



Editors: Jakob Elster and Helena von Troil

How to best teach bioethics

Report from a workshop
March 2003 organised by
The Nordic Committee
on Bioethics and NorFA

TemaNord 2004:519

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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 coordinated 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.

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Preface

The increasing demand for bioethics education has been a concern of the Nordic Committee on Bioethics for some time. In November 2001, the Committee organised the first workshop on this topic, entitled *Teaching Bioethics*, in order to gain an overview of what was being done in the field of bioethics education in the Nordic countries. The workshop confirmed the great demand for bioethics education. It also showed that both the quality and quantity of this education varies considerably from country to country, and also within the same country. The various teaching activities are not coordinated, and there is a need for competent teachers and suitable teaching material.

In order to promote bioethics education and the training of bioethics teachers, the committee initiated a second, more practically focused, workshop. The aims of this workshop were to inspire and motivate bioethics teachers in their work, and to enter deeper into the issues of how to best teach bioethics.

This workshop, "*Teaching Bioethics – a Nordic Workshop on How to Best Teach Bioethics*", was organised jointly by the Nordic Committee on Bioethics and the Nordic Academy for Advanced Study (NorFA), and was held at Klækken hotel in Norway over an intensive five-day period, at the beginning of March 2003. The workshop brought together thirtyone participants – PhD students, researchers, teachers and administrators – from all the Nordic and Baltic countries, and in addition twenty speakers, as well as most members of the Nordic Committee on Bioethics.

The first day of the workshop gave a general introduction to the question of teaching bioethics. The last day dealt particularly with the question of how to communicate ethical and scientific issues to journalists and to the general public. Each of the three intervening days concentrated on one particular method of teaching bioethics, and illustrated the methods with a different topic for each day.

This report includes articles based on most of the presentations of methods of teaching bioethics given at the workshop, as well as articles by four of the participants describing their experience of, and

views on, the workshop. We have also reproduced some – but not all – of the lectures which provided background information about the topics chosen as illustrations of the various methods of teaching.

November 2003

Sissel Rogne

Chairman of the Nordic Committee on Bioethics

Helena von Troil

Secretary General of the Nordic Committee on Bioethics, Co-editor

Jakob Elster

Co-editor

Förord

Nordisk kommitté för bioetik har redan länge fäst uppmärksamhet vid det ökande behovet av undervisning i bioetik. I november 2001 arrangerade kommittén den första workshopen om bioetikundervisning, *Teaching Bioethics*. Målet med workshopen var att få en uppfattning om vad som görs inom området i de nordiska länderna. Workshopen bekräftade det stora behovet av undervisning i bioetik. Den visade också att både kvaliteten på undervisningen och kvantiteten varierar avsevärt både mellan de olika länderna och inom dem. Det finns ett stort behov av koordinering av olika undervisningsaktiviteter och av kompetenta lärare och undervisningsmateriel.

För att befrämja undervisningen i bioetik och skolningen av lärare inom området tog kommittén initiativet till en uppföljande mera praktiskt inriktad workshop, vars mål var att inspirera och motivera lärare i bioetik i deras arbete och att mera i detalj försöka klarlägga vilka de bästa undervisningsmetoderna är.

Workshopen "*Teaching bioethics – a Nordic workshop on how to best teach bioethics*" organiserades gemensamt av Nordisk kommitté för bioetik och Nordisk Forskerutdanningsakademi NorFA och den hölls på hotell Klaekken i Norge under fem intensiva dagar i början av mars 2003. I workshopen deltog trettio personer – doktorandstuderande, forskare, lärare och administratörer – från alla nordiska och baltiska länder samt tjugo föreläsare och nästan samtliga medlemmar av Nordisk kommitté för bioetik.

Under workshopens första dag gavs en introduktion till ämnet bioetikundervisning. Den sista dagen ägnades åt hur man kan kommunicera om etiska och vetenskapliga frågor med journalister och den stora allmänheten. Under var och en av de tre återstående dagarna introducerades och prövades olika undervisningsmetoder och dessa illustrerades med olika etiska teman för varje dag.

Denna rapport omfattar artiklar som baserar sig på presentationerna om undervisningsmetoder som gavs under workshopen. Rapporten innehåller också fyra artiklar skrivna av deltagare som ger sin syn på och sina erfarenheter av workshopen. Vi har också tagit med

10 Förord

en del av de föreläsningar vars mål var att ge bakgrundsinformation om de ämnesområden som valts för att illustrera undervisningsmetoderna.

November 2003

Sissel Rogne

Ordförande för Nordisk kommitté för bioetik

Helena von Troil

Sekreterare för Nordisk kommitté för bioetik, redaktör

Jakob Elster

Redaktör

How to best teach bioethics – an introduction

Jakob Elster

The last few years have witnessed an increasing demand for courses in bioethics and a growing number of such courses. And yet, since bioethics is a subject which is both new and by nature interdisciplinary, many of those who teach bioethics at such courses have not themselves received training in bioethics, and still less in the didactics of bioethics. Those who are responsible for teaching bioethics have often found it necessary to develop their own teaching programme and methods, often with great success. It was therefore timely to provide teachers of bioethics, and future teachers, with an opportunity for sharing and discussing their experiences and methods of teaching bioethics. This was the main goal of the workshop “Teaching Bioethics – A Nordic workshop on how to best teach bioethics”. In this introduction, we will try to highlight some of the main lessons from the workshop.

The absence of ethical theories

All possible methods of teaching bioethics could of course not be represented in such a workshop. It is nevertheless interesting to notice which methods were emphasised and which were almost absent. One absence which was particularly notable was that of the traditional ethical theories. An introductory course in ethics often starts with a distinction between what is often taken to be the three main theories of ethics – utilitarianism (or more broadly, consequentialism), deontology and virtue ethics. Sometimes other theories, such as an ethics of closeness, are added. The aim of the Teaching Bioethics workshop, however, was neither to teach ethics or biotechnology – it was not the *subject matter* of bioethics teaching, but the *methods* of teaching bioethics which were considered central. Nevertheless, an important part of the question of how to teach bioethics is the question of what

to teach. With a few exceptions, none of the presentations of ways of teaching bioethics gave an important place to introducing these classical theories.

Pekka Louhiala did mention in his presentation an exercise using ethical theories (and even this exercise was placed in the context of a case-based approach). But to a large degree, the speakers explicitly distanced themselves both from the traditional way of doing ethics by applying ethical theories, and from granting these theories an important role when teaching bioethics. Thus both Knut Ruyter and Beate Indrebø Hovland explicitly criticise the inadequacy of a principle-based ethics, and advocate alternative methods, be they casuistry or narrative approaches. Martti Lindqvist too contrasts more traditional ethics with his method of using sociodrama and with narrative ethics. Although not all speakers were so explicitly critical of ethical theories, these theories were nevertheless absent from the methods they presented, which were largely oriented towards grounding the teaching not in theories, but in concrete experience, presented through cases, role play, etc.

A largely case-based approach

Many of the speakers stressed the importance of relating the teaching to real life, by basing it on cases the students can recognise from their own experience, or which they might encounter later on in their professional life. Most of the speakers also put great emphasis on the importance of group work and practical exercises, rather than just lectures; this applied both when teaching bioethics and when teaching how to teach bioethics. The future teachers of bioethics should put themselves in the position of students and see how the exercises worked in practice. Such an experience is particularly valuable, since, as Kadri Simm points out in her article, many of those who teach bioethics have not themselves taken the kind of courses they teach, and thus have little personal experience with learning bioethics through practical exercises.

There were at least two kinds of rationale for the emphasis on case-based teaching. The first, more theoretical reason was, as mentioned above, that several speakers believed that the nature of ethical analysis is such that one must always consider the particular circumstances of a specific problem, not just general principles. A second, more prag-

matic reason was that a case-based approach would make the teaching more relevant for the future professional lives of the students, assuming that the cases chosen were of the kind the students themselves might encounter in their professional life. Marianne Ødegaard makes this point explicitly in her article; but although not all speakers did likewise, it often seemed to be an underlying rationale for their choice of cases.

Who are the students?

This attitude towards the use of cases points to another element which was shared by many of the speakers, namely that they implicitly or explicitly presupposed that the students learning bioethics are students from the natural sciences, be they geneticists, agricultural scientists, or perhaps most often medical doctors. Indeed, when discussing the teaching of bioethics, teaching medical ethics is often taken as a paradigm, as Mickey Gjerris also notes in his article. There are several reasons for this; one is the fact that teaching ethics has been central in medicine for a longer time than in many other disciplines; another is that the ethical problems encountered in medicine are often immediately recognisable as ethical dilemmas, and thus easy to base teaching upon.

It should be noted that the increasing demand for an education in bioethics probably stems mostly from the natural sciences, and mainly concerns the practitioners of medicine and natural science. From a pragmatic point of view, it thus makes sense to concentrate on this group of students. The interesting question of how bioethics should be taught to students from the social sciences and humanities, however, still remains to a large degree unanswered; Mickey Gjerris discusses this briefly in his article. A closely related question, which many speakers did comment upon, was how to teach bioethics to a heterogeneous group, where the students came from different disciplines. With regard to this problem, both Susanne Lundin and Roger Strand underlined the positive effect of having students with different disciplinary backgrounds in the same group.

One consequence for the “Teaching Bioethics” workshop of the heterogeneous backgrounds of the participants – some being from the natural sciences, others from the humanities and still others from law or social sciences – was that in addition to lectures which were purely

about the methodology of teaching, there were also lectures providing background information about the themes chosen as examples for teaching bioethics – problems ranging from the beginning and end of life, misconduct in research, and GM-food and biotechnology in developing countries. These lectures aimed at giving all participants the necessary information for participating in the group work, but were sometimes also illustrations of the chosen methods. The report includes three of these lectures – by Nils Persson, Ulf Görman and Nils Axelsen – as examples of lectures seeking to create a necessary common platform of knowledge.

Finally it should be noted that the target group for bioethics education is not only students and researchers, be they from the natural sciences or the humanities and social sciences. The general public is also an important target group for such teaching. The articles by Marja Sorsa, Mardy Lindqvist and Helena von Troil all focus, in different ways, on the necessity of informing the public and facilitating the public debate, on the role and responsibilities of scientists and experts in this respect, and on how this goal can best be achieved. In this respect the communication between scientists, experts and journalists is particularly important, as Mardy Lindqvist points out.

Teaching ethical reflection or making the students more moral?

