totalitarian regimes, mean that ethics has come to stay. People want to choose for themselves, not to be told. Improved education has made this possible. Clashes between cultures and lifestyles due to immigration and globalization have made cultural differences more explicit, and finding a way of handling them more urgent.

An increasingly active press exposes wrongdoing and suffering more openly now than before. New, powerful and effective but also potentially menacing technologies (IT, gene technology, nuclear technology) have challenged our ethical intuitions and put new questions on the agenda.

## Analysis of the problem

The problem in the title above is not one question but several ones (like the well-known “Have you stopped beating your wife?”). It can be broken down into at least two main issues, which in their turn raise further questions:

Do we need bioethics?

a) Who are “we”?

This question is relevant since some may need bioethics, others may not.

b) Bioethics – in what sense?

Bioethics in certain senses may be needed by some, whereas they may not need bioethics in other senses of that word.

c) Bioethics – taught when and in what way?

The idea is simply that there might be a considerable need for bioethics taught in certain ways, and little or a much smaller need for bioethics taught in other ways. So something has to be said also about this aspect of education in bioethics.

What are the reasons for this view?

a) Which are the reasons actually offered?

b) Which reasons are tenable and relevant?

The first of these questions can be narrowed down by specifying when, where and by whom the reasons have actually been offered. Not all these reasons are likely to be both tenable and relevant. Besides, there could be tenable and relevant reasons which have not been suggested in any article or debate yet.

Such an analysis of the problem and a clarification of the key terms of the sort attempted below is necessary, since Lars Hertzberg and I may otherwise be talking at cross purposes. Having read his articles – some of them at least – on this subject, I think our differences are not as big as they might appear.

### Definitions of ‘medical ethics’ and ‘bioethics’

According to one usage, the terms ‘medical ethics’ and ‘bioethics’ are synonymous. Sometimes the term ‘biomedical ethics’ is used in roughly the same sense. According to another usage, which I favour, they are NOT synonymous.

My idea is then that the term ‘medical ethics’ is defined roughly as follows:

Interdisciplinary teaching and research discipline which critically, historically and analytically identifies and examines moral and ethical aspects of (decisions concerning) health care and medical research.

It follows from this definition that clinical ethics, dealing with the day-to-day moral decision-making of those caring for patients, typically focusing on individual cases, and seeking to determine what should be done here and now with a particular patient, is part of medical ethics but not identical with it. The definition covers also political, organizational and economic decisions concerning, for instance, resource allocation and administrative changes, affecting such decisions.

In the literature (for example, in the writings of Samuel Gorowitz), there are definitions similar to this particular definition above, which is drawn from the Swedish National Encyclopaedia. Of course, both 'medicine' and 'medical' can be understood in somewhat different ways, so there are some variations of meaning also within this general definition (1).

'Bioethics' can be defined more or less narrowly. In a narrow sense, 'bioethics' could be defined as follows:

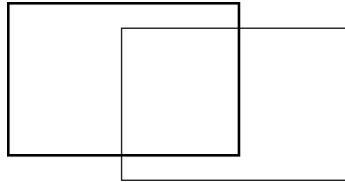
*The study of the ethical problems raised by production, uses, and biotechnological modification of micro-organisms, plants and animals in agriculture, pharmaceutical industry or food production.*

Biotechnology is here understood to include any technique that uses living organisms to make or modify products, to improve plants or animals, or to develop micro-organisms for specific uses. Biotechnology has been used to make new pharmaceuticals, vaccines, and foods, to develop organisms to destroy toxic waste, and to make agriculture more productive.

Examples include use of micro-organisms to combat unintended release of oil, phenol, DDT, PCB, and some kinds of dioxin, development of tomatoes resisting attacks from certain bacteria by transfer of genes producing toxin in the leaves of tomato plants which may kill insects attacking these plants, use of BST (bovine somatotropin) to increase milk production 10-20 % in cows, and production of human coagulation factor IX in milk produced by sheep.

Essentially, 'bioethics' is then understood as 'the ethics of biotechnology' or possibly (and somewhat wider) as 'the ethics of the life sciences', in particular biology. In that case, the relations between the meanings of 'medical

ethics' and 'bioethics' can be illustrated by partly overlapping rectangles, where the overlapping area is more or less empty.

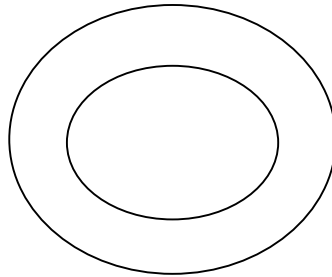


But if 'bioethics' is defined more widely as 'the intersection of ethics and the life sciences', and if medicine along with biology are included in the life sciences, obviously the area where the rectangles overlap will not be empty.

A somewhat wider sense is illustrated by a definition in a dictionary of philosophy (2), where 'bioethics' is defined as:

*The branch of ethics that investigates problems specifically arising from medical and biological practice. These include problems of the nature and distribution of treatment, the sphere of authority of the patient, the physician and others, the limitations of acceptable intervention and experimentation (see abortion, euthanasia), and the propriety of genetic research and its applications.*

In this wider sense, 'bioethics' covers everything encapsulated in the definitions above, and ultimately also ethics of the ecosystem, including medical ethics (as defined above). Then the meanings of the two key terms are related to each other as one circle inside a bigger one. I will here use "bioethics" in that wide sense, including 'medical ethics'.



The need of bioethics will be different, if ‘bioethics’ is used in the narrow sense ‘ethics of biotechnology’ or in the wide sense ‘ethics of the life sciences’, where the life sciences include not only medicine and biology but also medical and biological practices, as well as political, organizational and economic decisions affecting such practices.

Incidentally, an interesting difference between bioethics and medical ethics, in the senses understood here, is that in medical ethics it is often helpful to ask the different people involved in a case to imagine that they change places, for instance, doctors (or administrators, economists, politicians) to put themselves in the shoes of relatives and patients, to consider how they would want to be treated and what they would want to know, if they were in a different position, etc.

But this strategy is not always helpful in bioethics. The reason is obvious: there can be no dialogue, no changing places between persons and micro-organisms, not even between persons and plants. We can modify plants and micro-organisms genetically, but they cannot modify us genetically. In other words, we are not on equal footing.

Practical medical ethics is based on the ideal of reciprocity and on the conception that all human beings have an equal right to moral consideration. The perspective is therefore often anthropocentric. But an anthropocentric perspective is too limited in bioethics. In the end, we ultimately have to consider and evaluate the effects of e.g. genetic modifications of micro-organisms, plants and animals on the entire ecosystem.

Finally, in these introductory remarks, I am also assuming a distinction between ethics and morals, according to which the

**morals** of a person or group shows itself in what they are doing – and refrain from doing, whereas ethics is the theory of morality in the sense that **ethics** focuses on the identification, analysis, interpretation, systematization and critical examination of the reasons and principles used to justify such actions and omissions.

This distinction makes it possible to distinguish conceptually between Kant's morals and Kant's ethics, and indeed between anyone's morals and ethics, which certainly need not be identical.

## Conceptions of bioethics

In any ethical analysis, premises of different kinds are needed. And the premises can be used in several ways. Without any claim of completeness, I'll here distinguish between two conceptions of bioethics as a point of departure.

### *(a) The engineer model*

Information, factual knowledge  
Value premises (ethical theory)

---

### Conclusion

Example: as a starting point, hedonistic utilitarianism can be used in combination with standard logic plus the facts of the case, to derive mechanically conclusions concerning abortion, euthanasia, assisted suicide, prenatal diagnostics, genetic testing, gene therapy, etc ...

This model is based on the assumption that people think, or ought to think, according to a particular ethical theory, such as hedonistic utilitarianism, or according to some combination of ethical theories, or at least on the assumption that people are rational and consistent in their thinking and preferences, or ought to be rational and consistent.

In the next conception, the starting point is similar but the focus is different.

## *b) The Socratic model*

Information, factual knowledge

Value premises (of the decision-maker and those concerned)

---

Conclusion

Here focus is on interpretation of the information, on knowledge gaps, on tacit premises of risk analysis, on the relations between the value premises of the decision-makers and those concerned, and on their relations to norms and values generally (but not universally) accepted in society, on political and social context at large, on personal responsibility, on making people less blind to ethical aspects, ...

### **Areas of application**

I do not want to say or suggest that one of these conceptions is 'correct' and the other is not. (Indeed, it is not obvious what 'correct' means in this context.) Rather, they have different areas of application. Since one particular conception may be quite useful, given one area of application, and the other may also be quite useful given a different area of application, it is essential to specify the area of application and the intended use of the conception clearly. Otherwise we may be talking at cross purposes.

#### *Application area 1*

Focus is on moral education, character formation, and on improvement of moral competence and moral sensitivity. Here some key questions are: Who am I? Who would I want to be? Which virtues ought I to have? What does moral competence require? What character traits are essential to me as a human being, and as a professional working with certain health care problems? Or as a relative caring for a family member at home? How can my empathy and moral sensitivity be improved? The idea is that we all need to prepare ourselves for responsible actions and to improve our moral competence.

#### *Application area 2*

Focus is on exploring the consequences of certain normative alternatives: ethical theories such as hedonistic or preference utilitarianism, theories

based on rights and obligations, including normative proposals suggesting a particular ranking order between well known principles like autonomy and justice. To explore such consequences is an important and legitimate task in the philosophical seminar room. Given a certain ethical theory, the problem to be examined is: what will the consequences of this theory be, if applied to the medical or other situation X, given certain assumptions about the facts of the case. Here the situation serves to illustrate the theory.

### *Application area 3*

Medical decision-making, given that the responsibility for the decision rests with the physician in charge. A related area of application is decision-making in social work (3). The doctor in charge cannot get away from his responsibility and leave the decision with the relatives, with an ethics committee or an ethicist, at least not in my country. Given the complexity of the issues, the doctor may need to discuss with others, and sometimes the doctor could use some brainstorming, to help him or her make a decision that will survive the most obvious objections and for which the doctor will have to take responsibility.

### *Application area 4*

Here focus is on policy issues in society at large. In our Nordic countries they are typically decided by the parliament but often prepared by governmental commissions, “white papers” etc., with an ethical analysis of the issues – and an overview of the consequences of various positions. Finally one position is recommended or suggested, like in the reports on xenotransplantation or on priority setting and resource allocation prepared in the Nordic countries. Policy-shaping and regulatory issues also involve development of guidelines for the use of human subjects in medical research, or guidelines for research on foetal and embryonic stem cells, hospital rules for “do-not-resuscitate”-orders, and so forth.

By making the area of application clear, it will also – by implication – be clear who the “we” are in the title of my talk.

Many current controversies between adherents of various kinds of ethical approaches (situation ethics, virtue ethics, principle-based ethics etc.) are characterized by communication at cross-purposes. The reason is that the



implicit goals in these various areas of application are not made explicit, or that it is too often taken for granted that one particular approach is the only correct one, and all others are completely mistaken – instead of seeing that there are several different application areas. In that case, one approach can be relevant and fruitful in one of these application areas without necessarily being so in all others. (In saying this, I do not assume that there are sharp boundaries between the various application areas, but this is not the place to dig further into these demarcation problems.)

### Education in bioethics – how?

Whether and to what extent we need bioethics depends to a considerable extent not only on what is meant by ‘bioethics’, but also on *when* and *how* education in bioethics is offered. Even if others at this conference will address this issue in more detail, a few brief comments in passing will be relevant also to the question I have been asked to address. How is the teaching to be done? A model we have tried for many years now at the University of Lund in the education of medical doctors is to organize courses in bioethics as a recurrent theme of lectures and seminars, and to work with two teachers present at the same time, one clinician and one ethicist (4).

Why a recurrent theme? The problems should be presented when they are relevant to the students, and when the students are ready for them. For instance, problems about abortion, prenatal diagnostics, are presented and discussed when medical students take their courses in obstetrics and gynaecology. The integrity of the dead body and its ethical implications are discussed when autopsies and dissections are studied at the department of pathology. Similarly, the idea is that ethical aspects of genetic testing and screening are discussed when medical students do their courses in clinical genetics. The integrity and autonomy of children, research on children and neonatal intensive care are discussed when medical students take courses in paediatrics, ethical aspects of transplantation (procurement of organs, allocation of organs) are presented when the students are at a different stage in their education, and so forth.

Why two teachers? There are several reasons for this. The most obvious one is perhaps this. The clinician is able to answer certain questions (to explain

details in the patient's record, to clarify why this test was taken, why not that,...). An ethicist trained in analyzing not only value conflicts but also conceptual, and epistemological issues can help to answer other questions, as well as to make explicit hidden value assumptions and value conflicts. Moreover, the ethicist may help to explore the consequences of various normative alternatives and to problematize some suggestions put forward in the course of the discussion with the students; and both teachers can together further a constructive dialogue with the students.

Another reason is that in earlier evaluations we found an interesting discrepancy between the (quite considerable) number of hours clinical course leaders said they devoted to discussions of ethical issues and the (much less) number of hours students of these courses considered had been spent on ethical issues. When we looked closer into this, the explanation seemed to be that the students and their clinical teachers had different conceptions of ethics. While many of the latter considered socialization into medical culture, finding out about the attitudes of the people involved, and presentation of current practices ("this is how things are done") to be ethics, the students wanted reasons, analysis of underlying value conflicts, and time for critical discussion and reflection on current practices.

Concrete and specific examples are important. Moral problems and moral decisions need to be put in context. Small changes in the diagnosis or prognosis, small variations in the situation, or in our understanding of it, can have great consequences for the decision. Besides, a clinician is always confronted with particular problems: an individual patient with a particular diagnosis and prognosis, which may change over time. Something has to be done, but what? Medical doctors are trained in the natural sciences, but on the whole their ways of thinking are very different from those of physicists or chemists. The clinician's focus is on specific problems, not on abstract models, theoretical constructions or general conclusions. Successful teaching in bioethics has to take that into account. Already Kierkegaard pointed out quite correctly that if you want to move and guide a person, you have yourself first to come to where that person is.

An additional advantage is that analysis of a specific example will help to focus on the intriguing problems of risk perception, communication of risks,

and risk management in particular situations. To be able to do so successfully, we have to consider not only the value premises but also the relevant information available, how certain or uncertain that information is, whether what we know from other cases can be applied to this case as well. In that way, we might see conceptual and epistemological problems we might have missed, if the problem had been discussed in general terms.

How can teaching be improved? How could education in bioethics be evaluated? In the same way as other kinds of education is evaluated – evaluation of courses have been carried out in many subjects for a long time, by examining the results and relating them to certain goals, by interviewing participants in the courses about their expectations and whether their expectations have been met, and so forth. There are methods and forms of evaluation that could be used – and have been used, also in bioethics or medical ethics (5).

In other words, the idea is simply, clarify the goals and the expectations – and see to what extent the goals have been reached, then learn from the evaluations, and try to improve the courses in the light of the answers given anonymously – there is hardly any other way. This should be standard practice also in teaching of bioethics and medical ethics. Teaching medical ethics has, by the way, been a recurrent theme in *Journal of Medical Ethics* over the years (see, for instance, 1997:5, 1998:2, 1998:3, 1998:4, 1999:1, 2000:2, 2000:6), so there the interested reader will find much relevant material for discussion – as well as in other journals (6-10). But I will not go into these rather more technical questions here but stick to the basic ones I have been asked to consider.

### Some tenable and relevant reasons

So much for the first question hidden in the title of my presentation. I shall now consider the second one, about the reasons. To identify the reasons, we also have to identify a thesis, for the obvious and simple reason that reasons that are good reasons for one particular thesis may not at all be good reasons for another, somewhat different thesis. Thus, the thesis for which I am arguing is this:

*Bioethics understood and practiced along the lines of the Socratic conception is needed to improve medical decision-making by health care staff, in teaching in medical schools, and for personal development in general.*

This thesis is based on two assumptions:

- 1) we are all affected directly or indirectly by decisions in and concerning health care and medical research,
- 2) there is room for improvement of these decisions from an ethical point of view.

If everything was perfect from an ethical point of view, nothing could be added or improved – then there would be no need for bioethics, except perhaps as a historical discipline.

The implicit idea here is that there is a need for bioethics, if and only if there is (i) a difference between a particular desired state (a goal) and the actual state of affairs in health care and the life sciences (including practices based on them), and (ii) bioethics is necessary to realize that goal or desired state, or at least will help us to come closer to it. The implicit goal is relative to the intended area of application and deserves to be specified in more detail than is possible within this short paper.

This also means that if someone would want to challenge the thesis that we need bioethics, there are in principle three different strategies that could be used: (a) challenge the goal or goals, (b) challenge the description of the actual state of affairs, or (c) challenge the thesis that bioethics is necessary to realize that goal, or at least will help us to come closer to it.

I could also argue for other theses in this area, considering the need for bioethics in other areas of application, but let me begin with this. If we could agree on that, this would be no small thing.

Which then are the reasons for the thesis above? They can be divided into two main groups.

*(a) Positive ones:*

- Education in bioethics can help to bring out the complexity of the issues.

Ethical issues are complex. The information available may need scrutiny. Sometimes important information is missing or can be interpreted in several

ways. Both the choice of value premises and the interpretation and application of the particular value premises chosen may be contested. The conclusions may vary with the value-premises chosen (11). No individual can think of all the aspects. If he or she can, it will take longer time.

- Education in bioethics can help to call attention to the ethical aspects of the issues (which differ from the scientific, legal, economical and psychological aspects).

Education based on model cases or specific examples will help to alert students, doctors and other decision-makers to ethical aspects of the issues which they otherwise might have missed, or would have conflated with scientific, legal, economic or psychological issues.

- Education in bioethics can help to safeguard against the most common criticisms of ethical analyses.

Such education can also help to forestall the most common objections to ethical analyses, including superficial treatment of the problems, lumping together issues that should be dealt with separately, mistakes or gaps in the information, omission of relevant alternatives, neglect of relevant stakeholders, shortcomings in the logic of the argument, the use of counterproductive or incoherent value premises, introducing additional norms tacitly, etc. Since this is an important aspect, particularly considering application areas 3 and 4, I will return to it below.

- Education in bioethics is cost-effective and may be important for the personal development of the students.

The brainstorming that can take place in a group will, as a rule, improve the decision and make it more morally stable – and able to stand the test of time. So education in bioethics is likely to be cost-effective, quite apart from its importance for personal development.

### *(b) Negative ones*

The main thrust of these reasons is to underline that everything in health care and medical research is not perfect from an ethical point of view. If everything were perfect, there would be no room for improvement and no need for bioethics. Thus, they focus on the differences or discrepancy be-

tween the actual state and the goals of health care and the life sciences. Reviewing the literature, we will find:

Complaints from patients concerning communication and therapy (12)  
Long waiting-lines for many treatments (13-14)  
Staff 'burn-out' and dissatisfaction with frequent organizational changes  
Scandals in the history of medical (and other) research (15)  
Well publicized cases of fraud in medical research (16-21)  
Increasing commercialization of medical research (22-24)  
Misuse of power by companies  
Misuse of power by senior researchers  
Selective delay in publication and publication bias (25-30)  
Exploitation of doctoral candidates

The long and winding road (to hell) is often paved with good intentions; good intentions are not enough.

### Motives for opposite views

Motives (as opposed to reasons) for holding a view not compatible with the thesis advocated here can vary and people need not be aware of them. Let me begin by outlining two:

- concern that if there are ethics experts (31), and they are involved in the decision-making, more and more moral problems will be delegated to them, and they will be used as hostage or to legitimate dubious decisions, as well as a concern that those clinicians or politicians who should make the decisions in that way will be tempted to get away from their personal responsibility,
- fear that if there are ethics experts, and they are involved in the decision-making, there will be a shift in power and decreased freedom for the medical professions to decide as they seem fit; paternalism will be undermined, if also others are entitled to express their views and have them respected.

It could very well be the case that concern of the last type is disguised as concern of the first type. (Cf. similar positions as to research ethics and re-

search ethics committees). There are wolves disguised as sheep in many professions and congregations!

## Bioethics – what can be learnt?

Let us make the assumption that physical and mental harm, violations of integrity and autonomy, invasions of privacy etc. as a rule are not brought about deliberately, on purpose, in health care or in medical research. They are rather a result of haste, stress, incompetence, thoughtlessness, ‘moral blindness’, focus on career and money, lack of empathy and lack of time to change places with others, etc. Would then education in bioethics make a difference?

What can be learnt in bioethics? Education in bioethics could help to improve

*knowledge*, about concepts in ethics, about ethical traditions and relevant ethical guidelines, which could help to see and understand the difference between ethical, psychological, legal, medical, economic and other issues,

*analytical skills*, by exercises in identifying ethical problems and analyzing them in a structured and constructive way, to identify assumptions taken for granted in the discussion of the problem, as well as to analyze them given different normative and theoretical premises, and

*attitudes*, by using role plays and brainstorming in groups where people with different perspectives and experiences can meet and can learn from each other, to improve maturity and moral sensitivity, and counteract, in particular, a lack of empathy.

Suppose one would like to specify goals for education in bioethics. Then the list above could be a starting point in several senses. The list makes it possible to indicate not only what particular mix of knowledge, analytical skills and attitudes the education should achieve, but also to specify under each heading what particular knowledge, which analytical skills, and what attitudes the students should get, and how this should be documented.

Obviously, in a bioethics course with a mixture of lectures, seminars, group work and role plays, the participants might learn more about themselves and their reasons and motives for preferring certain options. Students could also

learn more about various normative (Kantian, utilitarian, egalitarian, contractual, feminist, religious, etc.) views and their implications, if applied to problems of bioethics.

Considering in particular application area 3 and 4, that is, medical decision-making and policy shaping, a great deal can be learnt by studying analyses of ethical problems which suffer from one or several mistakes. In that way, something about the complexity of the issues can be made explicit. Moreover, standard criticisms of ethical analysis are instructive to go through, to get away from the misconception that ethics is only about feelings, and there is no rationality, no method or structure (32).