Another question, which is not often explicitly raised, but which underlies much thinking about bioethics teaching, (also in this workshop), is whether the goal of teaching bioethics is simply to create a higher degree of ethical reflection on the part of students, making them capable of evaluating ethically difficult situations and deciding for themselves what the morally best choice of action would be; or whether one also teaches bioethics with the aim of making the students behave more morally, especially when they become practitioners.

Of course one can claim, and to a degree rightly so, that if a student's ethical awareness increases, his behaviour will probably become more ethical as well. Yet despite this correlation, the content and methods of teaching bioethics will not be exactly the same if the aim is simply ethical awareness, as opposed to also aiming to encourage more ethical behaviour. For example, Martti Lindqvist considers in his article how ethics must be taught in order for it not to remain purely theo-

retical, but also result in moral action. Beate Indrebø Hovland also considers this question, and was also among the few who explicitly stated that the goal of teaching ethics is to improve the behaviour of the students:

“Why not put it boldly and ambitiously and say that the ultimate goal for teaching about misconduct in research is to invoke in the researchers a desire for the good and honest, and a distaste for the dishonest and irresponsible?”

Both the question of whether one seeks to influence the students' behaviour by teaching bioethics, and the question of what this implies for the choice of methods of teaching, certainly merit more attention; it could be useful to reflect upon this while reading the articles in this report.

Innledning:

Hvordan undervise i bioetikk?

Jakob Elster

I de siste årene har det vært en stadig økende etterspørsel etter kurs i bioetikk og også et stadig økende antall slike kurs. Imidlertid er bioetikk et nytt og tverrfaglig emne slik at mange av de som nå underviser bioetikk ikke selv har noen utdanning innen bioetikk og enda mindre innen bioetikkenes didaktikk. De som skal undervise bioetikk, har ofte måttet utvikle både pensum og undervisningsmetodene selv, ofte med stor suksess. Tiden var derfor inne for å gi både dagens og fremtidens bioetikklærere en anledning til å dele og diskutere sine metoder og erfaringer med å undervise bioetikk. Dette var hovedmålet med arbeidsseminaret "Teaching Bioethics – A Nordic workshop on how to best teach bioethics". I denne innledningen skal jeg forsøke å peke på noen av de viktigste erfaringene fra seminaret.

Fraværet av etiske teorier

Naturlig nok kunne ikke alle mulige metoder for å undervise bioetikk være representert i et slikt seminar. Like fullt er det verdt å legge merke til hvilke metoder som ble lagt vekt på og hvilke som nærmest var fraværende. Særlig slående var fraværet av tradisjonelle etiske teorier. Ofte begynner innføringskurs i etikk ved å introdusere skillet mellom det som regnes som de tre viktigste etiske teoriene – utilitarisme (eller, mer generelt, konsekvensetikk), pliktetikk og dydsetikk; andre teorier, så som nærhetsetikk, kommer av og til i tillegg. Målet med dette seminaret var riktignok verken å undervise i etikk eller i bioteknologi – det var ikke *innholdet* i bioetikkundervisningen, men *metodene* for å undervise bioetikk som var sentrale. Likevel er spørsmålet om hva man skal undervise en viktig del av spørsmålet om hvordan man skal undervise. Og, med noen unntak, ga ingen av presentasjonene av måter å undervise bioetikk på noen viktig rolle til en innføring i disse tradisjonelle teoriene.

Riktignok nevnte Pekka Louhiala i sin presentasjon en øvelsesoppgave som involverte etiske teorier (men selv denne oppgaven ble anvendt innenfor en kasusbasert tilnærming). Men i stor grad tok foreleserne avstand både fra den tradisjonelle formen for etisk tenkning der man anvender etiske teorier, og fra at disse teoriene skal få en viktig rolle i bioetikkundervisningen. Knut Ruyter og Beate Indrebø Hovland kritiserer for eksempel prinsippbasert etikk for å være utilstrekkelig, og de anbefaler andre etiske metoder, som kasuistikk eller bruk av narrativer. Også Martti Lindqvist peker på en motsetning mellom tradisjonell etikk på den ene side, og narrativ etikk og hans bruk av sosiodrama på den annen side. Selv om ikke alle foreleserne var like uttalte i sin kritikk av etiske teorier, var likevel disse teoriene fraværende fra metodene som de la frem, som i stor grad gikk ut på å basere undervisningen ikke på teorier, men på konkrete erfaringer, som blir presentert via kasus, rollespill, etc.

En hovedsaklig kasusbasert tilnærming

Flere av foreleserne understrekte viktigheten av å knytte undervisningen til det virkelige liv, ved å basere den på eksempler som studentene kan kjenne igjen fra sin egne erfaringer, eller som de senere vil kunne møte i sin yrkespraksis. De fleste av foreleserne la også stor vekt på gruppearbeid og praktiske oppgaver, snarere enn å bare undervise ved forelesninger. Dette gjaldt både selve bioetikkundervisningen og undervisningen i hvordan man skal undervise bioetikk. Det er nødvendig for fremtidige bioetikklærere å sette seg i studentenes sted og se hvordan de ulike øvelsene virker. Dette er spesielt viktig ettersom, som Kadri Simm peker på i sin artikkel, mange av dem som underviser bioetikk ikke selv har fulgt den typen kurs de underviser i, og har derfor liten egen erfaring med å lære bioetikk ved hjelp av praktiske øvelser.

Det kom frem minst to grunner for å legge vekt på kasusbasert undervisning. Den første og mer teoretiske grunnen var, som nevnt ovenfor, at flere forelesere mente at det følger av den etiske analysens natur at når man vurderer et problem, må man alltid må ta i betraktning de spesifikke omstendighetene, ikke bare generelle prinsipper. En annen mer pragmatisk grunn var at en kasusbasert tilnærming vil gjøre undervisningen mer relevant for studentene i deres fremtidige yrkesutøvelse, siden læreren skal velge kasus som studentene vil kunne

møte i yrkeslivet sitt. Marianne Ødegaard sier dette eksplisitt i sin artikkel; men selv om ikke alle foreleserne gjorde dette like eksplisitt, virket det ofte som om dette var et hensyn som lå bak deres valg av kasus.

Hvem er studentene?

Denne holdningen til valg av kasus gjenspeiler en annen antagelse som flere av foreleserne delte, implisitt eller eksplisitt, nemlig at studentene som skal lære bioetikk er studenter i naturvitenskapelige fag, det være seg genetikere, landbruksforskere, eller, kanskje særlig ofte, leger. I diskusjonen om bioetikkundervisning blir ofte nettopp undervisningen av medisinsk etikk brukt som et paradigme, slik Mickey Gjerris påpeker i sin artikkel. Det har flere årsaker; en er at etikkundervisning har stått sentralt innen medisinen lenger enn i mange andre fagfelt. En annen grunn er at de etiske problemene man støter på i medisinen ofte er øyeblikkelig gjenkjennelige som etiske dilemmaer og enkle å basere undervisningen på.

Nå bør det nevnes at den økende etterspørselen etter utdanning innen bioetikk sannsynligvis hovedsakelig kommer fra naturvitenskapene og gjelder hovedsakelig de som arbeider innen medisin og naturvitenskap. Fra et pragmatisk ståsted er det derfor fornuftig å konsentrere seg om denne gruppen studenter. Men det interessante spørsmålet om hvordan man skal undervise bioetikk til studenter innen samfunnsfag og humaniora forblir i stor grad ubesvart; Mickey Gjerris diskuterer dette kort i sin artikkel. Et nært beslektet spørsmål, som mange forelesere var inne på, er hvordan man kan undervise bioetikk til en sammensatt gruppe, der studentene har ulik fagbakgrunn. I denne sammenheng understrekte både Susanne Lundin og Roger Strand de positive virkningene av å ha studenter med ulik fagbakgrunn i samme gruppe.

En konsekvens av deltagerens ulike bakgrunn i ”Teaching Bioethics”-seminaret – der noen var fra naturvitenskapene, andre fra humaniora og andre igjen fra jus eller samfunnsfag – var at i tillegg til forelesninger som kun omhandlet undervisningsmetodologi, var det også forelesninger som ga bakgrunnsinformasjon om de forskjellige emnene som ble valgt som eksempler på bioetikkundervisning – problemer knyttet til livets begynnelse og slutt, uredelighet i forskningen, og genmodifisert mat og bioteknologi i utviklingsland. Disse forelesningene hadde som mål å gi alle deltagerne tilstrekkelig kunn-

skap for å delta i gruppearbeidet, samtidig som de også tjente som illustrasjoner av de ulike undervisningsmetodene. Rapporten inneholder tre av disse forelesningene – av Nils Persson, Ulf Görman og Nils Axelsen – som eksempler på forelesninger som har som mål å skape et felles kunnskapsgrunnlag.

Det bør til slutt nevnes at målgruppen for bioetikkundervisning ikke bare er studenter og forskere, det være seg fra naturvitenskapene eller fra humaniora og samfunnsvitenskapene. Også allmennheten er en viktig målgruppe for denne undervisningen. Artikkene av Marja Sorsa, Mardy Lindqvist og Helena von Troil, omhandler alle, på ulike måter, nødvendigheten av å informere publikum og å legge til rette for en offentlig debatt; de omhandler også vitenskapsmenns og eksperters ansvar i denne sammenheng, og hvordan man best kan nå dette målet om offentlig debatt. I denne sammenheng er, slik Mardy Lindqvist påpeker, kommunikasjonen mellom vitenskapsmenn, eksperter og journalister spesielt viktig.

Å undervise etisk refleksjon eller å gjøre studentene mer moralske?

Et annet spørsmål, som ikke ofte blir stilt eksplisitt, men som ligger bak mye av tenkningen om bioetikkundervisning, også i dette seminaret, er om målet med å undervise bioetikk bare er å skape en økt grad av etisk refleksjon hos studentene, slik at de blir i stand til å evaluere etisk problematiske situasjoner og avgjøre på egenhånd hva det moralsk beste handlingsalternativet er; eller om man også underviser bioetikk med det mål å gjøre studentenes oppførsel mer moralsk, særlig når de skal utøve sitt yrke.

Man kan selvfølgelig med rette hevde at hvis en students etiske bevissthet øker, vil også hans oppførsel sannsynligvis bli mer etisk. Men til tross for denne sammenhengen mellom etisk bevissthet og etisk oppførsel, vil ikke innholdet og metodene for bioetikkundervisning være de samme om målet bare er etisk bevissthet eller om det også er etisk oppførsel. Martti Lindqvist diskuterer for eksempel i sin artikkel hvordan etikk må undervises for at den ikke skal forbli en rent teoretisk etikk, men også føre til moralsk handling. Også Beate Indrebø Hovland tar opp dette spørsmålet, og var blant de få som eksplisitt sa at målet med å undervise etikk er å forbedre studentenes oppførsel:

“Hvorfor ikke si rett ut og ambisiøst at det endelige målet med å undervise om uredelighet i forskningen er å appellere til forskernes lyst på godhet og ærlighet, og deres avsmak for uærlighet og uansvarlighet?”

Både spørsmålet om hvorvidt man søker å øve innflytelse på studentenes oppførsel ved å undervise bioetikk, og spørsmålet om hva dette innebærer for valget av undervisningsmetoder, fortjener klart mer oppmerksomhet. Dette kan være nyttige spørsmål å ha i bakhodet under lesningen av artiklene i denne rapporten.

Teaching reflexivity

Roger Strand

Centre for the study of the sciences and the humanities, Norway

Abstract

One aspect of bioethical practice is the critical reflection upon (1) the institutions in which bioethical practice takes place, and (2) the factual information that bioethical considerations are built upon. This paper explains why strategies to develop the students' reflexivity should be included in courses of bioethics, and gives examples of how to achieve this objective. Among the important concepts to be taught are uncertainty, ignorance, indeterminacy and complexity. This is illustrated by the case of the controversy surrounding the use of genetically modified organisms in agriculture.

Introduction: two approaches to teaching bioethics

One of the many relevant references for this resource book in bioethics teaching is its predecessor *Teaching Bioethics* (Anon. 2002), which summarises the 2001 seminar organised by the Nordic Committee on Bioethics. As such, that book already is a Nordic bioethics resource book. I shall present the main concern of this paper by contrasting two isolated statements from it. The first was made by the molecular biologist and bioethics teacher Dag Helland:

“Teaching 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.” (Helland 2002, p. 61)

The second quote is taken from the general introduction by the chairman of the Nordic Committee of Bioethics, Gubmundur Eggertsson:

“For such general debate to be fruitful there is need for dissemination of reliable information on both the biotechnological and ethical aspects of the issues. The technologies must be clearly described and the real ethical problems clearly defined.” (Eggertsson 2002, p. 7)

Both of these statements are perfectly reasonable, and furthermore I have no reason to suspect any disagreement between the two respective authors. However, I shall use the statements in order to illustrate two different conceptions of how to teach bioethics. These two conceptions are not in mutual competition; rather I shall argue that they refer to different types of practical problems to be attended to in bioethics.

Reflexivity

Eggertsson refers to the “general debate”, by which he means the debate among the general public as well as biotechnologists and ethicists. He might also have pointed to processes of *decision-making* that take place within given frames, such as when the alternatives to the possible answers to be found are pre-set (unnegotiable yes/no questions being the extreme case), or when there are strict institutional bounds on the procedures towards that decision (courts of law being the paradigm case). Helland, on the other hand, points towards the need for developing individuals’ ability to make *independent evaluations*. For instance, the main audience of the bioethics courses led by Helland at the University of Bergen (in which I have had the pleasure of participating as a teacher) are graduate students of molecular biology. One way of describing the objective of these courses is to develop these students’ ability to reflect in a mature and responsible way on the actions and possible consequences of their own research activities, one might say to bridge the gap between their duties as researchers and their duties as citizens. In that case, the paradigm model is not so much the courtroom or the decision as to whether a given activity or product is “ethically acceptable” or not. Or rather, *it may be* that there is an important decision of this kind to be made, but typically there are also other concerns pertaining to the “is-es” and “oughts” of biotechnology. There are questions about uncertainties and hitherto unknown side-effects of technologies. There are questions about the relationships between

scientific, technological and political institutions and other societal structures, ranging from easily visible links between science and industry, to the less obvious implications of methodological/epistemological assumptions within scientific practice, on, say, societal practices of the distribution of risks and benefits (the type 1/type 2 errors of statistical inference and their connection with producer and consumer risks being a prominent example). There are large, important and generally unanswerable questions about the long-term consequences of scientific and technological development on the human condition, as well as the desirability of these consequences, and the possible development of novel ways, if not to control, at least to govern them. There are questions about the normativity that emerges when our world-view changes as scientific advances are being digested and transformed into culture – as when popular authors begin to present the essence of organisms (including humans) as that of being vehicles for “selfish genes”. And finally, there are questions to be made about the fairness, legitimacy or adequacy of the modern institutions that provide the frameworks for the more narrowly defined debates and policy processes. We may say that the ability to reflect on the epistemological aspects of scientific and technological practice and development as well as how it interacts with cultural and societal development is a matter of *reflexivity*.

Efficiency versus reflexivity

It seems that Eggertsson wants a rational and responsible public debate on biotechnology, while Helland’s statement points towards the need for reflexive practitioners of biotechnology. Could there possibly be a conflict here? Should not clarity of facts, values and minds always be an advantage? And would not the above desired reflexive considerations count as legitimate input to the debate or policy process?

At a sufficiently general level, the answers to these rhetorical questions are clear. In general, clarity is desirable; and it is better to have more, rather than less, relevant information. However, in concrete, specific cases within given frames, the issues of reflexivity often will have to be excluded as irrelevant for the particular process or decision to be made. For instance, if a national government sets up an ethical commission to give advice on whether to ban human stem cell research or not, with the mandate that “the technologies must be clearly

described and the real ethical problems clearly defined and evaluated”, the commission would probably proceed by evaluating identifiable, possibly reliable/probable consequences of the technology, parties that might potentially be affected, identifiable risks and benefits, breaches with ethical or religious principles, etc. It would also have to face the problem of “free-riding” – that is, what are the consequences of a national ban when other countries are doing the research? Reflexive speculation on whether human stem cell research adds to the problem of run-away technological development, and where this is taking the world, might arise in the commission, but it would be a surprise if it gave much weight to what somebody called “red wine questions”. On the other hand, it seems a very reasonable learning objective for a biotechnologist taking a bioethics course to develop her skills in handling the red-wine questions – “Am I really doing something good for the world? What should I know before making up my mind?”

Practical and technical problems

At this point, it might appear that I am arguing in favour of the following division of labour: that policy-makers or whoever is faced with actual decisions should be trained in “traditional” ethics, critical thinking etc., to improve the clarity and efficiency of their proceedings, while those far from these decisions, be it in the innermost corner of the laboratory, or in some forgotten part of the countryside, might indulge in free speculation. This is of course *not* what I think. Indeed, biotechnologists should learn about the constraints of the actual policy processes, and commission members, “professional ethicists” and other experts and politicians should reflect reflexively on the fairness and long-term adequacy and desirability of the institutions they work within. Members of an ethical commission *can* revolt against its mandate, and indeed I would argue that they have a general ethical obligation to consider that possibility.

Rather, the distinction between two styles or approaches to bioethics I intend to make, may be illuminated by Jerome Ravetz’s (1971) pragmatic distinction between practical and technical problems. For Ravetz, practical problems are defined by an ultimate purpose, an ultimate *good*, to be recognised when it is fulfilled (or not). Technical problems, on the other hand, are defined by a set of explicit, pre-defined specifications of the allowed solution. A practical problem, such as

avoiding hunger, will have to be approached by reducing it to some set of technical problems, for instance the development of technologies to increase food production, but as everybody knows, the reduction is neither infallible nor unique. Successful reduction of practical problems into technical problems in general depends upon the complexity of the systems involved (Strand 2002).

What we may identify, I think, is the existence of *different problems* within the realm of bioethics. There are short-term and long-term choices and worries, as well as local and global ones. There are decisions *within* given frameworks, and decisions *on* the frameworks. In particular, there are problems that take for granted the modern institutions that regulate scientific, technological and societal development and their mutual interaction, and there are others that do not. Some of these problems may be ordered by the practical-technical distinction. For instance, when the government faces the practical problem of what to do with stem cell research, it may choose to set up an ethical commission that should solve the more technical problem of evaluating the “real ethical problems”, defined within the recent scholarly tradition of what such problems can be. The worry underlying this paper, is that the various strands of bioethics at times become too clever, too technical, so efficient at defining with clarity the “real ethical problems” that worries (or hopes) corresponding to broader practical problems fade into the periphery of the debate, because these worries or hopes cannot yet be supported by real evidence. This is a general problem with all kinds of decision-making; however, it is particularly relevant in the case of science-based technology. The reason is that we believe – and we believe it so strongly that we bet billions of euros on it every year – that science will develop knowledge and technology that is still unknown, changing our set of relevant facts for making decisions. Indeed, the creation of novelty is an essential characteristic of science.

Sometimes, the cleverness of ethics seems to be grounded in, or resonating with, a general ideology of scientific-technological optimism; at other times it has its foundations in the desire to have a “proper” discipline, with well-defined (analytical) methods. For instance, at the “Teaching Bioethics” workshop at Klækken in 2003, I overheard occasional reactions during plenary discussions that certain issues (e.g., the origin of certain factual statements, and the possible existence of vested interests among those making the statements) were not *ethically relevant* (or rather: “This is not ethics!”) Such policing might be neces-

sary in certain kinds of contexts, but could on the other hand be a fatal mistake when dealing with other, typically broader, problems. My recipe for balancing this danger of bias is to devote time and space in a bioethics course to reflexivity, and furthermore to fuel it by the intellectual traditions that have been occupied with raising critiques of the institutions and rationales of modernity. In the second half of this paper I shall illustrate this objective with concrete examples of concepts and scholarly resources.

Genetically modified organisms in agriculture

In my experience, the issue of genetically modified organisms (GMOs) in agriculture is a well-suited topic for a bioethics course for biotechnologists: it is important in its own right, and it serves as an illustration of a number of reflexive insights. The exposition to follow is, somewhat idiosyncratically, based on Strand (2001).

First, in line with what was said above, one should recall that there are a number of “GMO cases”, or problems related to GMOs. There are the issues of food safety and food labelling; of possible ecological and economic consequences of the release of GMOs in agriculture; of national and international institutions of governance of such release; of the emphasis on GM-based biotechnological solutions to food production versus other types of solutions; and there are particular issues related to specific plants and variants as well as the general issue of GM-based technologies.

Next, the issue is extensively discussed, and there has been a lot of disagreement, also about apparently purely factual matters. This disagreement was illustrated at the 2003 Klækken “Teaching Bioethics” workshop by the two presentations by Aina Edelmann and Einar Mäntylä. While their lectures apparently concluded quite differently on the desirability of GMOs in agriculture, this had little to do with differences in ethical principles. Indeed, there seems to be consensus on the desire for enough food for all people, fair distribution, sustainable development, and environmental protection. This is not to say that the disagreement is purely factual and not normative; rather, the point is that the disagreement cannot be abstracted as purely “ethical” or normative. It involves factual matters, as well as issues that are in part factual and in part normative. I will get to these below.