Which are these standard criticisms? One important criticism is that the problem to be discussed is unclear and needs to be analyzed and understood better. Often it is not just one problem but a related family of issues. For instance, in the debate over GM (genetically modified) food, several issues are involved:

- safety issues: are there any health risks involved for the consumers with genetically modified food?,
- information policy issues: to what extent are the consumers entitled to know that the products they buy are genetically modified?,
- control issues: who should exercise control over the industry so that certain standards concerning safety and information are met?,
- structural issues: identifying consequences for the structure of farming and industry, and assessing the risks that it will be more difficult for small units to survive,
- power issues: differences in access to media, in economic and other resources of the parties on which power relationships and exploitation possibilities are based, and so forth.

In each issue, it is important to distinguish between psychological, legal, ethical, medical, and economical problems, since they are solved by different kinds of methods. Conceptual, terminological, empirical, normative issues need also to be separated. If a constructive analysis is wanted, it is nec-



essary to avoid lumping together problems that cannot be answered by the same method or do not have a single answer.

A different criticism is that the analysis of the facts is insufficient: alleged 'facts' are incorrect, important facts are missing or are presented in a misleading way. Thus, we must be prepared to look into the facts in some more detail. The relations between the stakeholders and the people involved in particular cases are often important, and sometimes small changes in the relations can make a big difference for the decision. The same holds for the context at large, including power relations between the stakeholders. This is a point stressed both by those who advocate casuistry (33) and by those supporting feminist approaches to bioethics (34-35). If the starting points are too general, the result will be misleading or not helpful.

Moreover, how certain is the evidence available? On close inspection, some alleged facts may turn out to be hypotheses, more or less well-confirmed. What about uncertainties and gaps in our knowledge? Think for example of the difficulties in quantifying the risk that retroviruses will be activated after a xenotransplantation, and that they might cause a pandemic like HIV. Such a risk is clearly relevant in discussing the pros and cons of xenotransplantation, but the problem in estimating the size of this risk in a non-arbitrary way should not be under-estimated.

A third kind of criticism is that some alternatives of action are missing and not considered. It is clearly also essential to spend time and effort in identifying the possible courses of action. There are almost always more than two possibilities 'Yes' or 'no' to genetic modification of plants or cattle? Here there are several different issues, different ways of genetic modification, different safety regulations, different possibilities of control. 'Yes' or 'no' to patents in biotechnology, gene technology or stem cell research? Here too there are more than two options. There are different ways of protecting biotechnological inventions, not just by patents. And there are different types of patents (product, process). Besides, the conditions for patentability can be construed and interpreted in different ways. And so can exceptions like compulsory licenses.

Also in most clinical situations, there are several options. For example, in the treatment of cancer of the prostate, the available options include radia-

tion, radical surgery, removing the prostate gland, orchidectomy (surgical removal of the testes), or treatment by adding oestrogen or compounds, reducing and/or eliminating the hormone production by the testes. More alternatives could be generated by varying the time points, i. e., when the particular option preferred should be carried out. The important point is that each treatment option also has certain negative side effects, and the risks and the costs vary. Then it is important to find out what patients want and what they will benefit from, taking cultural diversity into account. Similar points can be made about treatment of bladder cancer (36).

Another kind of criticism is that some relevant stakeholders or agents with legitimate interests have not been identified. Almost always more than two parties are involved: not only the farmer and his crop or cattle, but also his family, his customers, the food industries, ...; not only a doctor and his or her patient but other health care staff, the family of the patient, sometimes also (particularly in issues involving medical research) future patients, the pharmaceutical industry, politicians, media, and taxpayers etc.

A further important criticism is that the stakeholders and the agents have not had a chance to articulate their preferences, to state what they want in the short and long terms, after information and reflection. Sometimes, a decision is taken merely on the basis of a guess about what the stakeholders want or what is in their best interest. Of course, decisions have to be taken quickly in certain situations. But there is nearly always time to discuss the matter with some colleague or at least to try to put oneself in the shoes of patients or some of the other agents: “If I were in their position, how would I want to be treated? What would I want to be informed about? Or if it was my mother or father who was the patient, how would I want them to be treated?”

If there is time, as there sometimes is, the best way is often to have a dialogue between the stakeholders. Such a dialogue also represents an important learning opportunity: the participants can not only learn about what others want and about the beliefs on which what the wants of the others are founded. They can also learn about themselves, about their own wants, and the beliefs on which their own wants are founded – as well as about the sometimes shaky ground on which these beliefs are founded.

Finally, of course, in the end an overall decision has to be made, by weighing and balancing various interests against each other, in the light of present knowledge about the facts of the case and in the light of ethical values and principles. The latter can be drawn from ethical theories or from personal experiences and conviction. Here the main virtue is to be explicit. Different values and principles could be ranked differently when taken as a starting point, depending on the nature of the problem (for example, autonomy in controversies over abortion; justice, in controversies over resource allocation). But it must also be observed that all these interests, principles or values could be interpreted and applied in different ways. To avoid talking at cross purposes – and to facilitate a constructive debate – these interests, values and principles have to be clarified.

In application area 1 (moral education and character formation), time for reflection is an important prerequisite, and narratives of morally complex situations and events are good starting points. In application area 2 (exploration of normative alternatives), it is essential to vary systematically the ethical principles and to relate different possible outcomes to them – as well as to different hypotheses about, or interpretations of, the facts of the case. However, in application area 3 (medical decision making), consensus and unity of the team is important. And in application area 4 (policy-shaping and regulating), the value premises must be rooted in generally, but not universally, accepted values in the culture where the decision is to be taken.

Going through different ethical problems – as well as proposed solutions to them – with an awareness of such common shortcomings in mind can be very instructive. Moreover, it can help to counter the misconception that ethics is only about feelings and emotions. Facts are also important, logic is important (logical problems, for instance, are raised by saying ‘yes’ to abortion or IVF but ‘no’ to embryonic stem cell research), reasons are important, and there are structures and methods for dealing with such problems. Besides, there is generally agreement on what constitutes relevant reasons for and against various proposals. Of course, there is no guarantee that such an analysis will always lead to consensus. But to understand the nature of the disagreement and see where and about what people disagree is sometimes to take a big step towards a constructive discussion of a difficult issue. It can

suggest what we need to know more about or what we need to do next, in order to be able to take a step further.

I would like to emphasize that what has been said above about the desirability of a recurrent theme of seminars and lectures in the education (that is, actual cases illustrated and analyzed through the curriculum of future doctors) can also be applied to ethics courses in the sciences, in technology in general as well as in biotechnology. The ethical aspects should be presented and discussed when they are relevant to the students, and when the students are prepared for them. In this perspective, it would be a mistake both to begin the medical education with a course in ethics (most students would not see the relevance of it) or to finish a medical education with such a course (in many cases, this would be too late).

### Some main points

- ‘Bioethics’ can be defined in several different ways, which have to be clarified for this discussion.
- Different conceptions and areas of application of bioethics have to be made explicit to avoid talking at cross purposes.
- It is often ideal to have two teachers in a bioethics course.
- Anyway, it is important that courses in bioethics are given when they are relevant to the students.
- Education in bioethics can help to bring out the complexity of the issues.
- Education in bioethics can help to call attention to the ethical aspects of the issues (which differ from the scientific, legal, economical and psychological aspects).
- Education in bioethics can help to safeguard against the most common criticisms of ethical analyses.
- Education in bioethics is cost-effective and may be important for the personal development of students.

## References

1. Hermerén G. 'Medical criteria' – What Do They Mean? *Jahrbuch für Wissenschaft und Ethik*, ed. L. Honnefelder and Christian Streffer, Berlin: de Gruyter, 2001:5-38.
2. Blackburn S. *The Oxford Dictionary of Philosophy*, Oxford & New York, Oxford University Press.
3. Hermerén G. Utgångspunkter för etisk analys i socialt arbete. In: *Etik och socialtjänst. Om förutsättningarna för det sociala arbetets etik*. Ed. Ulla Pettersson. Stockholm: Gothia, 2000:13-28.
4. Hermerén G. Konkreta fall belyses i strimma genom studiet [Article in Swedish: A prescription for education in medical ethics. Actual cases illustrated and analysed through the curriculum of future doctors]. *Läkartidningen* 1994; 91(20): 2044-2046.
5. Nilstun T, Cuttini M, Saracci R. Teaching medical ethics to experienced staff: participants, teachers and method. *J Med Ethics*. 2001; 27(6): 409-12.
6. Rosenstein DL, Miller FG, Rubinow DR. A curriculum for teaching psychiatric research bioethics. *Biol Psychiatry*. 2001; 50(10): 802-8.
7. Porter JD, Kessel AS. Needing to know? Ethical dilemmas in leprosy treatment and control. *Lepr Rev*. 2001; 72(3): 246-9.
8. Werth JL. Using the Youk-Kevorkian case to teach about euthanasia and other end-of-life issues. *Death Stud*. 2001; 25(2): 151-77.
9. Thomasma DC. Medical ethics training: a clinical partnership. *J Med Genet*. 1979; 54(11): 897-9.
10. Salladay SA. Teaching ethics in the psychiatry clerkship. *Med Genet*. 1981; 56(3): 204-6.
11. Holm S, Erin C. Deciding on Life – An Ethical Analysis of the Manchester Conjoined Twins Case. *Jahrbuch für Wissenschaft und Ethik*, ed. L. Honnefelder and Christian Streffer, Berlin: de Gruyter, 2001:67-88
12. Bauer GCH, Bergentz S-E. När skydds nätet brister. *Lärdomar från sjukvårdens ansvarsnämnd*. Lund: Studentlitteratur, 1985.
13. *Vårdens svåra val*. Stockholm: SOU 1995:5.
14. HSU. *Behov och resurser i vården – en analys*. Stockholm: SOU 1996:163.
15. Loue S. *Textbook of Research Ethics. Theory and Practice*. New York, Boston, Dordrecht: Kluwer/Plenum, 2000.
16. Lock, S, Wells, F. *Fraud and Misconduct in Medical Research*, London; BMJ Publishing Group, 1996 (2 ed.)
17. Danish Medical Research Council, *Scientific Dishonesty & Good Scientific Practice*. Köpenhamn: DMRC, 1992.
18. The Danish Committee on Scientific Dishonesty. *Annual Reports*. Copenhagen.
19. Broad W, Wade N. *Sanningens dömgrävare. Om fusk och bedrägeri i vetenskapens värld*. Stockholm: Mannerheim & Mannerheim, 1983.
20. CRI (Commission on Research Integrity), *Integrity and Misconduct in Research*. Rockville; MD, Dept of Health and Human Services, 1995.
21. Forsman B. *Forskningsfusk och vetenskaplig oredlighet: forskarnas ansvar och samhällets insyn*, Lund: enheten för medicinsk etik, Lunds universitet, 1996.

22. Is academic medicine for sale? *New Engl J of Med* 2000; 342(20): 1539 ff and 343(7): 508 ff.
23. Agnew B. Bioethics. Financial conflicts get more scrutiny in clinical trials. *Science* 2000; 289 (5483): 1266-7.
24. Friedberg M, Saffran B, Stinson TJ, Nelson W, Bennett CL. Evaluation of conflict of interest in economic analyses of new drugs used in oncology. *JAMA*. 1999; 282(15): 1453-7.
25. Solomon P, Hutton J. Meta-analysis, overviews and publication bias. *Stat Methods Med Res*. 2001 ; 10(4): 245-50.
26. Song F, Eastwood AJ, Gilbody S, Duley L, Sutton AJ. Publication and related biases. *Health Technol Assess*. 2000; 4(10): 1-115.
27. Cleophas RC, Cleophas TJ. Is selective reporting of clinical research unethical as well as unscientific? *Int J Clin Pharmacol Ther*. 1999; 37(1): 1-7.
28. Stern JM, Simes RJ. Publication bias: evidence of delayed publication in a cohort study of clinical research projects. *BMJ*. 1997; 315(7109): 640-5.
29. Easterbrook PJ, Berlin JA, Gopalan R, Matthews DR. Publication bias in clinical research. *Lancet*. 1991; 337(8746): 867-72.
30. Eliasson M, Bergqvist D. [Research results should be freely accessible!- Case reports demonstrate obstacles to contact with drug industry]. *Läkartidningen*. 2001; 98(37): 3913-6. In Swedish.
31. Hermerén G. Ethics, Epidemiology, and the Role of Ethics Experts. *Nordic J Psychiatry*, 1996; 50, Suppl. 36: 5-14.
32. Hermerén, G. Neonatal screening: ethical aspects. *Acta Paediatr Suppl*. 1999; 88(432): 99-103.
33. Jonsen A, Toulmin S. *The Abuse of Casuistry*, 1988. Berkeley: University of California, 1988.
34. Sherwin S. *Bioetik i ett feministiskt perspektiv*. Lund: Studentlitteratur, 1998 (No Longer Patient. Philadelphia, Temple University Press, 1992).
35. Gilligan C. *In a Different Voice: Psychological Theory and Women's Moral Development*. Cambridge: Harvard University Press, 1982.
36. Mansson A, Colleen S, Hermerén G, Johnson G. Which patients will benefit from psychosocial intervention after cystectomy for bladder cancer? *Br J Urol* 1997; 80(1): 50-57.

# How can ethics be applied?

Lars Hertzberg, Åbo Akademi University, Finland

1. The fastest-growing field of philosophy during the end of the previous century was applied ethics. This term refers to a branch of philosophical writing dealing with the ethical problems of various professions or activities, such as medicine, health care, research, or business, or with special kinds of issues, such as those concerned with the environment or with the treatment of animals. Some of the best-known representatives of this field are Peter Singer from Australia, Torbjörn Tännsjö from Sweden, and Heta Gylling (formerly Häyry) and Matti Häyry from Finland.

As far back as 1986, Stephen Toulmin, in an article entitled “How Medicine Saved the Life of Ethics”, maintained that medical ethics had saved ethics from dying a quiet death as a field dedicated to the hairsplitting exercises of academic mandarins.<sup>1</sup> And in the multivolume *Routledge History of Philosophy*, which is currently being published, applied ethics has a long section of its own, in which the author of the section, Justin Oakley, writes, “Applied ethics has helped rescue moral philosophy from the intellectual doldrums of the earlier twentieth century, and it is vital to the future of the discipline” since, Oakley argues, “the disengagement of philosophy from practice can only abet the case” for the critics of philosophy.<sup>2</sup>

I would, however, like to voice some reservations about these declarations. I do agree that moral philosophy did suffer a form of decline during most of the last century, and in particular in the post-war era. Discussion was often limited to banal issues of linguistic usage narrowly understood, so-called meta-ethics. Nor would I deny that a host of complex problems are bound up with health care, medicine, research, etc., and that a philosophical treatment of them will in many cases help people get a clearer understanding of these problems.<sup>3</sup> My doubts are mainly based on the ways in which the expectations placed on applied ethics by the public have been met. Philosophers, I find, have not been very eager to clarify the kind of contribution philosophy can actually make to the issues that bewilder us, the fact that it can help sharpen our questions rather than provide the answers. If this is true of phi-

osophy in general, it is particularly true of moral philosophy. In fact I am tempted to say, with some exaggeration perhaps, that applied ethics, the way it is often carried out today, is not an escape from the decline of moral philosophy, but rather in a sense its culmination; that it is an expression of precisely that feature of moral philosophy which has made it seem such a sterile exercise, only more skillfully dressed up. If I had briefly to characterize that feature, I could do so in two ways: positively, by saying that it is a belief in *the possibility of normative theories* in ethics; or negatively, by saying that it is a deficient understanding of *moral seriousness*.<sup>4</sup>

2. The strength of applied ethics is often said to be the fact that it is closer to life than conventional ethics. However, I would suggest that this claim should be taken with a pinch of salt. In fact, many of the questions that are proposed for discussion by applied ethicists have a rather surreal quality about them. Thus, in a famous example, Torbjörn Tännsjö has proposed discussing the following question: would it be right to kill *one* healthy individual if by utilizing his organs we could save the life of three others, needing a heart, a lung and a liver transplant respectively – and, if doing so would not be right, *why* would it not?<sup>5</sup> Fortunately, Tännsjö concludes that such a practice should *not* be condoned, since it is likely to undermine the public's trust in the health care system. Hence it might be thought that Tännsjö is actually giving support to the view most of us would take of these matters. But I would argue that he is in fact separated by a huge gap from most of us, since most people are probably unable to understand how such a question can even be considered except as a joke. We might call this the Tännsjö paradox: even if he could show that the judgments that can be derived from his theories are in agreement with some generally accepted positions, this does not mean that he is in ethical agreement with most other people.

3. I find it hard to understand what would be meant by calling a discussion like that proposed by Tännsjö “close to real life”. However, he is not an exception in this regard. One of the best-known examples in applied ethics – one that, it appears, was instrumental in shaping applied ethics as a discipline – comes from an article on abortion by Judith Jarvis Thomson<sup>6</sup>. Thomson is trying to argue that even if the opponents of abortion were right in claiming that the unborn child has a right to live, it does not follow that the



expectant mother does not have the right to terminate her pregnancy. Thomson does so by proposing an analogy: suppose a woman is kidnapped and her kidneys are connected by tubes to those of a world-famous violinist, in such a way that she will be functioning as a human dialysis machine for him. Thomson's argument is that, even though we would not question the value of the violinist's life and his right to live, it does not follow that the woman is *obliged* to remain switched to him – and analogously, an expectant mother can have no corresponding obligation to retain her unborn child.

One might ask oneself, however, how common it is for women to consider Thomson's image as an appropriate analogy of the way they themselves experience their pregnancy. Of course a woman may in a particular case experience her pregnancy as though she were switched to a stranger without any claims on her. This might be so if she is depressed, for instance, or if she does not love the child's father. If this is the way she feels about it, she may have no qualms about performing an abortion (although if we believe she may be depressed we should probably be wary of encouraging her). Thus Thomson's analogy, at best, succeeds in capturing the experience of those for whom abortion is not a problem in the first place.

What Thomson is apparently claiming to do, however, is to give a representation of the issue *as it is in itself*, independently of our special attitudes and concerns, a view of the problem of abortion "from nowhere", as it were. The reader is not supposed to focus on the analogy, only on the argument based on it. Her argument is predicated on the assumption that those who feel they have no right to terminate the life of their unborn child are simply caught in a pretty straightforward logical fallacy, that of supposing that "N.N. has a right to life" entails "I have an obligation to refrain from doing anything that might result in N.N.'s death".

We could well imagine that an expectant mother might express her qualms about terminating her pregnancy by saying "I feel my child has a right to live". But in doing so, she is hardly putting forward the premise of a shaky argument purportedly leading to the conclusion that, like it or not, she is simply obliged to carry the foetus to term. Rather, her words are more likely to be meant as an expression of her attitude, her determination that, the case

being what it is, depriving her unborn baby of a chance to be born is something she will not do.

If this is how the woman sees the situation, Thomson's violinist argument will not touch her one way or the other. To suppose that it would is to suppose that the words "right to live", regardless of who utters them and in what context, refer to an abstract property that an individual may or may not enjoy, and which can be entered into an argument in order to establish a logically binding conclusion. But that is not the way people use those words.<sup>7</sup>

4. Applied ethicists tend to think of their claims as based on some normative ethical theory that they assume to be valid. Thus, today, a great many applied ethicists are utilitarians – either of the classical variety, according to which human actions should be judged on the basis of the contribution they make to the maximization of happiness and diminution of misery (like Tännsjö), or preference utilitarians, like Peter Singer, who think the basis of adjudication should be the way in which actions contribute to the fulfillment of human preferences. Thus, for a classical utilitarian, one strong (though not decisive) argument against euthanasia would be the fact that it would relieve the patient from suffering, whereas for the preference utilitarian, a strong (though not decisive) argument would be that the patient wishes to die. An alternative to utilitarian (or consequentialist) theories are the so-called deontological theories, according to which the rightness or wrongness of actions does not depend (exclusively) on their consequences, but rather on their being the *types* of action they are. (Thus lying, the breaking of promises, are things to be avoided for their own sakes, not simply when they have bad consequences.)

But what is the basis for the claim to authority of those *ethical theories*? What reason would an individual have, say, to go against the dictates of his own conscience because some ethical theory assures him that that would be the right thing to do? For instance, what is the basis for the claim that I should act with a view to the benefit of mankind even if it means betraying my friend or hurting innocent people? To answer that I should act thus *because* that way of acting would be of the greatest benefit to mankind would of course be begging the question.

In fact, we seem to be back at the point from which applied ethics was supposed to be a departure: the formulation of normative ethical theories.

Those who have looked to applied ethics to bring ethical thought closer to people's real-life concerns have overlooked the fact that there are alternative traditions in moral philosophy, perspectives that are a great deal closer to the kinds of problems people may actually encounter in their everyday lives or when faced by crisis. I am thinking in particular about the work of some 20<sup>th</sup> century English-speaking moral philosophers who have given striking illustrations of what real closeness to life might be. Among them I should like to mention Peter Winch and Iris Murdoch from England (both of them recently deceased), Raimond Gaita from Australia, as well as Cora Diamond and Don Levi from the US.<sup>8</sup> What characterizes the work of these philosophers, among other things, is that they often use examples taken from literature or film or from actual events in trying to illuminate the complications and nuances of real moral dilemmas.

5. The very term “applied ethics” has an ambiguity which has been quite generally overlooked. The word “ethics”, of course, has two clearly distinct meanings: it can mean both *morality* and *moral philosophy*. However, it is not clear in what sense the term should be understood in the phrase “applied ethics”. Is it a question of applied morals or of applied moral philosophy? Whichever way of looking at the matter we choose, the idea of such a discipline seems problematic.