Models for relating to factual disagreement

With students trained in the natural sciences, there is often a need for general training in relating to factual disagreement, because their scientific education will typically have presented them with many model cases in which there is a uniquely correct answer to a given question. Thus, if there is an apparent factual disagreement, at least one party is expected almost *a priori* to be wrong.

There are a number of ways to approach this kind of epistemological naivety (Strand 2000). One very simple way would be to remember that factual claims are put forward by humans, individuals with a career, an education, perhaps with certain ideological commitments, and situated within a historical and cultural context, that is, factors and constraints influencing the way they form their cognitive beliefs. In the GMO case, there is a difference in the factual discourse of Greenpeace and Monsanto, as presented on their web pages. Applying the hermeneutic principle of charity (rather than that of suspicion) we may try to find the difference in their respective contexts. An important learning objective in a bioethics course would be the recognition of the complexity of factual disagreement: that we may be guilty of oversimplification if we insist on the possibility of “getting the facts straight” and judging who is right and who is wrong, or if we assign the entire disagreement to a difference in vested or other interest, or in political ideology. There may be a combination, and worse, these dimensions may be interrelated. For instance, in the GMO case, one has seen that some prominent ecologists warned against the possible unknown ecological effects of GMO release, while prominent molecular biologists wanted to assure the public that each particular commercial variant is under technological control. I have argued that this difference should be understood in terms of the different epistemological structure of molecular biology and natural history-based ecology (Strand 2001). Molecular biologists work by achieving certainty and control under standardised and idealised conditions, while natural historians observe natural systems and to some extent learn by becoming surprised.

Simplistically, one might think that there is a straight line from the reductionist methodologies of molecular biology to what may be perceived as the reductionism and technological optimism of the molecular biologists (and *vice versa* with the ecologists). Rather, I think

the connection is more indirect: The practices of ecology and molecular biology produce facts that to different degrees can be incorporated in an optimist or pessimist view on the unknown future consequences. That is, in my teaching, I would like the students to get a feeling for the dynamics between science, technology and society as it has been understood ever since the 1930s (by Gaston Bachelard and the French historicist epistemology; since the 1960s in English-speaking countries ever since Thomas Kuhn). Typically, because of the limited size of our bioethics courses, one may have to opt for simplified versions, although one would like to have gone into detail with the insights of authors such as Bruno Latour, Peter Galison, Evelyn Fox Keller, or Andrew Pickering (1995), to convey a minimum of reflection on the contextuality of scientific knowledge. However, a valuable experience was to have Nordic PhD students of molecular biology read the more demanding exposition by Rheinberger (1997) in a Nordic (NorFA) research course (Muhonen Nilsen 2002).

The fuzzy border between facts and values

An exercise connected to that of the previous paragraph, is that of teaching an awareness of the occasionally fuzzy border between facts and values. In general, I think this may be done in two ways. First, one may perform an “upstream” analysis of the epistemological and methodological assumptions underlying scientific facts informing the “ethical problem”, looking for normativity in the epistemological and methodological commitments in a given “paradigm”, through externalist STS studies, or simply by an immanent critique of scientific practice. The writings of Stephen Jay Gould and Richard Lewontin are interesting examples of the latter, as well as Rose (1997), in which he aims to show a value bias in certain evolutionary biology writings and practices, resulting from an inadequate understanding of the epistemological assumptions of biology. Rose calls this bias “ultra-darwinism”. Furthermore, feminist biologists have made efforts to point out value-laden regulative principles in scientific practice (see Keller & Longino 1996), for instance regarding ideas of control, dominance and controllability. Applied to the GMO case, such analyses may illustrate for instance what has been called the “hubris” of molecular biologists, when they seem not to fear unknown indirect consequences of biotechnology.

Secondly, one may do a “down-stream” analysis, as indicated above, by looking at how methodological choices may have value-laden consequences at a later stage. The classic case is the type 1/type 2-error: there is usually strict control over the level of statistical significance of reported results, requiring a probability of >95% of avoiding the type 1 error (of falsifying a true null hypothesis), while, at least previously, many journals did not require a similar level of rigour regarding the statistical power (and thus the type 2 error of accepting a false null hypothesis). This may be perfectly sound in the context of basic, accumulative research aimed at finding significant effects upon which to build a body of general knowledge. However, this convention has value-laden implications when applied in, say, a context of applied environmental research, where the null hypothesis is typically of the type: “There is no harmful effect on the environment/health”. The reason for this is that the parties affected by type 1 and type 2 errors, respectively, are *different*. Type 2 errors about harmful effects affect consumers and the environment, while type 1 errors affect producers.

Uncertainty, ignorance and indeterminacy

The problem of asymmetrical distribution of risks and benefits becomes even more accentuated when there is qualitative (strict) uncertainty involved, so that the probability of certain consequences cannot be quantified in a meaningful way. Thus, a bioethics course should introduce distinctions such as those presented by Wynne (1992) between quantifiable risk, qualitative (strict) uncertainty, ignorance (i.e., that some consequences are not known at the time of the decision) and indeterminacy (that the definition of the issue is to some extent contextual and negotiable). In the GMO case, there are expositions of strict uncertainties available (Wynne & Mayer 1995, Strand 2001). Furthermore, the field of uncertainty management is growing, see for example Funtowicz & Ravetz (1990) and <http://www.nusap.net>. I have yet to see a political history of the GMO case along the lines of Hajer’s ground-breaking *The Politics of Environmental Discourse* (1995), which showed the extensive degree of indeterminacy in the definitions of environmental problems. This is surely due to my ignorance, as it is conspicuous how the GMO case manifested itself in certain countries as a problem of food safety. How was this? In whose interests was it? How should we interpret it? We also try to discuss questions such as these with our bioethics students.

Conclusion: complexity

A common denominator of the substrata for the reflexivity I have outlined in this paper, is *complexity*. Indeed, it seems that a certain belief in simplicity (in the clean separation of facts and values, and between reason and passion; in the criteria of what is “relevant” and “irrelevant”; in the possibility of applying rules and pre-designed methods) is characteristic of the modern institutions and practices that would form the primary target of reflexivity in the case of bioethics. I have argued elsewhere that this “simple view” allows a whole family of notions of complexity to arise, by the negation of one or more of its components (Strand 2002).

The joke that academic training can be compared to brain damage is not too uncommon in academic life, but is seldom seen in academic writing. It is a joke, because we all agree that academic education leads to increased knowledge and understanding. However, the general increase in knowledge may happen at the expense of sensitivity to uncertainty, ignorance, and to perspectives apparently in opposition to that of one’s training. “Tunnel vision” is another concept that illustrates this phenomenon.

Interdisciplinary contact seems to be a very sound response to this challenge. A coordinator of a bioethics course should accordingly not despair in the face of heterogeneous groups of students, but rather look for opportunities to draw on the heterogeneity as a resource. Furthermore, she might consider specific measures to counter-act given “brain damage” – in dialogue with the students, though, as one should not consider oneself to be uninfluenced by the syndrome. Teaching molecular biologists about ecological arguments in the GMO case, and vice versa; analytical philosophers about STS studies, and vice versa; policy-makers about scientific epistemology, and scientists about the details of policy processes – all this could be just as useful, or more useful, in a bioethics course than some general model of applied moral philosophy. In the case of natural scientists trained in the “art of the soluble” and the simplicity and neatness of mathematical solutions, we have often played with the logistic equations, to make them discover how chaos and complexity are actually present even in a very simple equation, if you allow it to be non-linear and discrete. In my experience, few exercises of reflexivity are more efficient than a calculator session with logistic equations.

Finally, I should say something about the feasibility of the components of bioethics teaching I have described here. In general, I would recommend them for any university level. Ragnar Fjelland's (1999a) course design and textbook in "vitenskapsteori" (the theory of science) for first-term students of natural science, from which I learned most of these things, have been in use successfully for more than a decade, as well as a slightly more advanced textbook for PhD students working in the natural sciences (Fjelland 1999b).

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Using cases in teaching medical ethics

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It is obvious and widely recognised that ethics should be an essential part of the medical curriculum. It is not as obvious, however, *what, when, how* and *by whom* it should be taught. In the following I shall first describe very briefly my own views on these questions and then describe in more detail three possible ways of using cases in ethics teaching.

What? Most medical students become practising physicians, and part of their ethics education should include practical issues of conduct, like confidentiality and collegiality. As for ethical theory, I do not see its role as essential in medical ethics education. By this I mean that if theory or theories are mentioned, this should be done in such a way that there is an obvious connection to the everyday medical world of the students. Far more important than ethical theories would be the development of critical thinking and questioning in general. In my own teaching, however, the most important aim is to help the students explore their own values, and thus gain some understanding of potential value conflicts between themselves and their patients.

When? Ethics has been taught early or late in the medical curriculum, as well as somewhere in between. Each phase has its advantages, and perhaps the best way of teaching ethics would be to do so at all of these stages. In the model I have developed at the University of Helsinki, we have a half-day introductory seminar in year one, a series of interactive lectures in year three and a case seminar in small groups in year six. In addition to this, ethical issues are brought up in other teaching as well.

How? Integration with other disciplines is one way of teaching ethics, and perhaps the best way, but only if there are teachers responsible for ensuring that the integration really takes place. Conventional

lecturing has limited value in ethics teaching, if the aims are such as the ones described above. In my experience, case-based learning is the best way to reach those aims.

By whom? Medical ethics has been taught by physicians, philosophers, theologians and lawyers. The advantage of physicians here is their own experience of medicine. Philosophers and theologians, on the other hand, have training in argumentation. Ethics is always closely related to law and therefore lawyers should have some role in teaching. Perhaps the most fruitful way of teaching medical ethics is one that combines the views of all these disciplines.

EXAMPLE 1. From case to theory

CASE 1. Handicapped newborn

A baby is born with hydrocephalus and open meningomyelocele at Th 5-8 level. Treatment alternatives and their expected consequences are:

A) **ACTIVE SURGERY:** This would mean two major operations within the first few days, later shunt operations, weeks in intensive care and, in the case of later complications, new hospitalisations for unknown periods. There are a lot of uncertainties in the child's prognosis. Even in the best scenario she would never be able to walk, but would have normal intelligence.

In the worst scenario she would develop severe complications, need numerous operations and hospitalisations and eventually die of these complications.

B) **COMFORT CARE:** Because of open meningomyelocele the baby would die within days or weeks, from an infection in the central nervous system. While waiting to die she would receive nourishment, pain relief medication and comfort care.