Talk about *applied morality* evidently presupposes that a person's morality can be considered in isolation from the way he or she *applies* it. However, it would sound rather odd to say of someone, say, that he has high moral standards; only their application leaves something to be wished. We should probably take this to be an ironic way expressing moral disapproval – it might mean, roughly, that while this individual pays lip-service to high and noble ideals, he is a hypocrite, a moral coward, or some such thing. Our morality *is* our way of living. A morality that does not get applied is an absence of morality.

Suppose, on the other hand, applied ethics is understood in the sense of *applied moral philosophy* – which, I believe, is how the term is usually meant. Its goal, then, would be to get people to act rightly by teaching them correct

ethical thinking or giving them ethical enlightenment. The presumption seems to be that, when people are faced with difficult moral problems, this is mostly, or at least sometimes, because of a lack of moral knowledge or understanding. Applied ethics should offer people a theoretical framework, an intellectual system of reference, with the help of which they can remedy this ignorance or incomprehension and find out how things really are from a moral point of view.

Now I would claim that this very ambition, the search for a normative foundation for morality, is the source of the sterility that characterized moral philosophy for a large part of the 20<sup>th</sup> century. I want to show in what way the idea that moral problems can be regarded as a kind of cognitive or intellectual problem is misleading. If I am right about this, normative theories have no task: they offer answers to questions that do not exist. (In questioning the meaningfulness of normative theory, I do not mean to be advocating some kind of non-cognitive outlook. I feel that labels, on the whole, have very limited value where the search for philosophical clarification is concerned.)

Consider the idea of *moral ignorance* that is being presupposed by normative theorists. It is true that we often express our moral bewilderment in the form of a *question*, “What is the right thing to do here?”, “Does one have a right to ...?”, “Is it permitted to ...?”. Or again, we may express it by saying that we do not *know* what to do, etc. Thus we give our bewilderment a form which seems to presuppose that we lack *knowledge* concerning the moral side of the issue, and that if only that piece of knowledge is provided we can solve our difficulty. However, the notion of ignorance that is involved here is of a radically different kind from that involved, say, in talking about some fact of biology or statistics.

Let us suppose we are facing a moral dilemma. Should the doctor tell her patient about his tumour even though it might aggravate his depression? Is it permissible to utilize brain tissue from human foetuses for the treatment of Parkinson’s or Alzheimer’s disease? Now if we are bewildered in such cases it is not because of some knowledge we lack, but because of the knowledge we have. The situation seems insoluble precisely because we *understand* the moral problem involved.<sup>9</sup>

On the other hand, let us try to imagine a case in which someone is expressing genuine curiosity in saying: “I don’t know what to do”. What could this mean? He says he is eager to do what is morally right, but he is completely open-minded as to what that might mean in a particular case. (Thus, imagine the Samaritan asking: “What were you supposed to do, help the robbery victim or leave him there?”) It may seem as if he is in an ideal condition for receiving the sort of ethical enlightenment that normative ethics can offer, a kind of *tabula rasa* state.

Normally, when we say of someone that he does not know the difference between right and wrong, we are not referring to a genuine state of ignorance of the kind just described, rather saying so is an expression of moral disapproval. This is connected with the observation made above, to the effect that a person’s morality and the way he actually lives cannot be considered in separation from one another: not knowing the difference between right and wrong is a *moral* deficiency, manifested in the way a person lives.

If on the other hand someone says he is eager to do the right thing but does not have the slightest inkling what it might be, it is very hard to understand what he might mean. *Why* is he so keen on doing the morally right thing? What is there about the idea of doing the morally right thing that appeals to him, if it is not that which doing the right thing consists in. The importance to us of words like “morality”, “morally right or wrong”, “morally admirable or despicable”, etc, one would like to say, depends on what those words refer to, e.g., on the fact that among the things we call morally right or admirable are things like keeping one’s word, abstaining from cruelty, not yielding to corruption, treating people fairly, etc, and among the things we call wrong or despicable are things like betraying someone, being cruel, corrupt, etc. In other words, we avoid morally reprehensible things because of the kinds of thing that are morally reprehensible and not the other way round. It is hard, then, to understand a person’s motives for wanting to act morally, for wanting to be good, independently of what would actually be involved in acting morally or being good.<sup>10</sup>

In sum, both the idea that one might have moral understanding but be unwilling to apply it, or that one might be willing to live a moral life but have no moral understanding, are incomprehensible.

6. If I disagree with someone on a moral issue, I may consider him unfeeling, selfish or corrupt, but not ignorant. Or better put: in as far as I take our disagreement to be due to his ignorance I do not consider it to be moral in nature. There is a deep difference between these two forms of criticism. If I am genuinely concerned about my own selfishness or lack of feeling, I am concerned before myself, but if I feel badly about my ignorance, I do so primarily before others. I may feel guilty about the former, but only ashamed about the latter.

There are other differences too in our attitude to intellectual and moral problems. If I find myself unable to solve, say, a problem in mathematics, I may ask someone else to figure out the solution for me. Nor do I have to be able to judge her solution: I only need to trust her ability to solve it and her willingness to help me. On the other hand I cannot transfer the solution of some moral problem to someone else. Of course I may ask someone's advice, but this will only work if I can see for myself that the advice is sound (moral advice helps me by helping me to see for myself); if I take someone's advice without seeing that it is right, I act irresponsibly no matter what I do.

More generally we might say: I cannot choose my moral problems, in distinction from intellectual problems. If I have a moral problem, there is no way in which I can escape from it; and on the other hand, if someone is facing a moral problem which is not mine, I cannot offer to take it over from her, say, on the grounds that I find it "interesting" or because I think I may be "skilled" at solving moral problems.

7. If I am right in arguing that moral problems should in this way be distinguished from intellectual problems, that seems to imply that normative ethics is based on a misunderstanding. We might, in brief, characterize this misunderstanding by saying that it portrays the agent's relation to moral requirements as an external relation. On this view, the moral dimensions of our actions are as it were determined by an ethical reality which exists independently of us, and concerning which we may or may not have knowledge. If this were really so, we might well ask what reason we should have to care about that reality. I would suggest that the sterility of moral philosophy, its distancing itself from human life, is due exactly to the idea that it investigates an ethical reality that is independent of us. One might say that what

has been lacking from the moral philosophy of our time is an existential dimension, that aspect of our ethical thought to which philosophers like Socrates and Søren Kierkegaard have drawn attention.

However, if we reject this notion, another error is near at hand: if the moral dimension of our life is not determined independently of us, this seems to imply that it is *dependent on us*. In other words: it is up to us to decide what we are to consider right and what wrong. For instance, Jean-Paul Sartre has put forward the view that our values are freely chosen by us. This idea, however, is obviously problematic: *to choose is to perform an action that is expressive of one's values*, so the notion of choosing one's own values turns out to involve a logical circle.

Sometimes the idea that right and wrong are a matter for our decision gets expressed in the form of the idea of a social contract. Thus, Thomas Hobbes thought that there could be no binding moral obligations apart from human decisions. Our obligations are simply based on a voluntary undertaking to abstain from an unlimited exercise of power in exchange for a similar undertaking by those who might threaten us, an undertaking that is based on the realization that peaceful coexistence is more expedient in the long run. Of course the idea of this contract is not to be taken literally. The assumption, rather, is this: by living together with others, by trusting them and relying on their help when needed, we have implicitly accepted a contractlike commitment towards one another. (Of course, human relations may often take that form in practice.)

However, this idea is connected with grave problems. For one thing, the existence of such an implicit contract seems to presuppose an independent notion of moral commitment. Unless the contract is morally binding, a breach can hardly be considered morally despicable. In order to explain how the contract can be morally binding, then, we should either have to assume that there is another, more basic contract concerning the binding force of contracts – and thus end up with an infinite regress of contracts – or accept that there may be moral obligations that do not derive from a contract. But this means that we have not succeeded in deriving the binding force of moral obligation from our will.

8. We seem to be in a blind alley. Morality is not independent of us, but neither does it depend on us. Does this mean that the very idea of morality is an illusion?

There seems to be only one way out of this dilemma: to conclude that in a certain sense morality is *we ourselves*. Although contract theories may seem rather crude – they even lack what makes consequentialist and deontological views attractive – they embody a deep truth; only they get it upside down. The binding force of ethical demands does not derive from our will, but rather experiencing those demands as binding is *constitutive* of our will: morality exists for us only to the extent that it *is* our will. We can do the right thing only if we really want what is right. This thought is perhaps closely related to what Immanuel Kant meant by the autonomy of the will. (It might also be expressed as follows: we can only be sincere in calling an action treacherous, brutal, mean, etc. to the extent that we genuinely feel repelled by it.)

Feeling the binding force of a moral obligation, we might say, is one form of willing. It is not of course the only form: we often want to do, and actually do, things we ourselves do not approve of, and which, accordingly, in some sense we do not want to do. And even when we accept the binding force of a moral demand, we may have a wish to act otherwise. But on the other hand, once it becomes clear to us that we are under a moral obligation to act in a certain way, the question of what we should like to do, as it were, dissolves. “Moral considerations” – to the extent that they are serious – are not something we may bring into the calculation alongside other factors in trying to decide what to do, but rather they either silence all other considerations or are totally ignored. Regarding them as considerations alongside considerations of other kinds would suggest that acting morally is simply seen as something relatively desirable, something we are prepared to do provided the costs are not too great. Regarding moral considerations as factors in a calculation, however, is not regarding them *as* moral considerations, but as something else (for instance, if the suffering of animals is considered to be a relevant but not a decisive consideration in deciding on a measure, it is not given *moral* weight). We might put the point as follows: our conscience *commands*, it does not simply make recommendations.



9. If we find this account hard to accept, it may be because it does not fit into a customary dichotomy. We are used to dividing the objects of our thought into two kinds: into objects of *discovery* and objects of *invention*. Our models are in one case the methods of scientific research, in the other case legal and administrative thought. Putting it crudely, utilitarians and deontologists think about moral thought on the model of a science, contract theoreticians on the model of legal and administrative thinking.

In fact, however, these categories are too restricted. There are several objects of human thought to which they do not apply. Think for instance about mathematics. The object of mathematical research is not some mathematical reality that exists independently of our thought and knowledge, and which we are trying to uncover. That would presuppose, for instance, that mathematical reality might in fact be different from what we take it to be. Thus, the actual order of the natural numbers might be quite other than we suppose. But this is something we cannot even imagine, or better: *there is no such thing* as imagining this; as imagining, say, that the number 3 is something other than the third number in the series of natural numbers. The reason for this is that the identity of the number represented by the digit “3” is constituted by its place in the series of natural numbers. (This should not be confused with the fact that the look or sound of the sign representing 3 might be different from what it is.) However, the fact that there is no mathematical reality independent of our mathematical thought does not entail that it is *up to us* to decide what the relations between the numbers are (so that we might decide, for instance, whether 3 is to precede 4 or the other way round). Similarly, in saying that I feel morally bound to perform or abstain from some action, I am not putting forward an opinion that could be shown to be incorrect by an appeal to independent standards. But neither can I freely decide whether I am morally bound to perform an action or abstain from it. Moral judgments, then, are neither an expression of discovery nor of invention. But if this is so, then neither is there any sphere for normative ethics.

---

<sup>1</sup> Stephen Toulmin: “How medicine saved the life of ethics”, in Joseph P. DeMarco and Richard M. Fox (eds.), *New Directions in Ethics* (New York & London: Routledge and Kegan Paul, 1986).

<sup>2</sup> Justin Oakley: “Chapter 12: Applied ethics”, in John V. Canfield (ed.): *Philosophy of Meaning, Knowledge and Value in the Twentieth Century*, Routledge History of Philosophy, Volume X (London and New York: Routledge, 1997). The quoted passage is on p. 392.

<sup>3</sup> It is often emphasized that, where ethical issues are concerned, each case should be considered on its own merits. But it may also be important to note that the issues that may arise in connection with medical practice and research may be of different forms. Thus, there are what might be called issues of responsiveness, say, in the doctor-patient relationship. Problems relating to autonomy and paternalism are of this kind. What characterizes these issues is that they always concern some specific individual or individuals; as we might say, the potential victims. Another type of issue are those connected with the idea that there are certain limits to our actions that must not be infringed, independently of any consideration for a victim. (Consider, e.g., attitudes to cannibalism, incest, sexual deviance, etc.) Traditional cases of this are the debates on abortion, in vitro fertilization, euthanasia, while the debate about stem-cell research is a more recent example. A third type of issue is those concerning large-scale consequences. These issues may become relevant where new medical technologies are introduced, or where decisions have to be taken about the organization of health-care, the allocation of resources, etc. Here, the groups affected may be the public at large or some anonymous and indeterminate collective, such as those potentially affected by some measure or practice, etc. (In research, in turn, there is a different range of issues having to do with the integrity of the research process itself: the concern for truth – here we are dealing with an ethics of thought rather than action.)

Noting these differences may be important because it helps us realize (1) the different ways in which concern for the interest of others may enter into our deliberations, and (2) the sense in which ethical issues may change over time. Thus, the demands of responsiveness are timelessly valid (I am using the word “timeless” here in a logical rather than a sociological sense). Similarly, the concern for truth is timelessly internal to the notion of scientific research. The idea of limits to our action is timeless too: that is, for someone who believes, say, that the human foetus is inviolable, that is a principle that is not contingent on varying circumstances (this should not be confused with the fact that people’s attitudes to such limits may change, as it were non-rationally, over time). At the same time, medical developments, by giving us new powers over nature (such as new reproductive techniques or the possibility of sustaining a patient’s life indefinitely), may bring to the fore limits that we had no need to worry about before. In connection with issues of this form, what may often become a problem is the respect that is owed to someone whose conception of limits is different from one’s own. The third group of issues, those concerning large-scale consequences, is obviously subject to variation over time. Here, the crucial task for those working in bioethics may be to monitor developments and try to analyze their possible consequences in society. The problems that confront us are constantly new (although many of the terms in which these issues are discussed are timelessly relevant: e.g. justice, health, well-being).

---

I am not suggesting that all ethical issues belong to one of these groups. We should also note that one and the same issue may be regarded from different angles: thus, abortion or euthanasia may be regarded as an issue of responsiveness, or of respect for limits, or concerning the long-range consequences of instituting the practice. As should be obvious from this case, a person's stand on an issue will often be a reflection of how he or she defines it.

<sup>4</sup> There are of course representatives of this branch of study to which these criticisms do not apply. For an example among many others, see Martin Hollis, "A death of one's own", in his *Reason and Action* (Cambridge University Press, 1996); also, *The Journal of Applied Ethics* often contains essays of high quality.

<sup>5</sup> Tännsjö, *Vårdetik* (Stockholm: Thales, 1993), p. 22.

<sup>6</sup> Judith Jarvis Thomson, "A Defense of Abortion" in her *Rights, Restitution, and Risk* (Cambridge, Mass. Harvard University Press, 1986). (Originally in *Philosophy and Public Affairs* 1 (1971), 47-66.)

<sup>7</sup> For a penetrating discussion of Thomson's example, see Don S. Levi's essay "Hypothetical Cases and Abortion", *Social Theory and Practice* 13 (1987), 17-48. For a critical discussion of medical ethics, see Anne MacLean, *The Elimination of Morality: Reflections on Utilitarianism and Bioethics* (London: Routledge, 1993).

<sup>8</sup> See reading list. For a sample of the work of some of the writers in this tradition in Swedish translation, see Joel Backström and Göran Torrkulla (eds.), *Moralfilosofiska essäer* [Essays on moral philosophy] (Stockholm: Thales, 2001).

<sup>9</sup> When we express our moral bewilderment in the form of a question ("Is such and such a thing permitted?") it could be suggested that the form of the expression can easily be misunderstood; this is not a genuine question in the sense that its intelligibility is dependent on the assumption that it might have an answer; rather, the question form here is what might be called a "syntactic metaphor".

<sup>10</sup> One might suspect that what matters to such a person is not goodness in itself, but, say, the approbation it will bring. (On this, see, e.g., Winch, "Moral Integrity" in his *Ethics and Action* (London: Routledge and Kegan Paul, 1972).

## References and further readings:

- Backström, Joel and Göran Torrkulla (eds.), *Moralfilosofiska essäer* [Essays on moral philosophy] (Stockholm: Thales, 2001).
- Cook, John, *Morality and Cultural Differences* (London: Oxford University Press, 1999).
- Diamond, Cora, “Anything but Argument”, and “Eating Meat and Eating People” in her *The Realistic Spirit* (Cambridge, Mass.: The MIT Press, 1991).
- Gaita, Raimond, *Good and Evil: An Absolute Conception* (Houndmills: Macmillan 1991).
- , *A Common Humanity: Talking about Love & Truth & Justice* (London: Routledge, 2000).
- Hollis, Martin, “A death of one’s own” in his *Reason in Action* (Cambridge University Press, 1996).
- Häyry, Matti, “Mitä on soveltava etiikka?” [What is applied ethics?] *Ajatus* 44 (1987), 162-175.
- Levi, Don S., “Hypothetical Cases and Abortion”, *Social Theory and Practice* 13 (1987), 17-48.
- MacLean, Anne, *The Elimination of Morality: Reflections on Utilitarianism and Bioethics* (London: Routledge, 1993).
- Murdoch, Iris, *The Sovereignty of Good* (London: Routledge & Kegan Paul, 1970).
- Oakley, Justin, “Chapter 12: Applied ethics”, in John V. Canfield (ed.), *Philosophy of Meaning, Knowledge and Value in the Twentieth Century*, *Routledge History of Philosophy*, Volume X. (London and New York: Routledge, 1997).
- Thomson, Judith Jarvis, “A Defense of Abortion” in her *Rights, Restitution, and Risk* (Cambridge, Mass. Harvard University Press, 1986). (Originally in *Philosophy and Public Affairs* 1 (1971), 47-66.)
- Toulmin, Stephen, ‘How medicine saved the life of ethics’, in Joseph P. DeMarco and Richard M. Fox (ed.), *New Directions in Ethics* (New York & London: Routledge and Kegan Paul, 1986).
- Tännsjö, Torbjörn, *Vårdetik* [The ethics of health care], 2<sup>nd</sup> edition (Stockholm: Thales, 1993).
- Winch, Peter, *Ethics and Action* (London: Routledge and Kegan Paul, 1972).
- , *Trying to Make Sense* (Oxford: Basil Blackwell, 1987).

# Teaching of bioethics in Norway

Dag E. Helland, Department of Molecular Biology, University of Bergen, Norway

Teaching of bioethics should be at different levels and with different methods.

Since the developments in biotechnology are continuously developing giving rise to new ethical challenges, the teaching should form a fundament for making independent evaluations and conclusions with regard to bioethical questions.

In Norway the different programs for teaching bioethics can be divided into three different levels: Teaching the general public, teaching at a broad level at the universities and finally, giving advanced courses to graduate students.

When Norway in 1993 and 1994 got its two laws regulating application of developments in biotechnology it was also stated that there should be a permanent governmental committee with a secretariat. This committee is called "Bioteknologinemnda". Its members are appointed by the government and serve for a period of two to three years. The committee gives advice to the government and to members of the parliament. In addition, it informs the public on issues related to new developments in biotechnology and the application of these developments. This committee and its secretariat publish each year several issues of a journal called "Genialt" where biotechnological and bioethical topics are presented and discussed. This journal is sent free of charge to schools, universities and different organizations. It is also used and quoted by newspapers.

There are also other governmental organizations in Norway dealing with ethical questions related to research, agriculture, animal care and similar issues. They also publish their own reports and organize seminars on different issues.

At the universities ethics is taught at different levels. In order to get an academic degree, all students have to take the exam called "examen philosophicum". This exam is usually taken as one of the first courses at the university and includes the history of philosophy, logic, and philosophy of science

and medicine or other subjects depending on the interest of the students. All students therefore get an introduction to ethics. Bioethics has until now not been much in focus in these introductory courses in philosophy.

Medicine is taught at all four universities in Norway. As part of their training, the medical students have to follow lectures in medical ethics. The teaching of medical ethics is not organized in the same way at the different medical schools. However, case studies and discussions in small groups are important teaching methods at all four schools.

At the medical school in Trondheim most of the programs are taught according to the principle of Problem Based Learning and this is also implemented in the teaching of medical ethics.

The medical students are generally very interested in ethical aspects of their specialty and future practice.

At the University of Bergen, Faculty of Mathematics and the Sciences, there has been a course in bioethics since 1997. The course is given every fall semester and between 50 and 100 students have attended it every year.

The course is first given as lectures by specialists discussing different subjects like biobanks, xenotransplantation, normative ethics, animal ethics, gene therapy, risk evaluation, genetic testing and screening, stem cells, cloning and IVF. From the beginning this course has focused on problems of current interest. The students are then organized into groups of four to eight and given different problems to be discussed and analyzed in the groups. Then the groups report back to the course and the conclusions are discussed in plenum. This course has no exam but it is mandatory to participate in all group-meetings and to be present at the lectures in order to get credits for the course.

At the national level several courses for Ph.D. students have been organized over the last few years. These courses have started with two weeks of intensive teaching, followed by two months used for writing an essay on a given topic. Before starting the intensive part the students have been given literature to read.

In 2002 the Norwegian Research Council is starting to coordinate a program in functional genomics. As part of this program resources will be allocated

to teaching, training and research in bioethics. The level of funding bioethics is not yet known.





# Education in bioethics in Sweden: ethics/bioethics in study programmes related to biology and medicine

Hertha Hanson, Högskolan i Halmstad, Halmstad, Sweden

The source of information from which I have most of my knowledge about bioethics in higher education in Sweden is a preliminary study of my own. Since there was no comprehensive presentation available, it became a necessity to gather information directly from each individual programme.

My study concerns only programmes on the undergraduate level related to biology and medicine. When speaking about biotechnology and ethics, focus is mostly on research and science. This is a natural consequence of the many ethical dilemmas directly related to the scientific process. However, bioethics from my point of view is more than research ethics, more than ethics for scientists or scientists to be. Value-laden issues are present in the whole sector of biotechnology, and biotechnology will for sure introduce many difficult choices for the future society. Among persons involved in the field, there is therefore a need for an increased knowledge and consciousness on ethical issues. One way of promoting this is through the study programmes related to the field. This is also a reason for taking interest in the undergraduate study programmes.

My account does not include programmes for nurses or physicians. Those must be seen as special cases. These programmes are mainly programmes for authorized professions, with established traditions of ethical codes. My aim was primarily to find out how much attention the study programmes give to ethics related to modern biotechnology. Ethics for professions usually have as its main purpose to protect the reputation of the profession and persons practising the profession. To distinguish between ethics of professions and bioethics would have required a much more sophisticated approach than applied here.

I have identified about 70 relevant study programmes. Of those, I have taken a closer look at 35. For each programme, I have tried to get in contact with

the course director. Either the course director or a person he or she recommended answered a number of questions on how the ethical perspective was treated in their programme. My questions were not just about bioethics. I will comment on that later.

Here are the questions:

1. Do you pay attention to ethics in your programme?
2. Where in the programme do you have elements of ethics?
3. Who are the teachers?
4. How much time is used?
5. Examination?
6. Literature?

Since my study is not finished this is only a very preliminary report of my results.

1. Do you pay attention to ethics in your programme?

Only in one case the answer was “no”.

2. Where in the programme?

For 7 programmes, the answer was: at the start of the program. 9 programmes had a “streak” of ethics through the whole programme. 10 described the ethical instructions as “integrated”. 15 offered elective courses. The listed alternatives occur in different combinations. In 2 cases, there were only elective alternatives. Most common is to combine elements of ethics in the introduction to elective courses. A resulting question was if the integrated ethics was visible in the syllabus or on the schedule, which mostly got negative answers.

3. Who are the teachers?

An overwhelming majority of the programmes (25) used their regular teachers, often together with a teacher from some other discipline, e.g. philosophy or theology. 9 had what they call “guests”, journalists, ministers and seniors within their own field.

#### 4. How much time is used?

Because of the organization of the ethical instruction, it was very difficult to get information about how much time was used. Transformed to credit points 15 programmes estimated the ethical elements to 0,2 – 2p. Elective courses could give up to 5p. From 18 programmes it was not possible to get information about used time.

#### 5. Examination?

10 programmes demand compulsory presence and active participation but no formal examination. Written reports or written examinations occur in 10 cases. The remaining have no examination.

#### 6. Literature?

Only 2 programmes report using appointed literature. Examples collected from current debate and inquiries are the most common material.

Some further comments:

There are big differences between the programmes, that could be related to the specific professions which the teaching is aimed at in these programmes. Study programmes for professions in contact with much formal regulation have more instructions in ethics. This instruction is more systematically implemented, more visible and more extensive. The teaching is often focused at giving the students concepts and language for discussion and analysis of ethical problems. The learning process usually starts from examples and cases.

How much of this could be called bioethics? If we by bioethics mean ethics concerned with molecular biology and modern biotechnology, only a small part of the taught ethics is bioethics. If we also consider elective courses, the bioethical part grows.

You could expect that bioethics in the stricter sense would be a matter of concern for the programmes in biosciences but in their formal information about the curriculum, you do not find much. From their oral information I got the impression that the interest of the teachers is decisive.

Masters or Bachelors of Science in Biotechnological engineering are often relatively new programmes and there is no stable structure for ethics in their studies. As those students usually have their labour market in the industry, their ethical points of view are often related to business-ethics.

Finally, I would like to mention some comments, not answering questions but spontaneously given. A repeated point of view was that students ask for these topics.

The only sceptical remarks came from two teachers telling me that they had no ambition to be politically correct.

At the end of the interview, a rather common commentary was: we touch upon ethics much more often than is visible in our official documents and we will do something about that. Many wanted to see the outcome of my study in order to be informed and to be able to compare their own programme with others of the same kind.

# Education in bioethics in Finland

Martti Lindqvist, Institutionen för Folkhälsan, Mäntyharju, Finland

## Opening remarks

It is a well known fact that the definition of bioethics varies from one context to another. For some it covers only the biological aspects of so-called biosciences seen from an ethical perspective. For others, however, it includes also most of what is called traditionally medical ethics or later health care ethics. For my purposes in this contribution I use the wider definition.

We suffer from the lack of relevant and reliable empirical studies on teaching bioethics. This is true in Finland, but also internationally. There is a need to make better surveys on the present situation in this respect.

Both the quality and quantity of teaching in bioethics varies very much locally. At least in Finland there is no national coordination in this matter. The real outcome is very much dependent on the quality and interests of teachers and the institutions concerned.

## Survey of the present situation

Recently, two surveys have been made in Finland in order to study the present situation. The first one covers all five medical faculties including the departments of health science (or nursing science) and the polytechnics and vocational training institutions for nurses in Finland. The second survey covers the training of researchers for the doctoral degree within the graduate schools, covering most academic disciplines from biomedicine to humanities.

As far as the five medical faculties are concerned the results of the survey indicate the following results:

1. All faculties have at least some teaching in bioethics (medical ethics).
2. There is no common pattern in the structure or contents of ethics teaching.

3. Teaching is usually given in 2-3 parts during different periods of the curriculum (typically some basic norms and theoretical items in the beginning of studies and later a more clinically oriented approach to ethics).
4. All medical faculties emphasize the importance of integrated teaching of bioethics, but there is no evidence how it really works. (Most informed people seem to think that “integrated studies” in practice is mostly “lip service”. In order to truly learn ethics a specific effort and approach is required)
5. In some institutions teaching of bioethics is very closely linked with teaching of philosophy (of medicine).
6. Recently, more emphasis has been put on practical approaches, case studies and active group work.

At least in the Finnish tradition, teaching of nurses has had – and still has – a strong emphasis on ethics. Quite often nursing ethics is seen quite differently than classic medical ethics.

From the survey the following facts and trends could be identified concerning the teaching of bioethics at departments of health/nursing sciences as well as professional institutions of nurses’ training.

1. Teaching ethics relies on the long tradition of nursing ethics.
2. In comparison with medical faculties the institutions allocate more time to teaching of ethics. (It varies between 1-6 study weeks during the course of studies. One “study week” equals 40 hours of student work.)
3. Teaching of ethics is often linked with teaching of philosophy. This emphasis has been growing since nursing science has become a part of the established academic community.
4. Much emphasis in the teaching of ethics is being laid on “soft ethical themes” like quality of care, communication skills, humane ways of treatment and psychological skills of professional helpers.

As to the teaching of bioethics in post-graduate education and in training of researchers, the following remarks can be made:

1. The theme of research ethics has much more emphasis today than 5-10 years ago. There is a genuine and growing interest in the field.
2. This new interest is connected with many developments such as international interests and agreements, new ethical codes and new legislation concerning research and the more systematic ways of researcher training in the graduate schools. Also, great publicity linked to some cases where power and research money has been misused has increased demands for high ethical standards in research.
3. All registered graduate schools in the field of medicine and biosciences have included research ethics in their study programmes.
4. When no formal courses are given within the graduate school, students are encouraged to participate in ethics teaching in other academic disciplines.

## Themes and conclusions

As was said above, both quality and quantity of teaching in ethics varies very much locally. In our survey a wide variety of themes and methods can be identified, but not all of them are systematically applied. Normally only one or two approaches are being used in one institution.

The themes of teaching include some of the following topics:

- theory and history of ethics
- research ethics
- professional ethics
- values and norms in health care
- case studies, narrative ethics
- ethics of problem-solving
- social ethics (including ethical approaches to institutions, social priorities and policy-making)

The problems in the teaching of bioethics in Finland are obviously very similar to other Nordic countries. My list of the major problems is the following:

- A. National coordination and strategic planning in the field of teaching of bioethics is almost totally lacking. We even miss essential information concerning the present situation.
- B. There is a big need for competent and motivated teachers in bioethics. For the time being this is the most burning issue to be solved in the near future.
- C. Accordingly, there is no organized system for teaching of teachers in bioethics.
- D. We do not have relevant and tested teaching materials – including basic textbooks in the Finnish language.
- E. There is much confusion concerning the best methods of teaching ethics. It would be very fruitful to share the experiences of using different methods among the teachers.
- F. Studies dealing with the impact and effects of the teaching in bioethics are lacking.
- G. It is not defined who actually is responsible for the teaching of bioethics nationally and locally.

Therefore, one of the proposals from the Finnish experience is to organize Nordic and national workshops to help interested people from different relevant fields to become teachers and to develop new approaches in teaching of ethics.



# Education in bioethics in Iceland

Vilhjálmur Árnason, Department of Philosophy, University of Iceland, Iceland

## Introduction

“Bioethics” is either understood in a broad sense as the investigation of ethical problems that arise in connection with all sciences concerned with life, i.e. medicine and other health care professions, biology and other life sciences, or, in a narrower sense as “biomedical ethics”, the investigation of ethical problems within medicine and health care.<sup>1</sup> Here the discussion will be confined to “bioethics” in this latter, narrower, sense.

### *Why bioethics?*

To begin with I would like to very briefly summarize what I take to be the main reasons for teaching bioethics (especially to health care professionals, HCPs) and the main objectives of such education. These I take to be the same in Iceland as in other contemporary Western societies:

- Increased technologization of health care which has raised several complicated moral questions that must be analyzed and discussed. The technological imperative “what can be done ought to be done“ is bad practice which must be countered with moral deliberation that is an integral part of any health care profession. Health care is inherently ethical because crucial human interests are at stake in most decisions taken by health care professionals. (The classical issues of bioethics, such as euthanasia, transplantation, abortion.)
- Increased awareness among the public and patients of self-determination and information that is the precondition for being a responsible participant in health care. Professional expertise must not be confused with personal life decisions. Health care professionals are required to reexamine traditional attitudes that have guided their interaction with patients. (A cluster of important issues of bioethics related to the professional-patient relationship.)
- Increased scientific control and manipulation of medicine over the basic elements of human life raises most pressing questions about scientific re-

sponsibility. Spheres of life that used to be subject to personal decisions are increasingly medicalized, not least through the new genetics which may be changing the way in which people view themselves. (The new big issues related to fetal diagnosis, artificial reproduction etc.)

- Increased demands for setting limits to health care which is continually expanding and becomes ever more expensive. The question is not only whether we can afford to do everything that can be done but also whether we can afford to maintain the standards of just health care. We also need to ask how we can discuss the issues of just and decent health care. (Issues of just health care, prioritization and health policy.)

The main objectives of bioethics education is to raise the consciousness of HCPs about the fact that their profession is inherently ethical, that most of their decisions have a moral component and that their responsibility is immense. Students must be trained in the analysis of typical cases and scenarios which raise ethical questions, in discussing them and evaluating reasons for their decisions. They should be made sensitive both to the persons that they will encounter and to the moral problems that they will face in their practice and become more able to discuss respectfully with people and deal effectively with problems.

### *History*

Bioethics as a special discipline in ethics only dates back to the 1970's<sup>2</sup> and already then there are traces of it in Iceland. A pioneer in bioethics teaching was Arnór Hannibalsson, professor of philosophy, who prepared some teaching material in courses he taught at a private continuing education nursing school (Nýi hjúkrunarskólinn) during the 1970's. He later taught an introductory course in philosophy ("philosophicum", see below) for nurses at the University of Iceland in the early 1980's where he introduced material in medical ethics. He wrote a short monograph about major themes in ethics of the health professions (*Kaflar um siðfræði heilbrigðisstétta*, 1982) which was the first writing in Icelandic where the classical big issues of bioethics, such as euthanasia, abortion and justice in health care were discussed in one place.

Another pioneer in this field is Örn Bjarnason, M.D. who initiated discussion about issues in medical ethics in medical circles, not least through his position as editor of the Icelandic medical journal (*Læknablaðið*) in the 1970's. Dr. Bjarnason has also taught some medical ethics to medical students at the University of Iceland. In 1991, he published a book on some themes in the ethics and philosophy of medicine (*Siðfræði og siðamál lækna*). The largest part of the book is a collection of ethical codes for the profession in English as well as in Dr. Bjarnason's translation. Two other books about philosophy of medicine in his translation accompanied his own book: *Philosophy of Medicine* by Henrik Wulff, Stig Andur Pedersen and Raben Rosenberg, and *Rationel klinik* by Wulff.

In 1993, Vilhjálmur Árnason, a professor of philosophy, published his book *Ethics of Life and Death. Difficult Decisions in Health care (Siðfræði lífs og dauða. Erfiðar ákvarðanir í heilbrigðisþjónustu)* which grew out of his teaching for the nursing students and active involvement in professional ethics and biomedical issues generally. The book deals with all the major topics in bioethics, but the main emphasis is on various issues concerning the everyday interaction of patients and professionals. It is the main textbook in bioethical education in the country, has been used widely by health care professionals and has also been well received by the general public. The book has been reprinted twice and is now being translated into German as well as coming out in a new and revised Icelandic edition. Icelandic readings in bioethics otherwise consist only of articles by various authors in the fields of medicine, philosophy, law, nursing and theology.

## The Education

In this attempt to provide an overview of the teaching of bioethics in Iceland, by education is meant both organized teaching in schools and more sporadic educational activities undertaken by the health care institutions and professions or by individual academics or centres.

## The University of Iceland (Háskóli Íslands)

Bioethics has been taught in several departments of the University and usually at the initiative of the professors of philosophy.

*The Faculty of Philosophy: The department of philosophy*

Since the University of Iceland was founded in 1911 most students have been expected to take an introductory course about the philosophical foundations of the sciences, the “philosophicum”. The main objective of the philosophicum is to motivate students to think critically about science and scientific activity in general and about the particular field of the study that they have chosen to pursue. Students become acquainted with the nature and limitations of scientific thought and about its influence upon contemporary culture. They are to be aware of the ethical questions that arise in relation to their field of study and learn means to deal with them.

For decades, all first year students took the same course, consisting of a mixture of some history of ideas, logic and ethics. Changes took place in the early eighties when the course became optional and a separate course was to be designed and taught for each department. In all cases the subject matter of the course is a philosophical discussion about critical thinking, about the nature of scientific research, theory and method, the division of the sciences, the social effects of scientific activity, and the relationship between science and ethics. Additional subject matter depends on the needs and interests of individual departments. This has provided an excellent opportunity to introduce bioethical issues to the students of the health sciences as has been done in the cases of nursing and dentistry.

The philosophicum is organized and taught by members of the department of philosophy. Many professors in the department have concerned themselves at some stage with bioethical issues. Prof. Árnason and Hannibalsson have already been mentioned, but among the first Icelandic articles in the field were written by Prof. Páll Skúlason (“Medicine and the Moral Sciences”, 1977) and Prof. Þorsteinn Gylfason (“On Euthanasia”, 1981). Prof. Mikael Karlsson has also written about applied ethics.

In spite of this general interest in bioethics among Icelandic philosophers, there has been no systematic teaching of these issues within the department. Some material on bioethics has been taught every now and then in several ethics courses. Prof. Árnason has taught special seminars on applied ethics with main emphasis on bioethics. Most recently Sigríður Þorgeirsdóttir, associate professor, has taught a very timely seminar with Dr. Skúli Sigurðs-

son, historian of science, devoted to the ethics of the life sciences and genetics in particular. These seminars are mostly attended by students of philosophy but occasionally there have been students from other departments, such as biology, medicine and theology. Also, Prof. Erlendur Jónsson has included some material on the ethics of science and bioethics in a regular course on the methodology and philosophy of science. This is an interdepartmental course for students in the natural sciences and students in philosophy.

This spring semester a one year program in professional and practical ethics will start within the department in cooperation with the Centre for Ethics. This education, which will include material on bioethics, is offered to students who already have their B.A., B.S. or B.Ed. degrees and is also open to people from the professions whose education and background will be specifically evaluated in each case. Prof. Árnason is the director of this program but Salvör Nordal, M.Phil. has been hired to teach courses in professional ethics. In this program students will have an option to work on topics in bioethics. There are plans to develop this program towards an M.Paed. degree which will be especially designed for teachers of ethics at the high school level.

### *The Centre for Ethics*

The Centre for Ethics (est. 1988) has organized short courses on bioethics and contributed much to public information and discussion on bioethics in Iceland. It has arranged several conferences open to the public on these issues, but more recently the Centre has planned intensive seminars for professionals, often from health care institutions. Among topics discussed in these intensive seminars are database research and prenatal diagnosis, both of which have been hotly debated in Iceland. The next seminars planned will be on consent for participation in research and on stem cell research. Members of the Centre have worked with professional organizations in health care in educational processes concerning the formation and discussions of ethical codes. They have also given seminars within companies, for example seminars on research ethics at deCODE Genetics in relation to work on an ethical code within the company.

Prof. Páll Skúlason was the founder and the first chairman of the Centre for Ethics at the University of Iceland. The current chairman is Prof. Vilhjálmur Árnason, and Salvör Nordal, M.Phil. in philosophy, is the director of the Centre.

*The Faculty of Medicine: Department of Medicine*

As mentioned above, the philosophicum became optional for students at the University of Iceland in the early eighties. The medical department then decided to abolish teaching philosophicum to its students. As a consequence, it could not use the leeway that was created with the new philosophicum as an opportunity to teach themes from medical ethics and philosophy of medicine to its students. Medicine provides an excellent opportunity for philosophical thought and ethical reflection. Not only is medicine based on philosophically interesting concepts of health and disease, but the practice of medicine is concerned with some of the basic interests of people and has profound effect upon our society and culture. It is, therefore, a striking fact that medical students in Iceland have received relatively very little education in the philosophy of medicine and bioethics.

Nevertheless, there are a few things done in the education of medical students that imply medical ethics. First, in their sixth and last year of study there is a so-called law week for medical students. In this week they are instructed about medical law and codex ethicus is explained to them by a senior doctor. In addition they receive a two hour lecture about ethics, traditionally held by a professor of philosophy but most recently by Ástríður Stefánsdóttir, M.D. and M.A. in philosophy. The author of this piece has twice been asked to undertake this formidable task. Since this has been my only chance to awaken their ethical consciousness I have chosen to present the students with difficult cases so that they might realize how complicated these issues are. The most that can be done in such a short time is to make the students perplexed and hope that they would like to reflect on these issues and realize their importance for their future profession.

Secondly, there has been in recent years a course for students of family medicine taught in the spring term dealing with the doctor-patient relationship. In this course, there are 8 hrs of lectures about ethics with an emphasis

on the study of cases. This course is under the supervision of several teachers, but Dr. Örn Bjarnason M.D. has been responsible for the ethics part.

Thirdly, M.A. and Ph.D. students of medicine have attended a half-a-day seminar on research ethics where the Helsinki declaration has been explained as well as ethical regulations of research in Iceland. The seminar has been taught by Ástríður Stefánsdóttir and Ingileif Jónsdóttir, chairman of the national Science ethics committee. This seminar is also attended by graduate students of physical therapy.

Finally, it must be emphasized that ethical education for medical students in Iceland as in other countries cannot simply be read off the study catalogue and course syllabi. Fortunately, it tends to be integrated with clinical guidance of students by experienced doctors. This important aspect of bioethical education is, however, most unreliable because it is entirely sporadic and dependent on the interests and abilities of the mentors each time.

#### *Department of Physical Therapy*

Students in the Department of Physical Therapy take a course in their third year of study which is entitled sociology. In spite of its name, there has been considerable emphasis on ethics in this course, especially on various themes in health care ethics, such as the patient-professional interaction and just health care. This part of the course has been taught by a philosopher. Students have written about real cases of people with various health problems and disabilities and analyzed them both from a health-sociological and ethical point of view. These studies have been presented at a special seminar at the end of the course.

As mentioned above, graduate students of physical therapy also attend a half day seminar on research ethics with medical students.

#### *The Faculty of Nursing*

In light of the historical overview above, it can be said that the Faculty of Nursing has, in co-operation with the philosophy department, primarily fostered the education in bioethics at the University of Iceland. Since nursing became a University discipline in the late 1970's, there has been a heavy emphasis on the philosophicum which has been specifically adapted to the needs and interests of the nursing program. In addition to the general phi-

losophicum core requirement, the course is oriented towards the ethics of nursing, medicine and health care. The specific objective of this course is to enable students to perceive and tackle the ethical problems that arise in the nursing profession. The course is mandatory for students in their first semester and their performance in the course weighs 20% in the decision whether they can continue their studies (numerus clausus). Because of the large number of students (approximately 130 each year,<sup>3</sup> this is primarily a lecture course, for 3 hours once a week for 13 weeks in the Fall semester. One week, however, is entirely devoted to discussion of cases. The major bioethical issues discussed in the course are:

- Moral dilemmas in health care
- Ethics and health care
- Professional duties and patients' right
- The professional-patient relationship
- Issues at the beginning of life
- Issues at the end of life
- Just Health Care

A more specific outline of the course as designed by Prof. Árnason, who has taught the course for about 15 years, is attached as an appendix. In the last years this course has been taught by the philosophers Jón Kalmansson, M.A. and Salvör Nordal, M.Phil. For some years, Prof. Árnason also met every group of nursing students in their 4th year of study and lectured about the ethics of research in a course about research in nursing. This has now been replaced by a short seminar on research ethics for graduate students of nursing.

There is also a special program of midwifery, within the department of nursing where every year there is a special one day seminar emphasizing ethical issues at the beginning of life. This seminar consists of a combination of lectures, case analysis and discussion.

It has been a special asset both in the nursing and the midwifery program that older students with years of practice have been able to share their experience of ethical dilemmas with the younger students.



### *The Faculty of Dentistry*

Students of dentistry have been obliged to take a small philosophicum course in the spring semester of their second year of study. As a rule, the course starts with a brief discussion about critical thinking, the nature of scientific theory, and the relationship between science and ethics. After this general introduction, the course turns to more specific topics in the ethics of medicine and health care. Among the topics for analysis are ethical codes in the health professions, the patient-professional relationship, the rights of patients, ethics of research, and just health care.