ASSIGNMENT: Give arguments for A and B

Firstly, the students are asked to think of possible arguments for the two treatment options, not only their own views but what ever comes into their minds.

Secondly, these arguments are then collected and written on the board or on transparency film. Here are some examples of arguments that are usually presented.

FOR A:

- A1 The baby has a right to life.
- A2 Treatment exists, therefore it should be used.
- A3 This might be the parents' wish.
- A4 The health care personnel have a duty to give treatment where this is an option.

FOR B:

- B1 The baby has a right to decent quality of life.
- B2 The resources could be used for another baby whose prognosis is better.
- B3 This might be the parents' wish.

Thirdly, the major schools of ethical theory are very briefly described and the arguments are classified according to them. For example, A2 represents *utilitarian* thinking, A1 and B1 *rights-based* ethics and A4 *duty-based* ethics. Arguments A3 and B3 refer to *autonomy*, which in this case is represented not by the patient but her parents.

Fourth, the students are then asked to give their personal comments on the strengths and weaknesses of the arguments.

Comment. The aim of this exercise is to demonstrate that our intuitive ethical thinking has its roots in, and can be traced to, major ethical theories. We may not recognise it, but for example Immanuel Kant, Jeremy Bentham and John Stuart Mill are hiding there, even in our everyday ethical intuitions!

EXAMPLE 2. Structured case study

CASE 2. Liver transplantation

Jack is a 52-year-old businessman and has been an alcoholic for more than 20 years. His businesses have not been very successful and he divorced his wife eight years ago. Jack has been sober every now and then, the longest period being nine months. He was in hospital due to alcoholic hepatitis as far back as 10 years ago and the liver damage has gradually become worse. A liver biopsy four years ago showed cirrhosis and after the last drinking period Jack's condition is serious. Trans-

plantation is the only alternative to save his life. He goes to AA and has been sober now for four months. Does Jack have a right to a transplant if one is available?

ASSIGNMENT:

1. Is there missing information that might be relevant for the case?
2. Are there legal issues that should be considered?
3. Give arguments for and against transplantation.

Firstly, the students work alone for a while to reflect on their own response to the first question. Their answers are then shared in a general discussion. The students may point to missing information that is highly relevant also for the later ethical consideration. A case description in six lines is very short and there is much that we do not know about Jack's life (case descriptions like these are often referred to as *thin* cases).

Secondly, possible legal issues are considered in the same way. In some cases legal issues may be trivial or irrelevant, in other cases highly relevant and directly linked to the ethical ones. The relevant law in Jack's case (if he lived in Finland, the home country of the author) would be the Bill for Patient Rights.

Thirdly, ethical arguments for and against transplantation in Jack's case are considered. The students write down any arguments that come into their minds and these are then weighed in a general discussion. Sometimes a clear conclusion about a solution can be made after this discussion.

Comment. A structured case study has obvious advantages to a non-structured general discussion. It guarantees that medical, legal and ethical aspects of the case are covered. Even minor details of a particular case may be relevant for the conclusion. In this particular case, for example, it is important to discuss the circumstances and possible relevance of details that are not told in the case description. We do not know Jack's own view. There are hints (going to AA) but his explicit wishes are not told.

EXAMPLE 3. Stepping into another's shoes

CASE 3. Single mother

Hannah is a 34-year-old librarian whose long relationship with John, also 34 years old, ended six months ago. They lived together for years and for some time they wished to have a child and used no contraception. The relationship was unstable from the beginning, the main problem being John's dependency on his parents.

Hannah comes from a large family and she has close relationships with her sisters and their children. She does not want to have a new relationship with a man but she would like to have child. She contacts a sperm bank and asks for donated sperm. Should the bank help her?

Firstly, the students are asked to quickly think what their own intuitive answer to the question would be. At this stage they should just take sides and not think of possible arguments carefully.

Secondly, the teacher asks both groups, those who answered *yes* and those who answered *no*, to swap roles for a while. Those who originally answered *yes* should become opponents of the practice, not only intellectually but also emotionally, and those who originally had answered *no* should take the opposite position.

Thirdly, ethical arguments for and against the practice are considered. The students stay in their roles, write down any arguments that come into their minds and these are then weighed in a general discussion.

Fourthly, the students are allowed to give up their roles. The final discussion concentrates on their feelings and experiences when having to defend a position that was not originally their own.

Comment. In a limited sense one could call this exercise a role-play. It may be useful for the students to "step into the shoes of another person" with a different view on the original question.

Of balloons and bicycles and the implications for teaching bioethics

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I have been asked by the organisers to address the implications of case-based approaches to ethics for methods of teaching bioethics.

Today there is no longer any discussion about the need for ethics as an integral and essential part of educating students, practitioners and researchers in the fields of “bio”. Moreover, there are attempts to define common objectives and core curricula, at least within specific fields, such as medicine, proposing that medical ethics be taught as a compulsory subject at all levels, from undergraduate studies to continuing education, on the basis of a core curriculum of universally accepted principles of medical ethics (WHO 1994). However, my own admittedly cursory knowledge of some teaching programmes, methods and curricula indicates that the teaching of bioethics is rarely compulsory, and that there is very little agreement on the ingredients of teaching (purpose, content and method), as well as on questions regarding when ethics should be taught, to whom and by whom. This view is supported by others who have delved deeper into the matter. In a critical review on how bioethics is taught internationally, Catherine Myser describes the ongoing controversy (Myser 2001: 485). She is especially critical of the fact that American and British teaching of bioethics is provincial, not learning enough from others. This critical note may also be read as a warning against the tendency of “small” countries to adopt American or British foundations for the development of bioethics and teaching methods. We read Anglo-American literature (as is also evident from this article), but “they” do not read “us”. There is also no consensus as to whether ethics should be an obligatory part of science education. The obvious problem with voluntary education in ethics is that you reach those who are already conscious of its importance. But the question of whether ethics should

be an obligatory part of science education also hinges on differing opinions regarding the purpose of education. I will return to some of these issues in due course. It seems, however, that there is consensus on one very central issue, and that is that any education in ethics should utilise cases. This raises interesting questions about the type of cases to be used in bioethics, and their role.

My intention with this paper is therefore to present a case-based approach to ethics – casuistry – as an important tool for teaching ethics. Whether or not this is the best method, I cannot judge, but I have used it successfully for many years. At the end I will illustrate this approach by presenting a couple of courses offered on the Internet by the University of Oslo.

I will limit my paper to biomedical ethics, since this is the field I know best.

Balloons and bicycles

At the outset I think it may be helpful to illustrate how the case-based approach to ethics can be “placed” or situated in relationship to more familiar methods of ethics. For this purpose I introduce the metaphor of balloons and bicycles, because I think it is illustrative and allows for surplus of meaning. I have borrowed the idea from an article by Albert Jonsen (Jonsen 1991) in which he compares the relationship between ethical theory and practical judgement as akin to the relationship between balloons and bicycles. The metaphor is easily understood and interpreted by students, and it gives an easily accessible overview and “placement” of the present array of approaches to biomedical ethics. Together with my co-authors I introduced the metaphor in a Norwegian textbook on medical ethics (Ruyter, Førde, Solbakk, 2000), which was developed to fit the adoption of “problem-based learning” by the Faculty of Medicine at the University of Oslo. In the textbook we present the students with seven approaches to medical ethics: professional ethics, ethical theories of duty and utility, virtues, principles, casuistry and common moralities. Some of these are well known from the international discourse on ethics and ethical methods, while others are developed locally, e.g. the approach from common morality by the Norwegian philosopher Knut Erik Tranøy (Tranøy 1998).

The metaphor of balloons and bicycles was illustrated by Eldbjørg Ribe and is reproduced here by permission of the publisher.

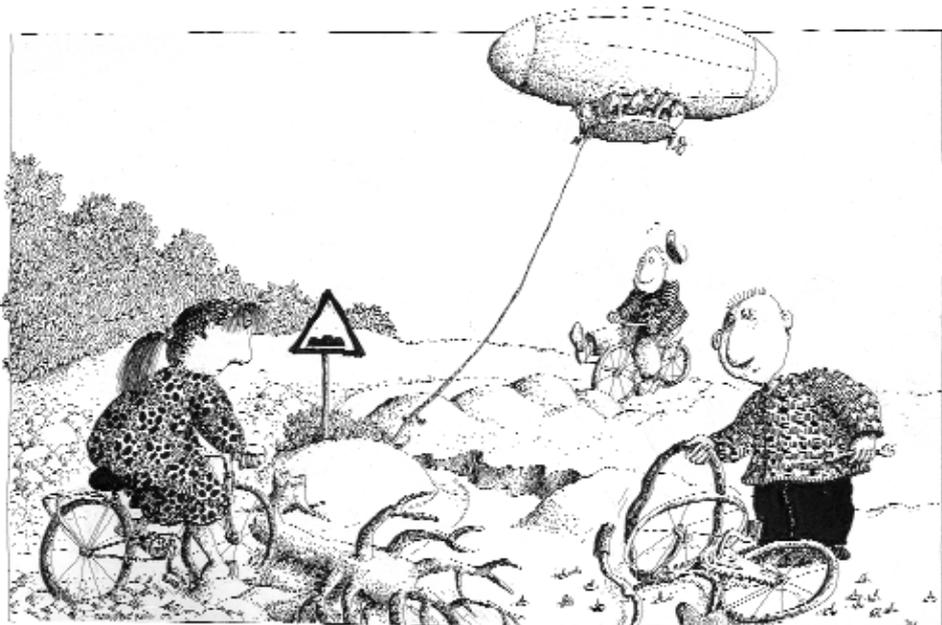
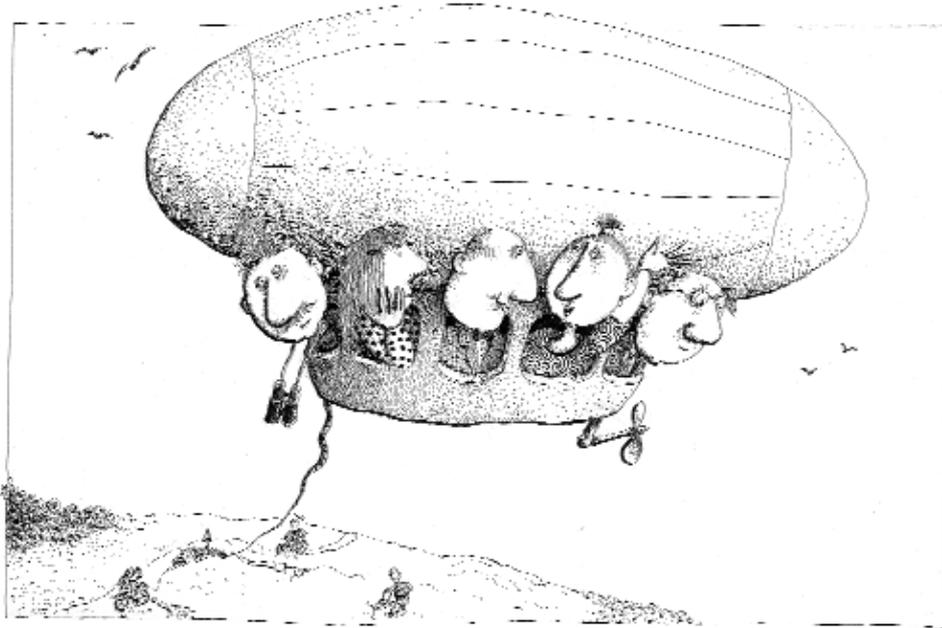


Illustration (Ruyter, Førde og Solbakk 2000: 74).