The method of teaching has been a combination of lectures and discussions. When dealing with ethical issues in health care, students have analyzed and discussed practical examples. This is an exercise in ethical analysis, reasoning and decision-making.

There is no grade for the course and no formal assessment. The only requirement for completing the course is regular attendance. This course most likely provides the only opportunity for students of dentistry in their six years of study to critically reflect upon their area of study, to discuss and analyze ethical scenarios and to place their technical expertise in a broader “humanistic” context.

### *The Faculty of Pharmacy*

No education in bioethics is offered to students of this discipline in spite of the fact that they are likely to encounter bioethical issues in their profession. This year, the faculty planned a seminar on research ethics which hopefully is a sign of increased interest in bioethics.

### *The Faculty of Theology*

Within the Faculty of Theology teaching of Christian ethics occupies, of course, an important position. Over the years students have had the option to take a course on ethical problems that may arise at the beginning and at the end of life. The professor of Christian ethics, Dr. Björn Björnsson, has developed this course which deals with Christian attitudes towards abortion, IVF, euthanasia etc. Prof. Björnsson has also advised students who have written their thesis on bioethical themes.

### *The Faculty of Law*

There is strictly speaking no education in bioethics for law students, but occasionally bioethical themes are dealt with by professors of law, for example, abortion, euthanasia and privacy. Occasionally, students take interest in these issues and then they are able to write their thesis under the supervision of these professors. There are indications that the interest in bioethical issues is on the increase within the department among the younger professors.

### *The Faculty of Natural Sciences*

Some teaching on the topics of bioethics has been taken up as small parts of other courses in the Department of Biology, but not regularly or systematically, except in the course Human Genetics where a philosopher has given three lectures on the ethical implications of human genetics.

## The University of Akureyri (Háskólinn á Akureyri)

### *The Faculty of Nursing*

A one semester ethics course is taught in the fall in the Department of nursing and occupational therapy. Approximately half of this course is devoted to bioethics, covering such topics as informed consent, autonomy of the patient, security of information, artificial conception, surrogate motherhood, embryo research, preferences in health care, abortion, euthanasia, problems of aging and other classical topics of medical ethics. This course has been taught by Prof. Kristján Kristjánsson and sometimes by Prof. Guðmundur H. Frímansson and Dr. Sigurður Kristinsson who have both done research and published in the area of bioethics.

## The University of Education (Kennaraháskóli Íslands)

In the last years, Ástríður Stefánsdóttir, M.D. and MA in philosophy, has designed an ethics course for developmental therapists which largely includes bioethical themes. In particular, the course deals with ethical issues relating to disability, such as prenatal diagnosis, the rights of the disabled and the professional-patient relationship. Emphasis is placed upon analysis of cases and the students write substantial papers.

## The College of Technology (Tækniháskóli Íslands)

For several years an introductory course on ethics has been taught to lab technicians and X-ray technicians. Special emphasis has been placed on research ethics and on some aspects of the professional patient relationship, such as confidentiality.

## Ármúli Gymnasium (Fjölbrautaskólinn við Ármúla)

This school has a special health-line where students who intend to work as assistant nurses, medical secretaries, dental assistants, pharmacy technicians and masseurs are expected to take a course in ethics with an emphasis on the issues concerning the patient-professional relationship, such as autonomy, paternalism and shared decision-making. The current teacher of this course is Bryndís Valsdóttir, M.A. in philosophy.

The Ármúli Gymnasium is presented here as a good example of a school at this level, one with an extensive program and a strong tradition in this area. There are other Icelandic Gymnasias where bioethics is taught as a part of health education, for examples Neskaupstadur Occupational School (Verkmenntaskólinn í Neskaupstað) og Sudurnes Gymnasium (Fjölbrautaskóli Suðurnesja).

## Continuing Education

### *The University of Iceland*

The Institute of Continuing Education at the University of Iceland offers a variety of courses in the area of health care, some of which have bioethical themes. A recurring course has been held for administrators in health care institutions where professional duties and patient's rights have, for example, been discussed. Special courses have been held on genetics, ethics of life and death, autonomy of the elderly and other issues that call for bioethical discussion.

### *The National and University Hospital*

There is no systematic teaching of bioethics or medical ethics at the hospital, although there have been, every now and then, short courses for health professionals devoted to some special topics within biomedical and health

care ethics. Many of these have been taught by Prof. Vilhjálmur Árnason and his co-workers, e.g. a one day course (held in May 1997) on the termination of life taught to the staff of the cancer department, and a three-day course for heads of departments on “Ethics of Life and Death”. Since 1995 a two day post-graduate course in medical ethics for young doctors has been offered at the National hospital. Emphasis has been laid on analysis and discussions of cases in small groups, followed by lectures about principles. This course has been taught by Prof. Vilhjálmur Árnason, Ástríður Stefánsdóttir, M.D. and M.A. in philosophy, and María Sigurjónsdóttir, M.D. and B.A. in philosophy. There has been strong interest for these courses among the doctors who have generally expressed the view that there is great need for this education in their training.

#### *Regional hospitals*

Soon after the publication of his book in 1993, Prof. Árnason was asked to hold seminars in many regional hospitals around the country. These were one-day or two-day courses about the “Ethics of Health Care”, attended by hospital staff, but often least by the medical doctors which is a typical experience. Philosophers at The University of Akureyri have also lectured and held courses at the Akureyri hospital. To my knowledge such courses have not been held in the last years after continuing education at the universities has become more effective.

#### *The Health Care Professions*

The individual health care professions sometimes sponsor on their own special lectures or even seminars on bioethical issues. There has been especially strong emphasis on continuing education for nurses, partly because nursing has only been a university subject since the late 70’s and those with older education needed to upgrade it. Health care ethics is always integrated into nursing education. Health care ethics seminars have also been offered for physical therapists and occupational therapists and most people mentioned above have given lectures on health care ethical issues to the various health care professions at one time or other. The author of this report has given countless such lectures and has learnt a lot from the discussions with health care professionals over the years.

## Conclusion

As can be seen from this overview, bioethics has been on the Icelandic scene from the beginning. It is a regular part of the curricula of many educational institutions at the level of gymnasia or high school, College and University and is taught by well qualified people. Decent readings in the field are available in Icelandic. Bioethics education has mainly been developed and is taught by philosophers and also by ethicists with a background in medicine. The plans at the Centre for Ethics to start a program in applied ethics should strengthen bioethics education in the country.

Most students of health care disciplines receive some bioethical education and most health care professions maintain continuing education with bioethical components. The strongest health profession in this regard is nursing but medicine has a relatively weak standing. It seems to me that the single major objective in bioethics education in Iceland is to integrate ethical thinking into medical education generally and to introduce a systematic full course teaching of bioethics to medical students. Such a course should preferably be taught by a medical doctor trained in philosophy and bioethics. Special emphasis should be placed upon the study of cases in light of moral principles and even theories when needed.<sup>4</sup>

---

<sup>1</sup> Cf. Samuel Gorowitz, "Bioethics", *Encyclopedia of Ethics*, pp. 89-91 and Raanan Gillon, "Bioethics, overview", *Encyclopedia of Applied Ethics* (Academic Press 1998), pp. 305-317. The well known "standard" text book in this field *Contemporary Bioethics*, eds. Tom L. Beauchamp and LeRoy Walters (Wadsworth, many editions) restricts itself to issues related to medicine and health care.

<sup>2</sup> Cf. Mary B. Mahowald, "Biomedical Ethics: A Precocious Youth." *New Directions in Ethics. The Challenge of Applied Ethics*, ed. Joseph P. DeMarco and Richard M. Fox (Routledge & Kegan Paul 1986), p. 141-157. For other interesting discussions of this development see, for example, Stephen Toulmin, "How Medicine Saved the Life of Ethics", *New Directions in Ethics*, pp. 265-281 and David J. Rothmann, *Strangers at the Bedside. A History of How Law and Bioethics Transformed Medical Decision Making*. Basic Books 1991.

<sup>3</sup> The policy is to admit 120 students - a numerus clausus based on the fall semester exams allows 60 to proceed to the spring semester. Often, there are also nurses in the course who have older exams and are taking a specially designed B.S. degree. They are not under the numerus clausus rule.

<sup>4</sup> Thanks to Erlendur Jónsson for collecting some of the information for this piece and for reading it over. Thanks also to Ástríður Stefánsdóttir and Salvör Nordal for helpful comments.



## Appendix.

### **Philosophicum in the Faculty of Nursing at the University of Iceland**

#### **Part I: Sciences and Ethics**

- Week 1. The nature of critical thinking
- Vs. refusing to revise; relying on authority; sticking to prejudices
  - The ethics of belief (Clifford and James)
- Week 2. Scientific theory and scientific method
- The interrelation between theories and discovery
  - Scientific reasoning
- Week 3. Science and ethics
- Can science be value neutral?
  - The nature of ethical argumentation
- Week 4. Ethics and morality
- The main features of morality: values, virtues, principles, rights, roles and duties
  - Main types of moral theory
- Week 5. Ethical Theories I
- Ethics of virtue/happiness: The Aristotelian tradition and Utilitarianism
- Week 6. Ethical Theories II
- Ethics of rights/duties: Deontological Theories and Discourse Ethics

## **Part II: Ethics and Health Care**

Week 7. Discussion of moral dilemmas in health care. Cases.

- Describe the moral conflict in the case.
- What principles are at stake?
- Which professional moral rules do apply?
- What would you do and how do you justify your decision?

Week 8. Ethics and health care

- How is ethics applied?
- Decision making: The sense for context, role specific duties and general principles
- The need for bioethics

Week 9. Professional duties and patients' right

- Analysis of professional codes in health care and role-specific duties
- Duties to clients – duties to society – duties of skill – duties to colleagues
- Analysis of the duty of confidentiality; possible exceptions
- Rights of patients

Week 10. The Professional-patient relationship

- The nature of professional paternalism
- The Patient autonomy model
- Models of co-operation between patient and professionals
- Informed consent
- The inter-professional relationship



Week 11. Issues at the beginning of life

- The sanctity of life argument
- The non-person argument
- The women's autonomy argument
- Pre-natal diagnosis

Week 12. Issues at the end of life

- Allowing to die
- Passive vs. active euthanasia
- The right to refuse treatment
- The right to die

Week 13 Just Health Care

- The notions of health
- The tasks of health care
- Priorities in health care
- The limits to health care

**Evaluation:**

1. Two hour written exam at the end of the course
2. An essay, approx. 7 pp. dealing with specific questions (from the II. part) formulated by the teacher.



# Teaching of bioethics in Denmark

Linda Nielsen, Institute of Law, University of Copenhagen, Denmark

In Denmark the teaching of bioethics is comprehensive in relation to medicine but is scarce and voluntary when it comes to the natural sciences. At the University of Copenhagen a coordination group with representation from several faculties has forwarded a proposal with the purpose of extending the teaching of bioethics and bio-law both in relation to pregraduate and post-graduate teaching.

## Proposal

In the contract of development for the University of Copenhagen it is stressed that the University through education, debate and information wants to raise awareness about ethical questions with relation to biotechnology, both among the researchers and in the population as such. The coordination group for biotechnology has had as a desideratum that bioethics and bio-law will be included to a larger extent.

A crucial element is to promote the researchers' conscience about bioethical and bio-legal questions in relation to their biotechnological research.

It has been seen as essential:

- that relevant and sufficient teaching of bioethics and bio-law at the University of Copenhagen is ensured,
- that this embraces both ethical problems in connection with concrete problems for the specific subjects as well as more broad bioethical dilemmas,
- that interdisciplinary studies are being underlined, and
- that the presentation of bioethical and bio-legal problems is happening early in the studies and possibly is being treated more thoroughly later during the study.

It is also stressed to be of the greatest importance that the teaching is research based.

## Bioethical network

To promote interdisciplinary and cross faculty deliberation of bioethical and bio-legal questions it is recommended that a network is made at the University of Copenhagen. This network is primarily supposed to be a common platform for Ph.D. students and younger researchers at the University but is also meant to be open to other interested persons, e.g. senior researchers, students with speciality, and participants from other universities.

It is suggested that the specialist coordination is undertaken by a steering group consisting of representatives from the natural sciences, the medical faculty, and the faculty of humanities.

These three faculties are seen as the most crucial in the discussions but it may be proper to include also social sciences and legal aspects in the work of the steering group.

It is also seen as important that the network is supported administratively. Moreover some limited economic means should be set aside for a small secretariat and expenses in connection with interdisciplinary network arrangements.

The bioethical network has now been established.

## Courses

### *Mandatory courses regarding natural sciences.*

Mandatory courses of appropriate size are suggested regarding some of the subjects in natural sciences, e.g. chemistry, biochemistry, athletics, biology and human biology.

It is emphasized that possibilities for double-teacher arrangements should be made so that a team consisting of both a person from natural sciences and a person with another professional angle, e.g. philosophical, theological or the like, undertakes the teaching of bioethics. This way it may be assured that the teaching of bioethics is especially applied to the relevant discipline and that the students have the possibility to understand the correlation.

At the same time the double-teacher construction presents an opportunity for a two-way-communication and learning between the teachers, who may

learn each other's technical language, way of thinking and angle of incidence in a continuously profound way.

#### *Special courses at the humanities*

It is also recommended to introduce optional bioethics courses at the humanities with special reference to questions derived from biotechnology.

#### *A University bioethics day*

It is recommended that a general "University day on bioethics" should be introduced – primarily arranged by the students. This proposal should be seen in combination with the wish to introduce bioethics early in the studies in order to awaken interest and create competence, which can later be applied to specific subjects.

#### *Student involvement*

It is seen as absolutely crucial that the effort to bring the bioethical discussion into the teaching is started early in the study in order to maintain the students' interest in broader ethical and social consequences of the study they have chosen. This interest in broader ethical and social consequences is in practice now often repressed by examinations and professional specialization. It is thus proposed that multi-disciplinary studies and the training to involve broader bioethical questions is being introduced early in the study. At the same time it is seen as important that bioethics is linked to the way the ethical problems present themselves in the specific subject.

An essay-competition for students has also been part of the proposal. A small economic support to enable student representatives from the University of Copenhagen to make study trips to for instance "Student bioethics forum" at the University of Princeton has been proposed.



# Education in bioethics: initiatives of the European Union

Line Matthiessen, European Commission, DG Research,  
Directorate E – Life sciences, policy aspects – bioethics, Brussels, Belgium

Progress in science and technology offers many prospects for our personal well-being and for our social and economic welfare. This is particularly true for the life sciences. The present generation must indeed exploit the opportunities afforded by new developments and technologies, but they must exploit it in a responsible manner in harmony with the fundamental values of society. If advance in the life sciences is to meet the great expectations we have for it, its use must be ethically and socially acceptable.

A wide range of issues raises concerns of an ethical nature such as: the use of human embryos in research; use of personal data or genetic information; research in developing countries; genetic modification of food; genetic modification and cloning of animals; patenting; and recently stem cell research and its application.

A second type of ethical concern stems from the way in which researchers conduct the research and disseminate the results.

Dialogue, mutual education and training<sup>1</sup> of scientists and ethicists will be essential if we want the scientific community to be able to respond to ethical problems. Unfortunately, today, in many universities, education in ethics is not part of the training of students, post-graduates or senior scientists. This is particularly true for biotechnologists. This problem has been clearly identified by the European Association for Higher Education in Biotechnology (HeduBT) which has launched the European Doctorate in Biotechnology whereby all the “Euro” doctors are awarded the title on the condition they follow “columnar teaching” courses on horizontal topics including “Bioethics” (ref. Annex 1, table IV).

To some extent, the need for education in ethics is better met among medical students, with biomedical ethics required as a core subject in most national curricula. Yet it is increasingly likely that today’s medical or biotechnology

graduates will face a research ethics committee at some point in their careers. Advances in the life sciences will throw up new ethical dilemmas which scientists and ethicists need to analyze and judge. Therefore, mutual education and training needs to be maintained throughout the scientific career. This is needed not only in the biomedical field but also in relation to ethical issues linked to agriculture, food, environment, globalization, trade, etc.

The European Commission has taken initiatives to promote education in ethics, in particular through the Life Sciences research programmes (including three very successful Advanced Workshops financed in the frame of the Biotech II programme). The current programme “Quality of Life and Management of Living Resources”<sup>2</sup> is actively promoting research in bioethics including development of codes of conduct and production of teaching material for health practitioners and researchers in biotechnology.

It has also taken initiatives to ensure ethics in research by raising awareness of ethical issues among project proposers and establishing a specific ethical review of proposals dealing with sensitive issues.

## Research in bioethics

The European institutions recognized already in the late eighties, that an innovative research programme in Life Sciences could not be implemented in a responsible way without at the same time addressing and analyzing the possible ethical, social and legal implications of the research and its applications.

What had begun as an ad-hoc measure, focusing on the Human Genome Programme in 1987, has been increasingly extended to Medical Ethics and the assessment of the socio-economic impact of biotechnologies under the Third Framework Programme (1991-1994). In the Fourth Framework Programme (1994-1998), bioethics research was extended to cover biomedical ethics as well as ethical, legal and social aspects of biotechnology, agriculture and fisheries. The current programme in Life Sciences “Quality of Life and Management of Living Resources”, is giving priority to research in bioethics regarding the identification and analysis of the ethical aspects of scientific and technological developments in life sciences; the development



of an ethical framework for the life sciences including ethical conduct of research and issues linked with the dissemination of results; ethical aspects in relation to public policies, law, human rights and bioethics in education systems and professional training and finally bioethics infrastructures and methodologies.

Annex 1 provides examples of research projects, which are currently funded or under negotiation, addressing the issue of education and training in bioethics. These projects will among others produce innovative, interactive, case-based training workbooks in reproductive ethics, genetics and research ethics; teaching and guidance manuals on ethical issues arising in clinical trial collaborations with developing countries; ethical codes in nursing as well as education and training in the ethical aspects of biotechnology. The training materials and guidelines take into account the cultural richness, which exists in Europe and it is constructed in such a way that it can be adapted to national requirements including translation into several languages.

## Ethics in research

The Commission has, in particular, in relation to the implementation of the “Quality of Life programme”, taken initiatives to raise awareness of ethical issues among project proposers and of their responsibility to address such issues. An obligation is put on the applicants to describe the potential ethical aspects of the proposed research regarding its objectives, the methodology and the possible implications of the results. Furthermore, the applicants are requested to justify the research design, to explain how ethical requirements will be fulfilled and finally indicate the relevant national legal and/or regulatory requirements of the member state(s) where the research takes place (See Annex 2 for further details).

Secondly, the Commission ensures an ethical assessment of all research proposals submitted to the Quality of Life programme during the scientific evaluation. A specific ethical review has been implemented for proposals dealing with sensitive issues, such as: the use of human embryos or foetus in research; use of personal data or genetic information; research involving human beings, in particular patients unable to give consent or children; re-

search in developing countries; genetic modification of plants; genetic modification and cloning of animals, use of non-human primates.

The proposals are reviewed by an independent, multidisciplinary and transnational panel, which is established by the Commission in relation to each call for proposals. The panels assess whether the applicants have identified all ethical issues which the proposed research may raise and have taken the appropriate measures to fulfill all ethical and/or legal requirements at the national level and the European level. The ethical review panels have examined a total of 143 proposals (13% of the total number of proposals proposed for funding after the scientific evaluation). As a result of the ethical review, additional information or clarification was requested for 81%<sup>3</sup> of the proposals. Reservations were expressed in 11 cases (7%)<sup>4</sup>. Only 10% of the proposals received positive comments.

The experience from the ethical review clearly illustrates that the awareness of researchers regarding the ethical dimensions of their activities and how to fulfill ethical requirements are rather scarce. Probably this is not because of disinterest but rather due to lack of knowledge. Although, the measures taken by the Quality of Life Programme, which now are being applied in other EC research programmes, are contributing to increase the awareness, not just among applicants, but also among scientific peer reviewers of ethical issues linked to life sciences, it seems obvious that specific actions need to be taken to further encourage education and training in ethics both at European and national level.

## The way forward

The need to further raise awareness of good scientific practices, including the ethical dimension of research, research integrity and the key elements of European legislation, convention and codes of conduct, have been identified as a priority in the Commission's draft proposals for an action plan on science and society (to be published at the end of the year). It also recognizes the need to create and disseminate basic training initiatives and to develop and implement codes of conduct. Education and training initiatives in bioethics need to be designed not only for students but also for postgradu-

ates and senior scientists. Such initiatives should allow a two-way communication between the natural scientists and ethicists.

The ethical debate should become a natural part of the research and development process and it has to involve society as much as possible. The identification and analysis of the possible ethical, legal and social implications must take place at the earliest possible stage of the development and before the technology has been applied to a larger extent. The possible implications must be taken into consideration in the preparation of research, during the implementation and during testing and application of the results. This is necessary for the responsible development of life sciences. This can best be achieved by effectively building bridges between “the two cultures” of natural sciences and humanities<sup>5</sup>. Ethicists and social scientists should be encouraged to participate in life science research. The integration should permit each discipline to use its one approach. Trans-disciplinary collaboration between all stakeholders should allow ethicists continually to check that their assessment and proposed solutions are relevant and appropriate. These aspects will be further developed in the forthcoming Commission’s Communication (end 2001) “Life Sciences and Biotechnology – a strategic vision”.

The Commission expects that the objectives of the future research projects in the 6th Framework Programme and particularly in the thematic priority 1.1.1 “*Genomics and biotechnology for health*” will not only be directed towards exclusive scientific objectives but will also contribute to reinforce coordination and cooperation between the various stakeholders (basic research scientists, industrialists, standardization bodies, clinicians, policy makers, ethicists, regulatory authorities, patients) and will include integration and involvement of society. It is the view of the Commission that this will be essential for achieving the ambitious goal of translating the progress in life science research into real benefits for society.