The metaphor helps students to see some of the differences between the various approaches and to evaluate their practical applicability. Approaches are placed tentatively in the terms of the metaphor and then discussed. Ethical theories are usually placed in the balloon. The wire illustrates the link to reality and can also symbolise how theory is applied to practice, usually by experts in ethical theory. Various methods are discussed with the students. Principles, rules or common morality norms can be placed somewhere on the wire between the balloon and the ground. They are seen as having mid-level status, not requiring full justification in theory, nor direct practical applicability, but offering a framework that seems basic and acceptable to most people. The best example of this approach – and certainly the most read – is *Principles of Biomedical Ethics*, now in its fifth edition (Beauchamp and Childress 2001). The challenge of this approach is to bridge the gap between the principles and concrete practical judgement in resolving cases. The solution for Beauchamp and Childress is specification and balancing (ibid.: 15–21). Methods which may be described as biking methods, since they mainly concentrate on practical decision-making, include casuistry, pragmatism (McGee 1999, Richardson 1995), narratives (Nelson 1997, Charon and Montello 2002), common moralities (Tranøy 1998: 101–135) and some forms of virtue and feminist ethics and hermeneutics – as well as the use of metaphors, analogies and symbols.

All of these approaches have their strengths and limitations. In this context it must be said that the new mid-level frameworks and the biking methods have been developed as a reaction against the dominant position of ethical theories and their application to practice. The criticism is manifold: it is claimed that theories can only reflect selective or reductionist topics drawn from reality (such as autonomy, utility, etc), but do not see or consider other moral phenomena that may be as relevant to the topic at hand (such as vulnerability, weakness, gender, feelings, etc). Even in instances where you agree that the theories are relevant and sufficient for a particular case, it is difficult to bridge the gap between abstract norms and concrete resolutions. Beauchamp and Childress' mid-level principles are a valuable contribution towards alleviating or reducing this difficulty. It should also be mentioned that a great number of practitioners find it pedagogically challenging (if not impossible) to learn the theories first in order to then be able to apply them to practice. Finally, it is also worth recognising that the new approaches were a reaction against

the dominance of purely rational approaches and skills in ethical reasoning (analytical, argumentative and so forth), at the expense of empathy and practical judgement.

In teaching it is easy to highlight some of the differences between these approaches. (This difference is also powerfully demonstrated by Dieter Biernbacher, but with a different set of metaphors: the ivory tower and the market-place (Parker and Dickinson 2001: 315)). The balloon signifies the modern effort to make ethics into a science, with a distinct and systematic theory (doctrine) which can be applied by competent experts to the messy and impenetrable reality. In contrast to this, the bicycle symbolises the idea that ethics is more analogous to art than to science, with its pre-modern roots and its revival in post-modernism. The cyclist is not primarily concerned with doctrine, but with the activities of identifying, communicating and resolving problems. This cannot be achieved in the form of argumentative monologues, but must be done in dialogue with others. Another interesting difference is that the approaches are designed to resolve different types of problem. The balloon perspective is often concerned with abstract, intellectual problems, while seen from the bike there are almost only real-life problems to be dealt with. These differences are also important for the use of cases. In the balloon, the experts will use hypothetical cases to illustrate theoretical positions, while the cyclist is confronted with authentic cases and situations and must resolve these.

The metaphor helps us to visualise the various perspectives, although it does not allow for many nuances and modifications. However, this is not its purpose. I will, though, confess that I am a cyclist myself, and that the perspectives of the drawings are done in a way that favours the cyclist's activities. This is done on purpose, in order to help students to see that there are other respectable and useful approaches in ethics that for a long time were forgotten and ignored, or are new and challenging. The old approaches need to be reinstated, especially within areas that deal with real life problems, which is the case in all areas related to "bio".

The ongoing controversy of teaching bioethics: why, what, how and when?

The metaphor is also helpful in understanding why there is an ongoing controversy in the teaching of bioethics. In my opinion the con-

troversty reflects the differences between theoretical and practical approaches to ethics, and to the set of ethical tools suitable for the various approaches. (I have taken the term ethical tools from Anthony Weston (Weston 2001).) What is interesting to note for the area of teaching is that the tools are now in the process of being developed and refined. The ethical grid (Seedhouse and Lovett 1992) and the ethical matrix (developed by Ben Mepham at the Centre for Applied Ethics at the University of Nottingham) are examples of tools developed on the basis of principle-based approaches.

Why?

The reasons or objectives for teaching bioethics are manifold. Having read through a good number of curricula for medical ethics (biomedical ethics), I find at least four distinct objectives. The first aims at giving students knowledge of ethical theories and concepts, as well as the tools necessary for using these theories (such as deduction, subsumption, balancing, specifying, etc). The second objective aims at developing and enhancing professional skills, especially through communication and interaction. The basis for this training is primarily psychology and pedagogy, however with very important ethical implications. The key word is skill, as a necessary qualification for professional conduct. The third objective is to produce humane health personnel with the “right” attitudes. This requires virtues on the part of health personnel, making them disposed and inclined to act virtuously. As skills, virtues can also be learnt, but then they are transformed so as to become part of the individual’s internal disposition, as opposed to being a purely external skill to be performed in a professional setting. The fourth objective is to help health professionals “to develop skills of independent study and research in ethics” (Parker and Dickinson 2001: xi) in order to enable them to face and resolve problems, especially in a context of changing mores and new technologies. To this end a broad array of approaches and tools can be used, drawn from the balloon or from the bicycle or from something in between (e.g. Childress 1997, defending principlism). It must, however, be correct to say that the introduction of casuistry – and other problem-solving approaches – ought to play an important role in realising the objective of making health personnel competent at resolving problems. At the same time, the different objectives show that it is hardly possible to form a core curriculum of shared principles recog-

nised internationally, as WHO envisaged a decade ago. Most curricula will settle for much less, e.g. a set of core themes and topics, as was agreed upon, for instance, in the United Kingdom (Ashcroft R, Baron D, Benatar S *et al* 1998). But this in itself is no small achievement.

What?

There is no consensus among the many competing approaches as to what bioethics is. In the textbook I co-authored (Ruyter *et al* 2000) it was decided to include seven different approaches – to show the students the diversity of approaches and give them the opportunity to decide which approach(es) they thought were most fitting to their own practice. The textbook has the bias that it starts with cases, and then uses and tests the variety of approaches to resolve these cases. The emphasis of the book therefore also seems to fit the objective of developing skills to resolve problems. This is effective and illustrative. In addition it helps students see how the field of medical ethics has developed, from emphasising a professional self-regulating form of ethics, to becoming a wide inter-professional activity with broadened scope and content (Sundstöm 2001).

Two weaknesses should, however, be noted. Firstly, the textbook does not cover all possible approaches to bioethics. It has, for instance, omitted discourse ethics, narrative ethics and gender ethics. Other approaches could also be added (see e.g. Sugarman and Sulmasy 2001). In teaching we have seen great interest in narrative ethics; narrative ethics can also be seen as an expansion of casuistry, since cases are a narrative genre. Secondly, the approaches chosen tend to overlook larger philosophical, theological and existential perspectives, such as weaknesses of the human condition, the place and power of human evil, power and vulnerability, the ontology of humans, and social questions of responsibility for – and solidarity with – “strangers”. All of these larger perspectives – and more – must also be addressed. This should not, however, be read as an endorsement of giving students greater exposure to ethical theories and so forth. The traditional balloon approaches rarely address these kinds of questions either. What is needed is probably a closer look at the basis for how we understand and evaluate cases, and this is more likely to be found on the ground than in the balloon, especially in the form of metaphors, symbols, stories, phenomena, traditions and customs.

How?

The “how” question of teaching bioethics has some of the same built-in controversies. By now it has become commonplace to describe top-down and bottom-up models (e.g. Beauchamp and Childress 2001: 385–397; Arras 2001: 106). The top-down models represent the approaches drawn from the balloon and also those drawn from along the wire. The model is based on scientific thinking, in which, as Beauchamp and Childress formulate it, “a claim follows logically (deductively) from a credible set of premises” (2001: 385). Even the ethical tools approach uses language – such as “application”, “balancing”, “specification” – that calls to mind scientific endeavours involving mathematical and engineering skills. The bottom-up model starts at the bottom with our encounter with concrete situations and cases. It is presupposed that it will proceed “upwards” to find fitting rules, principles or theories to guide the case or situation at hand. In this way it is presented as an inductive method (rather than deductive), which will allow for a variety of tools, including deductive ones. Here it is, however, important to see that both of these models are theory-driven and theory-dependent, though with different starting points; their main feature is that they rely on the top – or the upward striving – as the necessary reference point for making credible, right or justified moral decisions. They cannot envisage bottom-bottom models without recourse to the wire leading to reliable theories. Radical forms of casuistry and particularism do not necessarily proceed upwards for reliable guidance. They will be content in comparing the case at hand with paradigmatic cases on the same level. Paradigmatic cases are usually not in need of upward justification. Various types of social or expert agreement suffice. It is worth noting that the agreement can be based on – or more precisely, presupposes – what is underneath the ground, as the foundations or sources of morality. These foundations can be drawn from traditions and common human phenomena and may be expressed in the form of stories, symbols, myths, metaphors, traditions, customs and so forth. Understood in this way we may also have bottom-down models. Introducing bottom-bottom and bottom-down models adds to the complexity, but these models are heavily undercommunicated – and, I think, undervalued – in most bioethics, and certainly in the teaching of bioethics. Still, these foundations could prove to be very valuable resources when dealing with the larger perspectives. Here too, the main focus should be that moral actors consider themselves to be involved participants, not distant observers.

When?

The controversies can be shown in other areas as well when it comes to deciding when ethics should be introduced, and for whom it should be taught as well as by whom. Some of these difficulties also follow from the differences discussed. I remember vividly a professor of medicine who argued in favour of introducing ethics late in the studies (preferably in the last semester). The main argument was that students must not be disturbed in their scientific learning, but when they had learnt science and its tools the moral application would follow, almost by itself. I suspect that ethics was just meant to be window dressing, justifying already established scientific premises and possible applications.

Different uses of cases

There is, however, one area in which there is unanimous agreement. All teaching programmes recommend the use of cases. But here too it is important to see that for the various approaches the role of cases will differ. For approaches derived from the balloon, the case is often used only as an *illustration*, and in teaching, cases are regarded as important pedagogical tools, though not everyone may be as harsh as Kant, who regarded cases as mere crutches for those less educated and learned. For approaches along the wire many will consider cases as a *necessary supplement*, either for the development of principles (or theories) or for the application of principles (Arras, 2001: 109). Textbooks in medical ethics have used cases as identifiers of principles creating “pathways in medical ethics” (Johnson 1990) or an ethical grid (Seedhouse and Love, 1992). Both casuists (e.g. Jonsen, 1995: 246-247) and principlists (e.g. Beauchamp and Childress, 2001: 396) concede that their positions are complementary to each other. Arras describes these contenders as moderate casuists and principlists (Arras, 2001: 109). We should, however, not overlook that some espouse a radical position, in which the role of cases is seen as an independent *alternative* to all other approaches (e.g. Toulmin, 1988). According to this view, cases – and especially paradigmatic cases – have moral authority in their own right, in much the same way as it is with precedence in case law. But there is also a fourth way of using cases in bioethics, and that is the use of cases as *levers* to change present mores. A good example of this is Peter Singer’s use of hard cases to convince others that these

cases should actually be accepted as exemplars for a new morality (Singer 1994). This is a legitimate use of casuistry. Whether or not changes occur depends on the acceptability of the cases, and there are many examples where such changes have occurred. In teaching one should in any case be conscious of the rhetorical significance of using hard cases, bearing in mind that many hard cases contain irresolvable dilemmas.

These differences also become visible when we consider the type of cases that have been found helpful when teaching the various approaches to bioethics. In balloon approaches there has been a tendency to utilise *hypothetical* cases to illustrate or refute theories or arguments. One can only remind the reader of the hypothetical case of “the famous unconscious violinist” introduced by Judith Jarvis Thomson in 1971 to buttress arguments in favour of abortion on demand. The case found its way into bioethics literature (the article by Thomson is for instance reprinted in Beauchamp and Childress, 1978: 199–209) and was part of the curriculum when I was a student in the 1980s. At the “Teaching Bioethics” seminar at Klækken two of the presenters mentioned the violinist, which underlines that the unconscious violinist is part of the standard case portfolio for teaching purposes. When cases are considered a necessary supplement, I take it that cases can be both hypothetical and real, depending on their purpose. Seen from a casuist point of view the tolerance for hypothetical cases will be slim or non-existent. The types of cases most often invoked in teaching today are *authentic* cases drawn from real life situations. Ideally, they are not chosen for any particular purpose (in order to prove or refute a paradigm), although one should be conscious of this usage as well, especially when authentic cases are used to undermine or underpin a set of values. Many books on bioethics today favour the use of authentic cases, and I think rightly so, regardless of which approach one adheres to in bioethics. Authentic cases at least ensure a connection with reality.

Casuistry: key elements

The short overview of the use of cases shows great diversity. It is therefore of importance to realise that the use of cases is not necessarily the same as utilising case-based approaches or casuistry as part of the ethics of bicycling. In addition, there are many misunderstandings about casuistry, not at least due to past abuses of the approach within normative traditions (Jonsen and Toulmin 1988, Wetlesen 1998).

For these reasons I think it is helpful to present the key elements of casuistry as an example of the bicycling approach. In order to substantiate the key elements of casuistry, this presentation will be accompanied by comments on authentic cases drawn from experiences with the refusal of blood transfusions by Jehovah's Witnesses.

Casuistry has a simple basic structure of key elements (Ruyter 1995; Ruyter, Førde og Solbakk, 2000: 50–58). Note that the structure can be expanded and elaborated in order to connect it with other approaches to bioethics. At the outset it is, however, important to grasp the simplicity of the approach. Casuistry consists basically of four elements:

1. A description of an authentic case and the surrounding circumstances
2. The identification of paradigmatic cases and of a taxonomy
3. A comparison between authentic and paradigmatic case(s)
4. Probable conclusions

It is important for the approach to have a sufficient description of the case, related to the action, intentions and circumstances.

When the situation is satisfactorily described, the next step is to identify suitable paradigmatic cases; cases which one can be relatively certain can serve as a measuring rod for the resolution of the present case. In most instances we will find an ordered structure of cases showing how they have been resolved previously. Jonsen and Toulmin call this structuring of cases a taxonomy. This is an important tool for understanding the complexity of many situations and the need for differentiating judgements on the basis of different circumstances.

The resolution of any authentic case needs to be fitted into the taxonomy. In the case of Jehovah's Witnesses refusing blood transfusions, it seems reasonable to differentiate between elective and acute surgery and to differentiate between the refusers, e.g. single adults, adults with parental responsibility, pregnant women, children and the mentally disabled. In my estimation, it seems fair to say that the resolution of a large number of cases balancing respect for religious conviction and the medical duties of saving lives (*lege artis*) has led to the acceptance of one paradigmatic case in which it is judged right to respect refusal of blood transfusion: the case of the single adult Jehovah's Witness in elective surgery. The cases of adults with parental responsibility have been resolved in some countries but not in others. On the other side of the ordered structure, we find cases in which it is consid-

ered morally wrong to accept the refusal. These cases include children and mentally disabled persons.

After having identified one or more exemplars, casuistry proceeds by comparing the present case with the exemplars. In the comparison the casuist will look for similarities and differences – with a keen eye for any taxonomy – and see if it is possible to “fit” the present case into paradigm cases stretching from the acceptable to the unacceptable. For instance, how should one “fit” the case of a pregnant Jehovah’s Witness refusing blood transfusion? It is a case in doubt, not clearly fitting the paradigmatic case nor the unacceptable case. In addition the complexity of this case is compounded by ideological differences as to the moral status of the foetus.

The fourth step in casuistic reasoning is to reach a conclusion. The conclusion is limited to probability, admitting that one cannot be certain in moral matters. At the same time conclusions are not relativist or arbitrary, but regulated by common consensus based on the paradigmatic cases. For teaching purposes, it is important to note that probability demands judgement (not mathematical skills). Judgement includes the ability to be discerning, which is very apparent in the similar process of reasoning found in common law in reference to “jurisprudence”. Another characteristic of probability is that it is primarily based on the acceptance of some common moral foundation. This acceptance has often been associated with acceptance by experts, but it can also be understood as acceptance by people in general, by the involved parties, and so forth. In any case it underlines that the direction of moral guidance (seen from the bike) is based on common moral foundations. As others also have pointed out, casuistry must be based on some understandings of common good and communitarian perspectives (see Kuczewski 1997).

The role of cases for principles and theories

Many authors on bioethics have been concerned about the role of principles and theories in casuistry (Christoffersen 1997; Arras 1998: 109; Beauchamp and Childress 2001). They found solace when they saw that cases and principles can be combined, and that principles can have an indispensable guiding force on cases, rescuing balloon approaches from oblivion. Of course casuistry can be combined with other approaches, and it can be guided by overarching norms. But a more

interesting question than the role of principles for cases is the role of cases for principles and theories. I will claim that casuistry comes first. Principles and theories have developed on the basis of resolving many similar cases. Casuistry has always been able to “extract” more general norms on the basis of experience; these are often referred to as maxims (or low-level guidelines or principles). Maxims play an important role in identifying the exemplars because they reflect generalised typical norms for specific situations, such as “Doctors should respect refusal of treatment”. But such a norm is more a question of locating exemplars and complex taxonomies than it is normative guidance for a particular case. In my view, it is in this area that other approaches have a lot to learn from casuistry. The low-level maxim “Doctors should respect refusal of treatment” can of course be generalised even further, for example to the principle of respect for autonomy, and it can be justified by ethical theories, for instance on the basis of the categorical imperative. The casuist has no quarrel with the moral content of developing principles or theories. She has, however, difficulties with the methods of application, starting with the premise of an abstract norm. The casuist will hold that the precise meaning, even of a maxim, cannot be found in the extraction, but in concrete encounters with a large number of cases allowing for great variety of judgments according to the specific circumstances of each particular case. For this reason, in my view cases should be accorded a far more important role for principles and theories than the proponents of principles and theories have generally been willing to admit. As a “necessary complement”, casuistry can help shortcomings in the application of theories and principles, but this approach overlooks casuistry as a necessary presupposition for developing principles, as well as its complex way of reasoning by comparison. It is worthwhile noting that one of the central proponents of principlism, James Childress, has emphasised that analogy (as well as metaphors and symbols) are “too often overlooked” in theoretical models of bioethics (Childress 1997: 3). He even goes on to say that principles and so forth “need and even presuppose” such dimensions, among other things to reduce the impression of static, mathematical and legalistic applications. This is an important concession, although Childress upholds an understanding of mutually compatible roles, with each needing the vision of the other (ibid.: 4).

The advantages of casuistry

The greatest advantage of casuistry is its close proximity to reality, or put differently, to the context of any given case. This makes casuistry immediately relevant – and real – for those who need to “understand” cases and make difficult decisions. The tools of recognising and comparing cases – in terms of patterns – are also common to most people. These are developed as a common trait in the learning of language, skills and behaviour. Others have shown that much clinical reasoning is based on comparisons with successful or disastrous cases (e.g. Ludvigsen 1998).