---

<sup>1</sup> Particular attention is given to training in all the research programmes managed by the European Commission ([www.cordis.lu/improving](http://www.cordis.lu/improving)). For instance, each year in the frame of the QoL programme some 200 post-doctoral fellows and many more PhD students are offered fellowships allowing them to do research (including in ethics) during up to 24 months in an institution located in another Member or Associated State.

---

<sup>2</sup> Website: [www.cordis.lu/life](http://www.cordis.lu/life)

<sup>3</sup> For instance, on consent procedure, source of tissue or source and number of non-human primates: the remarks are transmitted to the research proposer(s) to be taken into account in the preparation of the technical annex of the contract;

<sup>4</sup> For instance, concerning justification of the use of non human primates, confidentiality of computer stored data, serious lack of information on the consent forms, genetic testing of healthy individuals to whom no efficient intervention can be offered: the proposer(s) is invited to a hearing with representatives of the panel in order to give answers to the concerns expressed by the panel. Funding of the project will not be granted before the panel has expressed its satisfaction.

<sup>5</sup> Website: <http://biosociety.dms.it>

## Annex 1

**TABLE I**  
**Teaching ethics: materials for practitioner education**  
**(QLRT-1999-01031)**

The TEMPE project responds to ongoing needs for European biomedical ethics practitioner education. It builds on a successful BIOMED-2 project (EBEPE) which created seven interactive, case-based training workbooks. These workbooks address the subjects of autonomy and consent, ethical issues in death and dying, ethical issues in working with children and young people, ethical issues in allocation of scarce healthcare resources, ethical issues in long-term care and ethical issues in mental health and mental illness. A guide explaining how to use the workbooks for study and teaching has also been prepared. The workbooks have been published as a textbook from Cambridge University Press: Michael Parker and Donna Dickenson, *The Cambridge Medical Ethics workbook* (March 2001). The TEMPE project will develop three new workbooks in reproductive ethics, genetics and research ethics, with a training video, electronic database, and website. Subsidiarity is respected by devolving production of the three workbooks and co-ordination of nine of the eleven conferences to the six associate partners, back up by the open learning expertise of the lead partner. The TEMPE workshops will help create and support pan-European networks of ethical expertise; but in addition they will result in a lasting, novel resource for teaching ethics which can be adapted to suit national training needs. Target user groups are actively involved in producing the TEMPE workbooks, ensuring that those needs will be identified accurately. The workbooks will be available in English, German, Dutch and Greek.

(<http://www.med.ic.ac.uk/divisions/63/tempe/tempe.htm>)

**Co-ordinator:**

**Prof. Dickenson Donna**

Centre for the Study of Global Ethics – University of Birmingham

13 Pritchatts Road – Edgbaston – Birmingham B15 2TT

Tel.: +44.121.693.4678 – e-mail: [d.l.dickenson@bham.ac.uk](mailto:d.l.dickenson@bham.ac.uk)

For details, please contact [c.walter@ic.ac.uk](mailto:c.walter@ic.ac.uk)

**TABLE II**  
**Ethical issues in clinical trial collaborations with developing countries**  
**(QLRT-1999-00957)**

The overall objective of this project is to produce a manual that will provide guidance to members of research ethics committees, researchers and funding agencies on ethical issues arising in clinical trial collaborations with developing countries. The manual will be produced in both paper and electronic forms.

The partners, together with two sub-contractors in Manila, the Philippines (Research Institute for Tropical Medicine), and Kampala, Uganda (Joint Clinical Research Center), will produce the teaching and guidance manual on these issues. The project will also work in close collaboration with the European Malaria Vaccine Initiative. The manual will contain an extensive collection of case studies, background papers, as well as information about research ethics review procedures in selected Asian and African countries. The manual will be a reference source, will highlight the areas of controversy and provide a comparative analysis to different approaches to research ethics review. The manual will be organized in such a way that it can be used both as a self-instructional tool or as background material for courses to train people who will be involved in clinical trials in developing countries. There will also be results of interviews with key persons from developing countries concerning their views of the controversial areas. During the project period the manual will be field tested in a number of different settings, for a variety of target groups. The manual (including CD and web version) will be presented during a final workshop at the end of the project period.

**Co-ordinator:**

**Prof. LIE Reider Krummradt**

University of Bergen – Dept. of Philosophy – Sydnesplassen 7

NO – 5007 BERGEN, Norway

Tel: 47-55-58-24-37; Fax: 47-55-58-96-51;

e-mail: [reidar.lie@fil.uib.no](mailto:reidar.lie@fil.uib.no)

<b>TABLE III</b> <b>Ethical codes in nursing (QLRT-2001-00945)</b>
---

This project will result in recommendations for nursing education and on harmonizing ethical standards for nursing in Europe. It will describe current contents of ethical codes for nurses, a philosophical and empirical account of ethical codes, and their impact on nursing practice. By comparative analysis of the theoretical and empirical findings experiences from nursing practice will be integrated in the ethical debate, the impact of ethical codes in nursing practice will be investigated, and gaps or shortcomings in national and European policies and guidelines on ethical behavior of nurses will be evaluated. Analyses will be based on research undertaken by the seven partners. The research will be reported during five workshops, one scientific conference, and in a final report prepared by the steering group i.e. research leaders and coordinator.

**Co-ordinator:**

**Dr. Arie Van der Arend**

Universiteit Maastricht - Capacity Group Care Sciences -

Section Health Care Ethics and Philosophy

Universiteitssingel 40 – Po Box 616; NL – 6200 MD Maastricht

Tel: +31.43.3881124; fax: +31.43.3670932;

e-mail: [a.vanderarend@zw.unimaas.nl](mailto:a.vanderarend@zw.unimaas.nl)

**TABLE IV**

**Strategic initiatives to develop an interdisciplinary organization that contributes research and provides education in ethical aspects of biotechnology (QLAM-2001-00107) - (under negotiation)**

This strategic initiative is launched to correct the insufficient disciplinarian and theoretical characterization of the branch of Ethics concerned with Biotechnology, and the virtual lack of BioT-Ethics teaching, particularly at the level of the doctorate student. Thirteen of the foremost authorities in the field, from eleven different European countries, will meet twice a year to delineate and approach those aspects of the interphase biology-industry where ethical discrimination is required, consult with “Witnesses” (ranging from industry to research institutes and to NGOs), organize cooperative studies in ice-breaking areas, and discuss means and methods to translate research into education. Two pilot courses and one conference are planned during the three-year initiative, whose eventual goal is the establishment of a European school of BioT-Ethics.

**Co-ordinator:**

**Prof. Franco Celada**

European Association for Higher Education in Biotechnology – (C/O Advanced Biotechnology Centre)

Largo Rosanna Benzi, 10 ; 1 – 16132 Genova

Tel.: +39.010.5737303; Fax: +39.010.5737304;

e-mail: [celada@cba.unige.it](mailto:celada@cba.unige.it)



## Annex 2

In particular, the proposers are requested to indicate whether the proposal involves;

- **use of human embryos,**
- **use of human embryonic tissue,**
- **use of human foetuses,**
- **use of human foetal tissue.**

*The proposer should specify and justify the number of embryos or foetuses to be used and why the use of such material is necessary; specify the source of the material; describe the procedure for obtaining informed consent; describe the arrangements for protecting the confidentiality of personal data of individuals concerned; and specify any additional national or local regulation with which any or each of the partners must comply in relation to the use of foetal or embryonic tissue.*

- **use of other human tissues**

*Proposers should specify and justify the type, amount and source of tissue to be used; describe the procedure for obtaining informed consent of the person(s) from whom the material is obtained; and describe the arrangements for protecting the confidentiality of personal data of the individuals concerned.*

- **use of personal data or genetic information**

*Describe the procedure for obtaining informed consent of persons to whom the information relates and describe the arrangements for protecting the confidentiality of personal data of the individuals concerned.*

- **research involving persons (individuals or populations) in particular when children or persons unable to give consent are involved; pregnant women or healthy volunteers for clinical trials on vaccines**

*Proposers should provide justification for such research in terms of the potential benefits of the research in relation to the possible risks; indicate the number of persons involved; describe their selection criteria; provide details of the arrangements made for providing information to persons and for obtaining informed consent; specify any payments, inducements or other benefits to be given to the persons concerned; and describe the compensation and treatment available to subjects for trial-related injuries. For persons unable to give a valid consent, proposers should, in addition to the above, indicate the degree of risk and burden involved for the*

*subject; whether and how the persons might benefit from the procedures envisaged; indicate why it is necessary to involve persons unable to give a valid consent; and describe what arrangements are made for seeking the agreement of the person's parent, guardian or other representative. A copy of both the informed consent form and the subject information sheet should be provided (preferably in English)*

- **use of non-human primates**
- **use of transgenic animals**
- **use of other animals**

*Proposers should specify and justify the type and number of animals to be used and indicate why other methods cannot be used so as to show what steps they have taken to comply with the principles of re-duction, refinement and replacement. They should describe the procedures adopted to protect the welfare of the animals and to ensure that the amount of suffering of the animals is minimized; and describe why the potential benefits of the research should be seen to outweigh the harm to the animals used.*

*In the case of use of non-human primates the proposers must in addition to the above mentioned information, specify which species are used, what are their origin, which partner is in charge of the importation, or breeding of animals, where the primates are located and which partner is performing the experiments, and how many animals are sacrificed. All research involving the use of animals are subject to the Directive 86/609/EEC.*

- **genetic modifications in animals or plants**

*Describe how the anticipated benefits justify any possible suffering to animals or any possible risks to human health or the environment, and the implications for biodiversity.*

# Bioethics education in Industry

Lene Lange, Science Director, Molecular Biotechnology,  
Novozymes A/S, Denmark

The Novo Group started early to focus not only on the financial accounts but also on environmental performance and on social responsibility. The experience gathered from this has led to the current Novozymes management focus on a so-called triple bottom line. This is as such not only a way of annual reporting and accounting. It is much more. It is a basic way of thinking when making strategy for the development of the entire business; the way of operation and decision making; internal and external communication; and development of a product portfolio. And last but not least, it is the basis for the values on which we recruit and retain the best people in all parts of the business as well as the basis for marketing and selling of our products.

## Triple bottom line in biotechnology

- A modern business reports and communicates according to three different bottom lines:
  - Financial
  - Environmental
  - Social
- In biotechnology R&D the Triple bottom line includes:
  - Results, in science and product development
  - Environmental performance, benchmarking and achievements
  - Bioethics, issues, status, progress and dilemmas

### *Teaching bioethics*

Teaching bioethics in Industry was not a conventional part of our daily work. We had to start more or less from scratch:

- None of our employees at any level have had formal training in ethics or bioethics.

- The philosophical terminology and conceptual handling of bioethics appear difficult and exotic to most of our employees (engineers, lab technicians). It had never been part of their formal training or education. However, we benefited on all levels from the long-term training and gathered experience in handling environmental issues and making environmental reporting. This process had trained many people in the organization to think not only linearly in financial accounting. Other aspects had to be included. By including bioethics in our values, strategy, practice and auditing we added one more important aspect.

***The major over-all lesson learned was that it pays back to be a responsible corporate citizen!***

The process of implementation included the following steps of teaching efforts, enabling us to go from Environment to Environment & Bioethics.

- External expertise was consulted to bench-mark and map issues (national and international experts).
- These experts gave a course for the Environmental Committee and upper management.
- A one year corporate-wide process was conducted under the heading: Values in action, and
- a shorter, follow-up course was given to the international managers of our global operation.

Thus this entire process included an inventory of the problems and the dilemmas as well as a process of making people aware of the area, and last but not least ensured that practice followed the fine words. We had to live up to: we do what we say and we say what we do also in the area of bioethics.

***Implementing in the entire business is a must!***

In all areas, but maybe especially within the field of ethics, it is of utmost importance not to have double standards. Therefore the next step was to make sure that the process includes the entire global business.

Further, this process can only be successfully completed if upper management commitment is ensured!

The entire process included training and awareness-building on many levels:

- Issue managers
- Line managers
- Project managers
- International R&D and business
- New personnel

*Writing things down sharpens the analysis*

In order to go through such a training-effort written material has to be developed, too:

Bioethics was included in a manual for product development decisions.

At this stage we again learned the lesson. The Environmental & Bioethics reporting in itself became a vehicle for progress and gaining of momentum, helping to drive the process.

The need for written material sharpened our own analysis. We made a rather simplistic but useful approach to conceptual bioethics:

- Bioethics is as we see it composed of three overlapping parts:
  - Human
  - Environmental
  - Animal
  - Sub-areas exist, e.g.;
    - Medical ethics
    - Food ethics

The four fundamentals in ethics include:

- Do well
- Don't do harm
- Respect
- Justice

*The four fundamentals, exemplified by Novozymes matters and daily life:*

- Do well (ex: products to provide useful sustainable solutions)
- Do not do harm (ex: work for the 3R's in animal experimentation: reduce, refine and replace!)
- Show respect (ex: label genetically modified organisms, GMOs, in order to respect the individual and informed choice)

- Don't add to injustice (ex: implement the Rio Convention, in word and spirit)

*The precautionary principle*

The introduction of the precautionary principle in the public debate on ethics and risk management became an important tool for us also in handling of bioethical issues.

The Novozymes way of handling the precautionary principle:

Example 1:

There is no scientific evidence that use of antibiotic resistance marker genes pose any risk at all to man or the environment when used in our production organisms; still we decide to outphase this convenient tool and develop a new approach more in line with public perception.

Example 2:

We have never experienced any safety problems when handling microorganisms from environmental samples. Still we implement a practice of "non-exposure" to all unknown microbes.

*Conclusions: lessons learned in teaching bioethics*

- Give examples, as close to every day practice as possible.
- Focus on both internal and external communication.
- Put it in plain words, relating to what is common for all of us.
- Remember to include the international angle; we must neither speak nor act with double standards.
- Communicate not only the result but also the dilemmas behind the actions and goals decided.

# Problem based learning in medical ethics: possibilities and problems

Jan Helge Solbakk, Center for Medical Ethics, Faculty of Medicine,  
University of Oslo, Norway

## Introduction

In this paper I am going to tell a story. It is about the writing of a recent textbook in medical ethics, *Medisinsk etikk. En problembasert tilnærming* (Medical ethics. A problem based approach)(1). The story is only partly mine; the rest belongs to two colleagues and friends in medical ethics, Knut Ruyter and Reidun Førde. For the last decade all three of us have been engaged in teaching medical ethics for medical students at the Faculty of Medicine in Oslo, employing material from a set of standard textbooks in medical ethics (2) and presenting to the students authentic medical case stories for them to discuss and ‘solve’. On behalf of all three, I think I am right to say that we have very much enjoyed teaching, not the least because we have had the possibility of experimenting with different teaching methods and approaches and have experienced the freedom of trying to develop ways of teaching suited to our own personal preferences. The joint result of this experience is the textbook mentioned above, where a problem based approach to medical ethics is tried out. As far as we have been able to figure out, this book represents the first attempt at employing such an approach in medical ethics.

## Problem based learning

Before presenting some of the possibilities that problem based learning might provide within medical ethics, a few general remarks about this method seem necessary. Problem based learning takes as its point of departure real life-situations and events a physician is faced with, and aims at *situating* theoretical knowledge into relevant practical situations in ways that make it easier for the students to activate this knowledge in later situations of a similar kind. The students work in small PBL-groups (Problem Based Learning-groups) of 7 to 8 participants and are administered by a

tutor from the academic staff. The group meets twice a week. During the first meeting the students are presented with a problem, often a case history. The students then have to identify and specify their 'learning needs' in relation to the problem, or case history presented, and start collecting knowledge (employing medical textbooks, databases, medical journals etc.) to try to give a solution of their own to the problem presented. This working process falls in the days (2-4) between the first and second meeting. During the second meeting the group gives an account of the results of the knowledge-processing process and discusses the results in the light of the original problem given to it and of the 'learning needs' having been defined during the first meeting.

## Possibilities provided by problem based learning in coping with prevailing teaching problems in medical ethics

### Problem 1: the *time* and *space*-problem

Time is one of the scarcest resources in today's medical ethics teaching in Norway. Approximately 50 hours is the total sum of time (PBL-groups, lectures, seminars, clinics) dedicated to medical ethics within the whole medical curriculum. One evident side-effect of this limiting factor is the impossibility of providing students with sufficient knowledge of and familiarity with different theoretical positions and traditions within medical ethics.

As the possibility of being given extra time is fairly close to zero, we have been forced to look out for more *time-efficient* ways of teaching medical ethics-theory. A problem based approach seems to us to provide possibilities of resolving this dilemma, at least to a certain extent.

This is the way we have tried to make the best of this possibility in structuring the textbook. The theoretical chapter of the book has been reduced to about sixty pages. Within these pages seven different theoretical positions in medical ethics are presented and discussed: a doctor's ethics approach, principle based ethics, utility-based ethics, duty-ethics, casuistry, virtue ethics and last, but not the least; a common morality-approach to medical ethics. The clue, we believe, is not the shortness of the presentations as such, but the *universal* way the positions are presented. The way is this: After a short presentation of the position in question follows the confrontation with an



authentic case, to test the position's resolution capacity. As the same test-case is used in relation to all positions presented, this gives the students the possibility of assessing the relative as well as the 'absolute' strengths and weaknesses of each position.

The case-history used in the theoretical chapter is this (3):

Kari, 37 years, is mentally handicapped. She has been living in an institution for most of her life. Her sister, Grete, whom she has met very seldom, is suffering from leukaemia. Grete is 32 years old, married with three small children. Bone-marrow transplantation is a possible life-saving form of treatment for Grete. No suitable donor is found. In the end, Grete's physician requires a blood test taken from Kari. The test shows a positive matching (tissue compatibility) between the two sisters, indicating that medically speaking Kari is a suitable donor. To serve as a donor of bone-marrow, Kari has to undergo anaesthesia.

Both the physician, the mother and the personnel at Kari's institution tries to make Kari understand what it is all about. In spite of these efforts Kari says no. According to the personnel working at Kari's institution there are similar problems with Kari when she has to go to the dentist. Even in situations of acute tooth problems Kari has refused to be treated. She has then been undergoing coercive dental treatment.

Kari's legal guardian is her mother. She gives her consent to use Kari as a donor. Among the personnel taking care of Kari there are different views as to the appropriateness of the mother serving as Kari's guardian in this situation. At the institution, a nurse serves as a second guardian to Kari. The mother urges the second guardian to consent to use Kari as a donor. At the end she gives her consent as well.

Problem 2: the *specification*-problem, the *theory-to-concrete-judgement*-problem

In his excellent 'Introduction' to the book, *Moral Theory and Moral Judgements in Medical Ethics* (4), Baruch Brody says that common problems for all existing moral theories in medical ethics are the so-called 'specification problem' and 'the theory-to-concrete-judgement-problem'. I agree with

Brody in this, but I think he is wrong in believing that a more refined moral theory would be able to provide adequate solutions to such problems.

In a paper written some years ago, about the concept of goodness in medical research, I argued that what is needed instead is an action theoretic framework capable of rendering an account of the *inter-relation* between medical epistemology and medical ethics (5). Such a framework I claimed in that paper would be more fruitful than searching for a more refined moral theory, both in order to solve the ‘specification problem’ and ‘the theory-to-concrete-judgement-problem’. I also held that such a theory would be able to handle a third problem: the problem of *identifying* or *assessing* whether an issue dealt with in medical ethics today actually is an ethical problem. My claim then was that certain problems treated as ‘ethical’ are not ethical in the ordinary and pure sense of the word ‘ethics’, but are rather problems related to medical epistemology, i.e. to a conflict between different conceptions of medical science or between different interpretations of medical knowledge and empirical data. Consequently, these problems *cannot* be adequately solved within existing theoretical frameworks. Or to put it more bluntly: The solutions offered are at best ‘pseudo’-solutions.

I still hold this view and I think it is valid not only for research ethics but for medical ethics in general. However, I believe we would still need a methodology that would enable us to test whether the resolution capacity of a new theoretical framework would be any better off than existing frameworks. The problem based approach employed in our textbook represents *one* attempt at finding the way to such a methodology.

Problem 3: the problem of *room and space*

The introduction of problem-based learning as a universal teaching method at the Medical Faculty in Oslo has reduced the number of ordinary amphitheatre lectures to a minimum, in favour of the system with PBL-groups. Among many teachers in medicine this reform has been denounced as representing a fundamental threat to possibilities of providing the students with sufficient *theoretical* medical knowledge. This is not the perception among those of us who are engaged in teaching medical ethics. On the contrary, we see this reform as providing us with a much better forum for moral training, because PBL-groups represent a return to the intimate teaching format and

space originally employed by the ancient giants in ethics, by Socrates and Plato: *the moral dialogue among a small group of participants*.

An additional reason for this preference is that within the moral space provided by a PBL-group medical students are not only made aware of, but hopefully also become used to a *shared* form of ‘solving’ or ‘resolving’ ethical problems. This seems to be particularly suitable in view of the interdisciplinary nature and relational structure of today’s medical practice. Besides, in such a forum the teacher’s role as something more than a provider of theoretical and practical knowledge is also displayed, namely his/her in vivo role as a *discussion partner* as well as an example or model of *lived* morality to be observed, be it good or bad!

For the time being we have not reached that far, as most of the teaching sessions in medical ethics still are in the form of lectures, seminars and clinics. Our aim and hope, however, is to be able to transfer most of the learning-process of medical ethics to the time-space and room provided by the PBL-groups. As most of the tutors in the PBL-groups are not medical ethicists but faculty members recruited from other branches of medicine, a possible solution would be to draft *all* the case histories given to PBL-groups to solve to include *ethical* problems and dilemmas along with problems of a particular medical nature. In this way the students would also become used to treating ethical problems and dilemmas as *embedded in* the complex web or matrix of medical decision-making, and not as something separate from it. An alternative way of facilitating the process of integration of ethics into medical decision-making would certainly be to offer ethics courses to the tutors of PBL-groups. Whether this represents a realistic option, is however, not yet clear.

Problem 4: the problem of *relevance* and *utility*

Medicine is a problem-solving and utility-oriented discipline and such are most medical textbooks read by medical students. One evident implication of this is that medical students’ learning interests evolve around acquiring knowledge they might be able to apply and around learning things that might in some way become *useful* to them. Consequently, in the process of learning, the focus of attention is on ‘know-how’-knowledge. A negative side-effect of this *instrumentalist* view of learning is that the students’ acknow-

ledge of – and sensibility to – so-called ‘know-why’-knowledge or background-knowledge might be seriously hampered. The notion of ‘relevance’ thus becomes more and more restricted and poor as the students proceed with their studies, often resulting in complete evaporation of their open-mindedness to theoretical knowledge when they approach the final semesters of their studies. Nobody has worded this discrepancy between know-how and know-why, between knowledge and wisdom better than the Swedish poet Harry Martinsson:

Til skänks  
har skräcken  
likt en stjärna  
blänkt.  
Min vän  
du vet för mycket  
utan att ha tänkt.

(*H. Martinsson, Aniara*)

For medical ethics this attitude is even more dangerous, I think, than for other disciplines taught to medical students. Because in order to gain the students’ attention and interest we might feel tempted also to present to them medical ethics only as a set of *tools* – alongside with other medical tools – for them to use and apply to solve problems. In this way, medical ethics as a *critical* discipline aimed at increasing the students’ awareness of their own moral responsibilities and of the normative role medicine plays in the society at large, risks being underscored. Ethics-teaching becomes an *entertainment*, while the teacher risks behaving like a *prostitute* eager to please the paying customer. Whether problem based learning is better equipped than traditional learning methods in medical ethics to cope with this problem, still remains an open question.

Problem 5: the problem of moral solutions in *non-ideal situations*

One of the main challenges in teaching medical ethics, we believe, is to make students accept and understand that in *non-ideal* everyday situations it is very seldom possible to reach a moral solution that is undoubtedly right, and that the real challenge rather consists in reaching an *acceptable* moral solution, i.e. a solution that all parties involved find they can live with, all

things considered. If this represents a true perception, then it also becomes important to try to make the students aware of how a morally acceptable solution might look like. In the methodology chapter of our textbook we aim at unveiling the *flexible* resolution capacity of the seven positions involved, by showing that each of them can be used to defend strictly opposing solutions of the test case. The intention behind this is partly to show that in moral decision-making ethical theories can be used to reach morally *consistent* and *coherent* solutions. More important, however, is to demonstrate that a theory is only an *instrument*, and that depending on *who* is using the instrument, the result of its use might also differ. By this, it becomes clear that it is not sufficient for a moral solution to be *theoretically* consistent and coherent, it must also be found to be morally *acceptable* by the different parties involved.

One way of clarifying how a ‘morally acceptable solution’ might look like is to draw the students’ attention to the notion of ‘moral consensus’. In our book we rely on the conceptual clarifications developed by the Norwegian philosopher and medical ethicist Knut Erik Tranøy. Says Tranøy (6):

Let p be an empirical claim or a moral principle. It is consensus about p between two or more persons if they agree that p is acceptable and none of them is of the opinion that p is unacceptable.

A closer look at this definition of ‘consensus’ makes clear that there are at least three possible ways of understanding the phrase ‘consensus about’:

- i) Person A and B can agree that p is *unacceptable*, i.e. both mean *positively* that p should not to be accepted,
- ii) A and B can agree that p is *acceptable*, i.e. both mean *positively* that p should be accepted,
- iii) A and B can agree that p is acceptable, but A or B might *abstain* from actively taking a stand on p.

While the two first forms of consensus here mentioned represent the *ideal* options, it is the third form that opens up for a broader notion of moral agreement, in that it *accepts* as ethically consistent the presence of certain forms of moral *disagreement* as an integral part of a genuine moral consensus. ‘Open consensus’ is the label proposed by Tranøy for this form of

moral agreement, which actually means that the parties involved have found it to represent an *acceptable* – although not morally ideal – solution. In the opaque reality of everyday medicine this represents a possibility, we believe, that deserves more moral attention than hitherto given.

Problem 6: the problem of *medical fallibility* and human *wisdom*

I will end this paper by presenting our way of didactically dealing with *medical fallibility*. This represents one of the problems we find most urgent to deal with in our teaching. The reason for this is that although this problem is already alluded to in the Hippocratic Oath, by the author's statement that the physician's knowledge of his duties of beneficence and non-maleficence towards needy patients relies on his capacity to stay within the limits of his own medical skills and knowledge, this role unfortunately does not seem to be highly regarded – or taken well care of – in medicine today.

On the contrary, the self-awareness prevailing in modern medicine seems to be of an enterprise which is science-based, and therefore *infallible*. That is, as long as medicine proceeds in a scientific way, *errors* can – and should – be avoided. A fallible physician is therefore viewed as an anomalous – and culpable figure; by the medical community as well as by the society at large. This is also the main reason, we believe, why the medical community normally reacts with denial and rejection to accusations of medical errors or malpractice, while the world – and even more the media-world – outside reacts with astonishment and rage to the fact that medical errors still exist! (7) Our claim is that both reactions are wrong, due to the same fundamental misconception of the nature of medicine. Otherwise spoken, the art of medicine has never been, is not, cannot and should not be to strive to become an infallible enterprise. Although medicine is a *scientific* discipline, it is not scientific in the sense of mathematics or physics, i.e. medicine is not a science of universal laws: medicine is a science of individual entities – of *particulars*. According to the American philosophers, Samuel Gorovitz and Alasdair MacIntyre, that is also the reason why medicine needs a theory of “*medical fallibility*” (8). Without such a theory, medicine will not be able to distinguish between medical errors that are *unavoidable*, and a second form of errors which are – and therefore ought to be – avoidable. As to the first

group of errors, the group of *unavoidable* errors, Gorovitz and MacIntyre, identify three main sources:

Source 1: The state of medical knowledge: “Error may indeed arise from the present state of scientific ignorance...” (9).

Source 2: Universal knowledge applied to *individual* patients may not work according to the generalized rules.

Source 3: Medicine is not only based on scientific knowledge; it also takes into account different forms of “soft” knowledge, such as background knowledge about the individual patient, patients’ own stories, tacit knowledge etc.

According to Gorovitz and MacIntyre, it is of fundamental importance that medicine openly acknowledges – and accepts – these forms of medical fallibility. In this way, the physician-patient relationship may also become defined in a more adequate way, i.e. as a relation where errors necessarily will occur. Thus, patients and the community at large will also be forced to acknowledge, accept and respond in a reasonable way to certain forms of medical errors, the ones that are unavoidable (10).

A fourth, and last source of medical error, identified by Gorovitz and MacIntyre, relates to the individual physician and takes the form of negligent behaviour towards the individual patient, to inadequate updating of one’s medical knowledge, to practical failures, to inadequate communication, or simply, to bad manners. These forms of error, Gorovitz and MacIntyre consider to be avoidable, and therefore “culpable errors” (11) the individual physician should be considered answerable or accountable for.

I will end this paper by presenting the checklist we provide the students with in order to deal with the complex reality of medical errors:

If you believe there is a possibility that something may have gone wrong, or that somebody might accuse you of having committed a medical mistake:

1. do not forget to leave traces in the patient’s records,
2. speak with somebody when you have failed,
3. care for your colleague when he/she has failed,

4. do not try to be clever; what patients need are physicians who acknowledge their fallibility.

## References

- (1) Ruyter KW, Førde R, Solbakk JH., *Medisinsk etikk – en problembasert tilnærming*, Gyldendal Akademisk, Oslo 2000.
- (2) Beauchamp TL, Childress J., *Principles of biomedical ethics*, Oxford University Press, Oxford (1979) 1994; Tranøy KE., *Medisinsk etikk i vår tid (Medical ethics in our time)*, Sigma forlag, Bergen (1991) 1994; Wulff HR., *Den samaritanske pligt*, Munksgaard, København 1995.
- (3) The case story represents a modified version of a story presented in a Swedish textbook in medical ethics: S. Gustafsson, *Etik – att handla ansvarigt*, Liber, Stockholm 1996, p. 13.
- (4) B. Brody, Ed., *P&M*, 32, Dordrecht/Boston/London: Kluwer Academic Publishers, 1988, p. 2.
- (5) J.H. Solbakk, “The concept of goodness in medical research. An action theoretic approach”, in Weisstub DN (Ed.), *Research on human subjects: ethics, law, and social policy*, Pergamon, Kidlington/Oxford 1998, pp. 73-87.
- (6) Tranøy KE, *Det åpne sinn: moral og etikk mot et nytt årtusen (The open mind: moral and ethics in a new millennium)*, Universitetsforlaget, Oslo 1998, p. 155.
- (7) Margrethe Lomholt Kemp og Peter Kemp, *Et liv der ikke dør. En bog om lægekunst og menneskelighed*, Spektrum, København 1998.
- (8) Gorovitz & MacIntyre, “Toward a theory of medical fallibility”, *Journal of Medicine and Philosophy* 1, no. 1, 1976, pp. 51-71.
- (9) *Ibid.*, p. 62.
- (10) *Ibid.*, p. 64.
- (11) *Ibid.*, pp. 66-71.



# Methods of teaching bioethics

Birgitta Forsman, Department of Philosophy, Lund University, Sweden

Ten days ago I met a man from another Swedish university, who claimed that we have talked too much about ethics and risks in biotechnology. I couldn't agree less. He also said that we should talk much more about power issues in biotechnology. I couldn't agree more. This exchange of opinions took place at a seminar called 'Knowledge and Ethics', which was a part of the 'Week of Popular Science' in Stockholm.

I think that our different claims on ethics only seemingly was a disagreement. The difference in our statements could easily be explained as different conceptions of ethics. In my view, my counterpart had a much too narrow conception of what ethics is about, while I have a much broader concept of ethics, in which questions about power play an important role.

I think this is the first pedagogical problem: to explain why it is important to talk about ethics in biotechnology, and in biology at large.

The general conception of science – and gene technology in specific – is split into very different attitudes, also within the same persons. On the one hand, people cherish hopes for new pharmaceuticals and methods of bringing health and welfare to themselves – and perhaps also to the rest of the world. On the other hand, people are sceptical against scientists. Some are worried because they don't know what scientists are doing in their laboratories. Others are worried because they do know what scientists are doing – and what they are neglecting.

Science is an important thing. Maybe not so important as some scientists believe, but still important. I think that what makes science important is its potential for changing our vital conditions. Therefore, we must be confident that we can rely on research results. It is not acceptable that data are being fabricated or manipulated. It is not acceptable that sloppy procedures are being used in laboratories and other research departments.

This is one reason why we need education in bioethics and research ethics – for preventing bad behavior.

There are several possible target groups for the teaching of bioethics:

1. Students.
2. Graduate students.
3. Tutors, mentors, supervisors, or whatever you might call those who are supposed to help graduate students and young researchers.
4. Heads of university departments and other leading persons in the scientific community.
5. Many different professional groups.
6. Politicians.
7. Perhaps also ‘ordinary people’.

Since my experience is mostly from teaching research ethics, I will concentrate on target groups 2 and 3, although much of what I say is relevant for other groups too.

I hope, and also believe, that most people want to do ‘the right thing’. There seems to be a general supposition that what people say they think should be done, they also do. However, I think there are several steps between claim and action that have to be considered, and that make difficulties for education methods. There are at least the following steps:

1. What a person says he thinks should be done.
2. What the person really thinks about this.
3. What the person thinks he would do.
4. What the person really does in a normal situation
5. What the person does when under pressure.

In the context of ethics education it would, of course, be interesting to know how these different steps could be connected. It would be interesting to know how – if at all – knowledge is transformed to conviction, and how – if at all – conviction is transformed into action. This is an important pedagogical problem, which I think is rather uninvestigated.

According to Ference Marton and Shirley Booth there are three temporal phases of learning:

- The *acquisition* phase, in which knowledge is acquired and absorbed.
- The phase of *knowing*, in which the learner processes or stores up knowledge.
- The phase of *making use of*, applying, or exploiting the knowledge.

Marton and Booth themselves are not content with these temporal phases. They want to see the process intertwined. They want to see learning as a seeking for ‘meaning’. In this process, the second highest phase is ‘seeing something in a different way’, and the highest is ‘changing as a person’. I don’t know if we really can have that high expectations for the results of education, but it is a beautiful view.

When people talk about the need for teaching ethics, I believe they often have a more modest goal in mind. If you can get the learners to make use of knowledge, that is great, I think many people would say. In bioethics we need knowledge of certain kinds – more about that below – but we also need a rise of awareness concerning values.

John Ziman, emeritus professor of physics and a renowned writer on science policy, has been thinking about science students and morality. He says:

[S]cience students are not amoral beings, brought up in an ethical vacuum. They are products of a lively, articulate, moralising culture. They have already acquired [...] rules of conduct [...]. They are often logically inconsistent. People love animals and eat meat. They pity the poor and buy themselves luxuries. They pray earnestly for peace and go to war. But these happen to be the ethical principles that they have and hold. It is not within our power as teachers – especially as science teachers – to try to change them.

Nevertheless, he concludes,

scientists [...] are not accustomed to articulating the moral values that motivate them. These values are largely taken for granted, and only come into question when things go wrong. [...] In sum, science education ought to include a module on the *practical ethics* of science.

The experience of many ‘ethicists’ is, however, that scientists are rather – if not hostile so at least uninterested in ethics education. David Resnik says the following in his book *The Ethics of Science*:

Even those scientists who take ethical improprieties and issues seriously may believe that scientists do not need to have any formal instruction in ethics. [...] If a person is already ethical when she enters the scientific profession, she will continue to be ethical; if she is not [...] then no amount of instruction can make her become ethical. Even those scientists who think that some kind of ethical learning can take place in science may still believe that there is no need to teach ethics because students learn ethics by example, practice, and osmosis. Since ethical knowledge in science is informal and tacit, scientists do not need to spend valuable class time going over ethical standards and concepts. [...] All of these views I have just discussed erect barriers to the serious study of the ethics of science, and they are deeply misguided.

Moreover, the ordinary research education sometimes even may promote bad moral behavior, since young researchers quickly learn how the existing reward systems work, and good morality is not always rewarded, according to Resnik.

Now, is there a need for teaching bioethics and research ethics at universities? According to some testimonies of graduate students both in Sweden and America, we cannot rely on ‘osmosis’. There are reported misconducts in university departments that should not be transferred to the new generation of researchers as an accepted practice. Hopefully, these misconducts could be reduced – if not eliminated – by an organized ethics education.

From one testimony of an American graduate student in an investigation of ‘ethical beliefs of graduate students concerning research’ I quote:

It all started when I stood up and said that things are not quite as they should be. That

- a person that has never ever in her/his life typed a single line on a supercomputer, cannot become a professor of supercomputing applications;

- a person that is signing with her/his name blank review forms of technical papers or research proposals and then giving them to students to write a review;
- a person who walks into the office of students saying ‘Does anybody know what the hell a \_\_ transformation is? ... you do? ... OK here is a paper for review’;
- a person who manipulated experimental data in order to make the overall trend look more like the one that was originally hoped for [and so on].

What response did this student get? The ‘school response’ was:

OK we have heard you. Now go home and speak to nobody about these things. Answer only to what we ask, when we ask.

A typical individual response from faculty members was:

You have a good intention, but you are only going to get smashed. You cannot do anything from your position.

Individual responses from other graduate students were the following:

- So, what’s wrong? That’s how things work.
- I agree, but the only thing you will do now is hurt yourself, and make your life like hell.
- Well, when you become a professor, you will do the same things. That’s what everybody does.
- I think you are acting out of arrogance mainly. Who do you think you are?

Are things better in Scandinavia? We can only hope so. However, some testimonies from graduate students at a high-ranked medical school in Sweden are rather depressing:

- I don’t think that ethics is much discussed. It can even be that certain ethical reasonings are silenced by experienced scientists and tutors. There are tendencies of thinking that this is rubbish and nonsense.
- I am working in a big multi-centre study. Among other things we collect blood samples. I have noticed that the study is not well run. There

is carelessness in the handling of data. I also know that there are defects in the quality of the collection of data. People work in different ways, though they shouldn't. Partly this is caused by bad management. What do you do as a graduate student when you see that research is not well run? As depending on the benevolence of the professor, you shut up.

- Direct fabrication of experiments that never have been done is probably unusual, but there are many grey zones. The competition and the press to publish is hard today in many disciplines, and the temptation is great for excluding some negative data and omit repeating the experiment, out of fear of getting different results. There is a need for both ethical and methodological education.
- Bring in a competent psychologist to lecture about how people are affected by dealing with suffering and how you can be observant on blunting, which makes you neglect following the recommendations from the animal ethics committee. This is regularly occurring in our lab. I have done it myself and been thinking a lot about why. You should include this in the education for supervisors. They are the most careless, and they set the norm.

A fifth graduate student said that ethics education was good, but he (he points out he is a male student) complained that it had been too limited to the Jewish-Christian tradition of values and asked for a wider concept of ethics.

I don't know whether these statements on misconduct, misbehavior and shortcomings give a representative picture of how things are at research institutions. In fact, I hope not. They were spontaneously given by graduate students who were asked for comments on ethics education.

As we can see, there are limitations of single scientists' possibilities to monitor research ethics in their own practice. This monitoring can be threatened by:

### 1. Lack of perception

The scientist does not see the problem, because he or she

- has not become aware; and/or
- has become used to the practice; and/or
- cannot grasp the whole context and spot his or her own part in it.

### 2. Lack of courage

The scientist does see the problem but would not dare to do anything about it.

### 3. Lack of power

The scientist can see the problem and wants to do something but is not able to change anything from his or her position.

Are there any methods for overcoming these difficulties? Some possible instruments for improving ethics in research are the following:

#### *Formal instruments*

- laws, codes and rules;
- ethics committees;
- bodies for dealing with allegations of scientific misconduct;
- education in research methods and ethics.

#### *Informal instruments*

- counsellors, ‘ombudsmen’, for discussing assumed deviations from good scientific practice;
- discussion groups (for empowerment) within and outside the place of work.

Education in research methods and ethics I have pointed out as one of the ‘formal’ instruments. Then, how can such education be performed? We need several methods for different purposes.

### 1. Methods to provide knowledge on

- scientific facts;
- moral philosophy and argumentation;
- research policy;
- power issues.

2. Methods to raise awareness of problems.
3. Methods to change attitudes.
4. Methods to improve behavior.

The first objective, providing knowledge, can be met by courses, lectures, seminars, textbooks and manuals. This is the most uncomplicated part.

Items 2, 3 and 4, however, also concern what I would call ‘moral psychology’. Knowledge can help but is not enough. Good models, *exemplars*, are needed, and so is empowerment.

I don’t think that the problems of items 2, 3 and 4 have been sufficiently recognized. There are pious hopes that knowledge is enough to bring about a changed behavior. I am afraid it is not enough. However, it is a good beginning, since some improprieties are done out of ignorance.

Some rather radical suggestions regarding education are the following, which come from Harold Hillman, the British medical scientist who coined the word ‘parafraud’:

- Teaching logic, semantics, the theory of knowledge, intellectual honesty, and statistics in all university courses.
- Encouraging students to challenge the accepted paradigms and to ask ‘awkward’ and fundamental questions.
- Deliberately encouraging a culture of academic integrity, including intellectual whistle blowing.

Hillman wants to address a wide range of problems. Others have pointed out that many simple and ‘self-evident’ things have to be taught. Stephanie Bird at MIT says:

Foreign students may also need extra help in deciphering the unarticulated aspects of research practice. For example, in some cultures plagiarism is a high form of compliment so individuals from those cultures need help in understanding that it is not only NOT universally acceptable, but, in the Western scientific community, it is prohibited.

Then, what about education for tutors, supervisors and mentors? One observation is this from Julia Frugoli:



The results of good mentoring and good parenting often are not visible until many years after the fact, so there is little immediate feedback. [...] Moreover, just as in raising children, it takes a village to train research scientists.

Carl Djerassi, a well-known professor of chemistry, has reported this experience:

In 1987, as a member of the National Academy of Sciences' Institute of Medicine's Committee for the Study on the Responsible Conduct of research, I chaired a panel on education and training for research. [...] During the 12 months of our deliberations I could not help but reflect on my past performance as a mentor. [...] I was particularly struck by the ad hoc manner in which many senior professors (including me) in the top chemistry research departments deal with the mentoring issue. Young faculty members get absolutely no formal guidance. [...] More important, I was struck by the total absence (at least in those elite institutions with which I am familiar) of any formal mechanism for evaluating the mentor's performance.

One week ago, a course on ethics was held for researchers on different levels. It was sponsored by the American Office of Research Integrity, and the topics included:

- defining and identifying misconduct;
- authorship;
- data access and ownership;
- conflict of interest;
- human subject protection.

Now, let me say something more concrete about teaching methods and begin with courses.

I think there is a need for basic courses that give a broad view of the field. These courses do not have to be long. The main purpose I think is to arouse an interest in the problem area and get people to think more about it. Discussion is a very important part of such courses.

How should they be organized? There are several ways.

The common course is a campus course at a university. Often such courses are concentrated to a week or two. My own experience is, however, mostly

from courses that are extended through four or five weeks with only one or two course days a week – often half-days. Many students seem to prefer having some time between the lessons, in order to read, think and digest what they have heard.

Another form of course is the concentrated boarding course, where people come to a place and live there for some days, a week, or a week-end. Nordic courses often have this structure. If people from distant places are coming together, this is a rather handy form of course.

A third kind of course is the distant course on the Internet. I have some experience of having created and run such courses, at the medical faculty and also at the University of Technology in Lund. Since this is the most unknown kind of courses, I will say something more about it. There are both advantages and disadvantages with courses on the Internet.

The biggest disadvantage I think is that you as a teacher may not meet people live. However, an introductory meeting to which all students come and get technical information and also have the opportunity to talk to each other is recommended. Depending on economic resources, also at least a live meeting at the end of the course is good to have, as a suggestion, combined with a final dinner.

Many people feel uneasiness in relation to Internet courses, and so do I, partly. However, when I try to find out why, I come to the conclusion that there are no good reasons for being negative. I believe the uneasiness is mostly a fear of the unknown.

In fact, there are many advantages. First of all, it is flexible in time and place. People who are very busy in their ordinary work can choose any time to sit down and receive the lessons and give their contributions to the discussion. It does not matter where they live. They are as close as everybody else. And they do not miss a single lesson or discussion, even if they happen to be ill for some days. This flexibility is the most obvious advantage.

However, there is also a flexibility of contents. The constructor of the course can any time add new information as links to new national or international documents. In that way you can always be sure that the course material is up-to-date. Of course, this makes great demands upon the person

who makes the course. On the other hand, it is possible for many teachers to use the same course material. Of course, this can be regarded as rather uninspiring, but nothing prevents the single course leader to update his or her own course.

An advantage for the students that has not been much discussed is that silent and shy persons are not forgotten. Some shy persons think it is easier to write than to speak in a group. And here everybody has to make his or her contribution to the discussion. They must not be silent.

I think it would be a good idea for the Nordic Committee on Bioethics to initiate an Internet course for participants from Iceland to Lithuania. Of course, there is a lot of work to do before such a course can be performed, but regarding research ethics I have a concept of how a course with different modules could be shaped. For example, I would like to have the 'best' experts on different issues to give a lesson both orally (video-taped) and as a written text. I don't say more about this for the moment.

For every kind of course I think it is important to give a broad view of the problem area. That means also a literature that does not show only one side of a controversial issue. I also think that it is necessary to have some compulsory literature and not only recommended literature.

Basic courses are not enough, however. There is a need for several complements. The most obvious complement is seminars on specific topics. These seminars can be held at one department or for the university as a whole.

It is extremely important to reach key persons. This is mainly because key persons set the norms and therefore have to know what norms they should set. If ethics is to be taken seriously, it is in need of support from high-status persons in the scientific community. Unfortunately, you could say, but that is how it works.

Another complement to courses is a more effective distribution of information, for example booklets from different bodies that deal with questions of bioethics. It is important to secure that relevant departments and public libraries are on the mailing list and automatically receive new booklets. In such booklets you can often find information and analyses of a far better quality than in ordinary books. Unfortunately, these booklets are often un-

known. I think that when governments and tax-payers put money into boards and panels with the mission to initiate debate and raise awareness on bioethics, it is important that the publications from these bodies reach the public.

Courses and seminars are mostly about knowledge. As I said before, knowledge is just one step in the way to better moral actions. How should we deal with the rest? Perhaps it would be a good idea, as one of the cited graduate students suggested, to bring in a ‘competent psychologist’. Perhaps exercises in empathy could help. I really don’t know, but I think it could be worth-while to try.

How to proceed from the step of knowledge to the step of good actions is one big problem. Another problem is that ethics teaching is mostly directed to individuals. It is regarded as a micro-level, personal, problem. The main objective seems to be inducing decency in individuals.

This is very good, but it is not the total solution of the problems. There is a macro-level too. Issues such as politics, power structures, commercial influences, patenting, and so on, are extremely difficult for the individual to deal with.

I think this was what the scientist I mentioned in the beginning, he who asked for less ‘ethics’ and more power studies, meant. He is himself working with problems regarding genetic modifications of crops. In this field it is obvious that big companies have more power than many governments and countries. How can such problems be met, especially from the third world’s point of view? What can be done in teaching on macro-level problems? For now, I can only see the solution of bringing these issues to the fore. Shed light on them! This is not sufficient, but it is necessary.

To sum up, my preliminary, modest, recommendations are:

- Give short courses on ethics, bioethics and research ethics as a generally instructive base. These courses can be given as campus courses or via Internet. Discussion is a vital part of such courses.
- As an addition, arrange seminars on special topics!

- Try to include senior researchers and leaders of departments! Leading figures are important for the research climate. They set the norms, and let that be good norms.
- Improve the distribution of valuable publications!

## References

- Bird S.J. (2001) 'Mentors, Advisors and Supervisors: Their Role in Teaching Responsible Research Conduct'. *Science and Engineering Ethics* Vol. 7: 455–468.
- Djerassi C. (1991) 'Mentoring: A Cure for Science Bashing?' *Chemical and Engineering News* Nov. 25: 30–33.
- Frugoli J. (2001) 'Commentary on 'Mentors, Advisors and Supervisors: Their Role in Teaching Responsible Research Conduct': It Really Does Take A Village'. *Science and Engineering Ethics* Vol. 7: 469–470.
- Hillman H. (1998) 'Some aspects do not fall within remit of bodies examining fraud'. *BMJ* Vol. 317: 1591.
- Hillman H. (2001) 'Research Practices in Need of Examination and Improvement'. *Science and Engineering Ethics* Vol. 7: 7–14.
- Marton F. & Booth S. (1997) *Learning and Awareness*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Resnik D.B. (1998) *The Ethics of Science: An Introduction*. London/New York: Routledge.
- Sprague R.L., Daw J. & Roberts G.C. (2001) 'Influences on the Ethical Belief of Graduate Students Concerning Research'. *Science and Engineering Ethics* Vol. 7: 507–520.
- Weil V. (2001) 'Mentoring: Some Ethical Considerations'. *Science and Engineering Ethics* Vol. 7: 471–482.
- Wigforss E. (2000) *Utveckling och kvalitetssäkring av nätburen distansutbildning*. Lund: Sekretariatet för fortbildning, vidareutbildning och distansutbildning, Lunds universitet.
- Ziman J. (2001) 'Getting Scientists to Think About What They Are Doing'. *Science and Engineering Ethics* Vol. 7: 165–176.
- The ORI course was presented at <http://www.uab.edu/ethicscenter/ori.html>

The viewpoints of the Swedish graduate students were reported at a seminar held by the Swedish Medical Research Council in October 2000 after a survey made by Clara Gumpert. I thank Clara Gumpert and her informants for letting me use this material.



# Teaching bioethics

## Group report and final discussions

Helge Klungland, Faculty of Medicine, Norwegian University of Science and Technology, Trondheim, Norway

At the crossroads of natural sciences and moral philosophy, the multidisciplinary nature of bioethics challenges a wide range of scientists. Whereas biology is the science concerning life, bioethical studies aim at analyzing the ethical problems that arise as a consequence of research developments. In 1971, Van Potter defined bioethics as “Biology combined with diverse humanistic knowledge forging a science that sets a system of medical and environmental priorities for acceptable survival”. Today, bioethics often focuses on the value issues related to the rapidly developing fields of biotechnology and biomedicine. Taking into regard the diverse aspects of bioethics, several questions could be raised on how and to whom to teach the subject. Four topics were outlined for the group work: “Themes and targets”, “Approaches and teaching methods”, “Cooperation and Nordic networking”, and “Education of teachers and teaching methods”.

### Themes and targets

There are several target groups that should be focused on when teaching bioethics. First of all there is a need for increasing the biotechnological literacy of the *general public*. People are becoming biotechnological citizens. “Biodata” are given to databanks and will be used for research purposes, for satisfying both public and private interests. It will therefore be important to increase biotechnological and bioethical awareness among the general public. More science related articles should be published in the mass media, where science criticism is needed.

Although we would hopefully all benefit from scientific progress, a number of difficult decisions will have to be made based on today’s rapidly developing biotechnological research. Both *politicians and legislators* play important roles when new technologies are being introduced. However, parliamentary debates within the area of bioethics are often confusing, indi-

cating that the politicians are not sufficiently prepared for debating the issues. Increased interaction between the general public, scientists and legislators is needed and would benefit all involved. *Scientists* participating in biotechnological research will clearly constitute an important target group, and increased awareness of the ethical implications of their work should be encouraged. The same applies to people involved in different aspects of *health care* who inevitably have to deal with a number of ethical dilemmas. In addition, various groups of *students*, e.g. in philosophy, science and human and veterinarian medicine, will in the future hold positions where ethical knowledge and constant awareness of bioethical implications will be needed. Finally, the fast growing *biotechnology industry*, including pharmaceutical companies, will, while commercializing biotechnological and health data, go through ethical conflicts and have much need for awareness of ethical problems and application of ethical reasoning.

A distinction must be made between law and ethics. Ethics may not agree with the solutions proposed by law. When teaching law on matters of biotechnology or biomedicine, the teaching has to include ethical reflections. Law could be regarded as a kind of “minimal ethics”, but it is also different from ethics, containing something more. Ethics is both under the law and distinct from the law. In the Norwegian act relating to the production and use of genetically modified organisms (Gene Technology Act), these questions are raised in section 1, Purpose of the act, saying that “The purpose of this Act is to ensure that the production and use of genetically modified organisms takes place in an ethically and socially justifiable way, in accordance with the principle of sustainable development and without detrimental effects on health and the environment”. In most cases regulations follow the introduction of a new technology and are aimed at controlling it, often as a result of public awareness. Certain ethical problems are, however, difficult to deal with from a legal point of view, for example the patient doctor relationship, including harassment.

An important task for ethicists is to identify bioethical issues. They should initiate debates and indicate how the issues could influence people’s lives. This is not to tell right from wrong or good from bad. Ethicists should help improving the knowledge and skills required for making decisions in bioethical matters. As mediators between science and public and between



public and science, ethicists do have a basic function in targeting the issues that are of interest for today's society. A large number of themes could be mentioned in the area of bioethics. From a scientific point of view, genetical studies related to ageing are of great interest, and could be carried out without any ethical reflections. Increasing knowledge in this area could, however, raise a number of ethical questions. Information on your own expected "genetically determined lifespan" will raise such questions, and will very likely be of interest to insurance companies, as is the case with a number of existing diagnoses (DNA-based or not). Furthermore, prolonging life will create challenges that are associated with an ageing population. These aspects are not necessarily clear from the point of view of the research scientist, but it can be argued that they should be. It is important that ethical questions be addressed at an early stage of research projects, but sometimes it looks as if scientists do not want to acknowledge difficult ethical questions raised by their research.

When it comes to health care personnel, training in medical ethics is important and will meet new challenges created by modern technologies that are producing novel possibilities. Ethical guidelines should be formed to assist in difficult medical decisions. Public agreement, or at least a democratic consensus, could form a basis for decisions on what to do and what not to do. The unique knowledge held by scientists and health care personnel will be needed within this area, and these groups should be active in forming guidelines as well as participating in public debates on bioethics. Recent examples of guidelines can be found in areas like genetic screening and prenatal screening. Current research on cloning and stem cells has also created a need for regulations. Education in bioethics should help the general public, politicians, scientists, health care professionals and others to deal with ethical problems or dilemmas raised by these and other techniques.

## Approaches and teaching methods

The purpose of teaching bioethics is to increase the awareness of ethical questions raised by the rapidly developing area of natural science and technology. Furthermore it is beneficial for those coming from the natural sciences to get philosophical training in order to be better equipped to analyse specific ethical problems.

There are several practical factors that influence both the way how ethics is taught and what is taught. These include the faculty or professional background of the student and teacher, the size of the course (number of points) and the number of students attending it. Large groups of students tend to limit the possible ways of teaching and the course tends to be more teachers centered. The student is then usually passive whereas the teacher lectures. In subjects like ethics where it is important to practise an honest dialogue the student has to be actively participating and therefore it is preferable to teach in smaller groups (of about 20 students).

The field of bioethics is particularly suitable for alternative teaching methods like group work, student presentations, problem based teaching and case studies. As already mentioned, it is essential that the student is actively participating, practicing the skill of forming arguments and searching for ways where consensus to difficult dilemmas can be reached.

Exchange of lectures and students from different universities could be fruitful, leading to exchange of ideas and methods. Further, the interdisciplinary nature of bioethics implies that the simultaneous use of two teachers, one with a philosophical background and the other with a biological/medical background, could bring together the two worlds that the two teachers represent and by doing so cast better light on the nature of bioethics.

Since applied ethics tends to have a political angle it can be of interest to involve communication with the media, e.g. a panel where the students can meet people from the media and discuss the way certain ethical dilemmas are introduced to the public and suggest ways in which the public could participate in debates on ethical policies.

## Cooperation and Nordic networking

The present situation of teaching bioethics differs between the Nordic countries. In medical bioethics education, Denmark and Sweden seem to be far ahead of for example Iceland and Finland, and there is no organization for teaching bioethics that would take into account the characteristics and points of view shared by the Nordic nations. A need is therefore seen for a Nordic centre, organization or network which would enable teachers, students and future researchers from different countries and different disci-

plines to share ideas, conduct research and provide information on bioethical issues. Ph.D. students should be encouraged to circulate within the Nordic countries, although visits to research centres in other countries will continue to be important.

It is well known that culturally the Nordic countries have much in common. However, different languages are spoken, and despite the fact that the majority of the Nordic nations speak a language understandable to most, the differences are such that there is need for a common language for teaching and communication. This is also necessary if the Baltic countries are to be involved in these activities. Therefore, it is recommended that the teaching and networking should be conducted in English.

The least ambitious method of cooperation is that people in charge of teaching meet occasionally to share ideas. There is a lack of competent teachers in bioethics, and in a multidisciplinary environment such as bioethics, the normal method of qualification through individual research is not sufficient. Good communication skills are important and networks are also needed (see [www.biocenter.helsinki.fi/finbionet](http://www.biocenter.helsinki.fi/finbionet)). Developing connections with different organizations and associations is also essential.

Another method of cooperation is to establish Nordic bioethics courses intended both for students and teachers. Although the number of students (e.g. Ph.D. students) is likely to be considerable, the initial courses should also include teachers. The students are probably easier to recruit than teachers and are an important future resource for teacher positions. Courses should be multidisciplinary both with regard to teaching and the participating students, and subjects should at least include aspects of ethics, law, theology and sociology. The teachers should come from different countries and represent various backgrounds and views. As there is not yet any centre or organization where the courses could be given, a team of teachers could be organized to give a course in different universities in each of the countries. Using the Internet for educational purposes should also be encouraged, as it will be a great source of information on the development of bioethical issues both in the Nordic countries and elsewhere. Participation in international seminars would also be valuable and could provide a good starting point for building international networks.

All these ideas need a source of funding. If a teaching programme, seminars or other means for networking are proposed without any permanent financial backing, existing organizations could be used (NorFA provides funding for administration, travelling, mobility of students and maintaining the virtual learning centre). For more substantial efforts, EC funding may be found useful, especially when new applicant countries like the Baltic countries are included. If proposing a research and teaching centre, substantial funds will be needed, and in addition to the EC, The Nordic Council and others might be among the founders.

## Education of teachers and teaching materials

The Nordic Committee on Bioethics does have an essential position for developing a Nordic network in bioethics. Initiative should therefore be taken to arrange seminars for teachers of ethics. These seminars could build up a network where people can meet, exchange opinions, and support each other. There should also be a list of philosophers, lawyers, psychologists and others that also could contribute to teaching (teaching should be related to research).

For those who are involved in teaching bioethics, especially those who are “amateurs”, access to teaching materials is crucial (see [www.bioethics.net](http://www.bioethics.net), [www.codex.uu.se](http://www.codex.uu.se), [www.vr.se](http://www.vr.se) and [www.ncbu.se](http://www.ncbu.se)). Also for the students, there is a need for access to material that they could pick up by themselves. This work could be organized by the Committee by establishing Internet links or by promoting the writing of textbooks. Such material should include case studies that are of local interest. A number of such cases could be found within the Nordic countries. At the University of Helsinki a “bank” of ethics cases is stored. Philosophers, lawyers and medical doctors have commented on more than forty cases, illustrating the interdisciplinary nature of bioethics. As mentioned previously, common teaching of students from different faculties will probably raise the quality of bioethics education as different views could be brought into the discussion.

## Future prospects

During the final session, future prospects and recommendations were discussed. First of all, a broad range of teachers has to participate in the teaching of bioethics, including philosophers, theologians and scientists. Teaching bioethics is more than sharing views and a good will, and skilled ethicists should, therefore, hold principal positions where possible.

Several different approaches for organizing bioethics teaching could be conceived of. These include both a separate Department of Bioethics and expansion of existing departments of philosophy or medical sciences. These examples would, however, not fully satisfy the need for an interdisciplinary approach to bioethics. Models of organization have to take this into account. One possible strategy would be a cluster organization where different faculties or departments work together and form a Nordic Department or Institute of Bioethics. However, rather than forming a new Department, the need for cooperation could be satisfied through a Nordic Network of Bioethics.

Final recommendations focus on the need for an interdisciplinary centre or arena for developing bioethics. A Nordic programme for teaching bioethics where professors, researchers, medical doctors, students and others participate should be arranged, and these courses should be utilized also for establishing network between teachers and participants (which are future teachers). Students from all disciplines of science should be encouraged to take part in these courses. Additionally to the integrative approach to bioethics that has been emphasized here, we should not forget that ethics should also be allowed to “live on its own” and to develop independently from natural science, thereby delivering new approaches and ideas to the field of bioethics.

*This report is based on the final discussion and group work carried out during the second day of the seminar on “Teaching Bioethics”. Sigríður Þorgeirsdóttir, Mette Harther, Laila Rekstad, Salla Lötjönen, Vilhjálmur Árnason and Ritva Halila are all gratefully acknowledged for leading the group work and giving reports.*





## Obtain your Nord and TemaNord reports from:

### BELGIUM & LUXEMBOURG

Jean de Lannoy  
Avenue du Roi, 202, 1190 Brussels  
Tel +32 (0)2 538 5169 Fax +32 (0)2 538 0841  
jean.de.lannoy@infoboard.be

### CANADA

Renouf Publishing Company Ltd  
5369 Canotek Road, Ottawa, Ontario K1J 9J3  
Tel + 1 (613) 745 2665  
Fax + 1 (613) 745 7660  
order.dept@renoufbooks.com  
www.renoufbooks.com

### CHINA

C N P I E C  
Europe Division 16 Gongti East Road  
P.O. Box 88, Beijing  
Tel +86 10 50 66 688-8 Fax +86 10 50 63 101

### DENMARK

Svensk-Norsk Bogimport A/S  
Esplanaden 8 B, 1263 København K  
Tel +45 33 14 26 66 Fax +45 33 14 35 88  
snb@bog.dk  
www.snbog.dk

### ESTONIA

Viruvärava AS Raamatukauplus ILO  
Rävala pst 7, 10143 Tallinn  
Tel/fax +372 631 31 95

### FAROE ISLANDS

H.N. Jacobsens Bókahandil  
Postboks 55, 110 Tórshavn  
Tel +298 31 10 36 Fax +298 31 78 73  
hnj-bokh@post.olivant.fo

### FINLAND

Akademiska Bokhandeln  
PB 128, Centralgatan 1, 00101 Helsingfors  
Tel +358 9 12141  
akatilaus@akateeminen.com  
www.akateeminen.com

### FRANCE

Librairie LAVOISIER  
14, rue de Provigny  
94236 Cachan Cedex  
Tel +33 (1) 4740 6700 Fax +33 (1) 4740 6702  
group@lavoisier.fr  
www.lavoisier.fr

### GERMANY

UNO-Verlag GmbH  
Am Hofgarten 10, 53113 Bonn  
Tel +49 (0)228 949020  
Fax +49 (0)228 9490 222  
info@uno-verlag.de  
www.uno-verlag.de

### HUNGARY

Euro Info Service  
PO Box 1039, 1245 Budapest  
Tel +36 (1) 329 2487 Fax +36 (1) 349 2053  
euroinfo@euroinfo.hu

### ICELAND

Mál og Menning  
Laugavegi 18, 101 Reykjavík  
Tel +354 (9)515 2500 Fax +354 (9)515 2505  
verslun@mm.is

### LATVIA

Jana Rozes Gramātnica  
Kr. Barona iela 5, 1011 Rīga  
Tel +371 (0)2 284288 Fax +371 (0)2 286452

### LITHUANIA

Penki Kontinentai  
Vilniusg 39, 2001 Vilnius  
Tel +371 (0)2 284288 Fax +371 (0)2 286452

### NORWAY

Akademika A/S  
Postboks 84 Blindern, 0314 Oslo  
Tel +47 22 85 30 30 Fax +47 22 85 30 80  
bloken@sio.uio.no  
www.akademika.no

### ROMANIA

Euromedia s.r.l.  
Str Dionisie Lupu nr 65, 70184 Bucuresti  
Tel + 40 1 614 06 64 Fax + 40 1 312 96 46

### SWEDEN

CE Fritzes AB  
Kundtjänst, 106 47 Stockholm  
Tel +46 (0)8 690 9190 Fax +46 (0)8 690 9191  
order.fritzes@liber.se  
www.fritzes.se

### THE NETHERLANDS

De Lindeboom/INOR Publikaties  
M.A. de Ruyterstraat 20A, Postbus 202  
7480 AE Haaksbergen  
Tel +31 (0)53 57 40004  
Fax +31 (0)53 57 29296  
lindeboo@worldonline.nl

### UNITED KINGDOM

The Stationery Office  
P.O. Box 276, London SW8 5DT  
Tel +44 870 600 5522 Fax +44 870 600 5533  
customer.services@tso.co.uk  
www.the-stationery-office.co.uk

### USA

Bernan  
4611-F Assembly Drive  
Lanham MD 20706-4391  
Tel +1 (301) 459 7666 Fax +1 (301) 459 0056  
query@bernan.com  
www.bernan.com

### ÅLAND

Lisco bok- och pappershandel  
Skarpansvägen 25, Box 8  
22101 Mariehamn  
Tel +358 (0)18 17 177 Fax +358 (0)18 19 771  
info@lisco.fi