Another advantage is that casuistry can usually reach consensus on the practical level of comparing cases, guided by maxims, in the search for fitting cases. Having worked for many years with research committees as well as clinical ethics committees, it would seem to me that the experiences of Stephen Toulmin from working on the committee producing the Belmont report (Toulmin 1985) can be confirmed (Ruyter 1998). On the basis of longstanding scepticism in moral philosophy to any form of consensus in pluralistic societies, Toulmin had expected far more disagreement regarding the resolution of concrete cases. To his surprise, the committee members were able to reach agreement when the committee focused its deliberations on typical cases. Differences of opinion became apparent only when members wanted to explain their justifications for their support of the common recommendation – and others disagreed with their justification. They agreed on practical normative matters, but not on theory or the application of theory. Surely this kind of consensus presupposes a fair share of social agreement, concentrating on practical agreement (on the bike) rather than on justifications of agreement (in the balloon). The possibility of consensus has important limits, especially when it comes to ideological differences. The medical research ethics committees reach consensus in almost all cases, but have not been able to reach consensus on cases dealing with research on fertilised eggs and foetuses. It remains to be seen whether casuistry is better equipped than other approaches to forge consensus even when there are disagreements of opinion. Casuistry must be attentive to group dynamics which reduce openness to alternative and critical viewpoints. This danger (dubbed disparagingly “protective stupidity”) is particularly apparent within expert groups, sometimes with extremely dire consequences for the people they are supposed to help.

It is also worth underlining that casuistry is more of a method (as an ethical tool) than a specific content-based theory (which would strive towards the credible top) or a specific normative foundation (which would be located down below). The advantage is that casuistry is akin to the potato. It can be used for a variety of purposes. However, in order to make casuistry useful, it must attach itself to normative foundations and to selected paradigmatic cases.

For teaching purposes, the advantages of using cases are manifold (see also Parker and Dickinson 2001: 317). Firstly, this gives all students or participants the same starting point, regardless of their different backgrounds and experiences. Secondly, a case does not presuppose knowledge of ethics (as in the balloon); rather, it underlines the moral competence and resources of each participant based on their experience and training. Thirdly, and interestingly, many will start, on their own initiative, to compare the case with other cases they have dealt with privately or professionally, which gives a feeling of mastering ethical reasoning. Fourthly, in some instances this can give a reason to address or discuss the development of professional rules of conduct as well as the development and nature of ethical principles and theories. Fifthly, the case approach underlines the importance of learning from practice, developing both contextual and critical abilities, which can be used when encountering people in a variety of circumstances.

The limits of casuistry

Many criticisms have been launched against casuistry. The most common objections are lack of critical distance (which is said to exist in the view from the balloon) and lack of methodological stringency and determinacy (e.g. Arras 1998: 111–112). It cannot be denied that a method based on looking backwards for traditional exemplars has a conservative bent. Any communitarian approach to ethics is based on tried and tested, shared values that have been transmitted through institutions and customs. In most instances this is as it should be. It is, however, a problem if traditional norms are considered static and unchangeable. In my opinion there are no specific limits in casuistry that will prevent it from liberal or progressive reasoning (Ruyter 1998). It is also easy, in my view, to show that most communities have built-in resources for self-criticism when this is needed for making adjustments, or even for replacing old paradigms with new ones (see also

Kuszewski 1997). The charge of casuistry suffering from reasoning which is too indeterminate is based on claims of moral pluralism in which shared agreement is lacking. To some degree this is also true, but as stated above, it seems that casuistry is better equipped to establish consensus on a practical level than any of its counterparts. In any case, it seems that to the extent that casuistry is conservative and indeterminate, other approaches have to encounter – and overcome – the same obstacles and dangers.

In my own work with casuistry I have noticed some other limitations that are worth considering.

Firstly, the authentic case is not as self-evident as is often claimed. Literary criticism is often helpful. Even though a case is real and authentic, it is usually presented by one moral actor and constructed as he or she experienced it. This actor can view the case differently to other participants, and select elements that seem significant while leaving others out. It is also tempting to add components. Presenting cases publicly often also requires that cases be “disguised” and anonymised in order to protect confidentiality. All of these “constructions” represent limitations when a case is the starting point, and when teaching it helps to be conscious of these limitations from the outset.

Secondly, though casuistry makes modest claims in the respect that it only claims to reach probable solutions, it must – and should – also admit that it cannot always reach solutions that are acceptable to most people. Whether or not it is better than other approaches does not make up for the lack of closure in some instances. I have already pointed to unresolved cases in which there are deeply-held ideological differences. But the lack of resolution can also occur in ordinary cases, for a variety of reasons (see e.g. Sundström 1996: 84).

Thirdly, the view of the cyclist is limited. It can be narrow-minded (only following familiar paths) and it can overlook larger perspectives which may not be apparent in practical situations, especially when it comes to social and global questions. It is therefore of importance to stress that casuistry has no pretensions of being a self-sufficient method for the whole area of bioethics. It should be supplemented, not so much by rival approaches (drawn from the balloon), as by insights from, e.g., political theory, literature, global justice and theology. Casuistry as such does not deal with fundamental questions for the life sciences, such as the meaning of evil, disease and death, fair distribution, beliefs, sorrow and consolation. There is obviously also

a great need for developing teaching within these areas (see, e.g., Gefenas and Cekanauskaite 2002), but perhaps apart from a few schools offering “medical humanities” (with an emphasis on introducing learning through literature), the general curricula in health care ethics are almost devoid of these overall – or underlying – perspectives.

Fourthly, one should be aware of the tendency – and the temptation – to overstate the similarities of analogies. The use of analogy is usually a very powerful tool that uses familiar cases to praise or condemn present practices. It has, for instance, been common to invoke the Nazi analogy so as to incriminate e.g. mercy killing, prenatal diagnostics, the use of aborted foetuses in transplantation research and research on vulnerable subjects in underdeveloped countries. The claim is that these new practices deserve equal condemnation to similar Nazi practices. The problem for casuistry is that it is not sufficient to show similarities in order to be able to judge the cases similarly. Significant differences between the cases must also be taken into account, e.g., that the present practices are not coercive. Such a difference indicates that present cases should also be judged differently.

Fifthly, casuistry offers no easy way of identifying paradigms for the guidance of present cases. Although casuists will smirk at a hypothetical case (e.g. Thomson’s unconscious violinist), the appeal to a real case may well be equally strained and sometimes comical, e.g. when opposition to abortion is based on a (US tort law) case in which the court held liable the hosts who had invited a guest for dinner but then thrown him out of the house into the cold night even though he had become sick and fainted and requested permission to stay (Noonan 1974). I do not think this limitation can be rectified by a set of criteria to be checked for resemblance, but any practitioner of casuistry must use analogies consciously and cautiously in order to ensure relevance and significance in the comparison of context-embedded cases.

The implications of casuistry for teaching bioethics

The implications of casuistry for teaching bioethics are manifold, and in accord with different types of case-based approaches.

I favour the traditional casuistic insight using exemplars as the independent normative foundation for guidance in dealing with new cases – and not the approaches which use cases merely as crutches until you get to the “real thing” through ethical grids or pathways.

But even this does not resolve the present day controversies regarding the purpose, content and pedagogy of bioethics. I would therefore like to emphasise that many of the implications for teaching bioethics depend on the answers chosen to the questions of why, what, how, when and to and by whom. At the end of this paper I will present some choices that I participated in making when we prepared courses in bioethics at the University of Oslo:¹ one on “health care ethics” and one on “medical research ethics”.

First of all we wanted to emphasise the humanistic art of medicine, also including the importance of strengthening moral character among professionals. Nevertheless, it seems clear that the Internet is not particularly suited to developing character, thus the emphasis is on the basic values of medicine and health care, and on giving students ethical tools to use in their encounters with reality.

Secondly, we decided to present students with a variety of approaches to bioethics, though with the clear objective of reinstating and rejuvenating the biding approaches, such as casuistry. Students – and practitioners – are usually already familiar with applications of principles and theories (based on their rudimentary knowledge of these). They are therefore introduced to methods of comparison, induction, and so forth.

Thirdly, and importantly, the courses were developed interdepartmentally and were designed to fit interprofessional groups at various levels (students as well as experienced professionals). The main target group was outside the University, secondarily students at the University. One of the main obstacles for bioethics teaching today is that professions are trained and taught separately from each other. Here we were actually able to attract a wide variety of professionals from outside the University – such as nurses and social workers, researchers, doctors, professors of medicine, church ministers, clinical monitors, representatives of health directorates and medical authorities – as well as from within the University – graduate students of pharmacy, medicine, sociology, nursing and theology (but note, not philosophy). Our experience thus far points to the importance of dialogue and exchange between professions as well as of a mixture of students and professionals.

1. The courses were prepared by representatives from three faculties: medicine, philosophy and theology.

The courses are offered by the Department of Theology.

Fourthly, the planners developed a core curriculum for both courses, which is meant to form the basis, with the potential to add more specialised modules of teaching later (e.g. the treatment of psychiatric patients or clinical investigation of medicinal products). The courses are built upon “weekly lessons” which offer reading assistance, cases, tasks, required reading and recommended reading. The reading assistance gives a broad overview, introducing the students to the main topics and readings of the week. The reading assistance is followed by two to four authentic cases, as well as tasks. Most of the tasks will use cases as a starting point. All required and recommended reading is listed consecutively. The recommended readings span all the approaches mentioned, as well as giving students classical texts (in Norwegian translation) which are often referred to in bioethical discourse (such as Aristotle, Augustine, Aquinas, Kant and Mill). I am still doubtful as to whether these readings are necessary, but for now I think it gives students and professionals knowledge of a body of texts commonly referred to in bioethics. In this approach we have chosen not to identify “core topics” but rather “core approaches” to dealing with a variety of topics. In my opinion we still have too much emphasis on application models, and need to develop even further the various biking approaches, especially narrative ethics.

Fifthly, the pedagogical key to success has been the requirements for group-driven activities on the Internet. Students are divided into groups of four (preferably interprofessionally) and assigned tasks: for instance to present a resolution to a case, or to test the weaknesses of an approach. Other groups and individuals can respond to their input. Each course requires the submission of an essay of ten pages in place of a final exam, where the student must either choose to answer a given task taken from the weekly lessons or propose a task from their own practice or interest (but this must have been approved). Each student will also discuss their chosen task and proposed essay outline with other students in groups. The Internet activity is credited. The teacher offers individual supervision on four to six selected full days using the “medium” of choice (telephone, e-mail, chat, or office appointment). In my opinion the course is not primarily designed to enhance rudimentary knowledge of theory (this is gone tomorrow and has very little impact in practice), but to instil processes of dialogue between participants from various professions to help them see the relevance of the various approaches in their practical activity. Many experienced professionals have used what they have learned from the course at their workplace, and have shared their insights with their co-workers.

Essays are e.g. designed to resolve a relevant problem at the workplace and can later be delivered as a report to management in order to make the problem visible and encourage conscious and deliberate choices on how to proceed. Many have chosen (not without prodding) some of the (unfamiliar) biking approaches, and to their surprise found that they worked. I have encouraged these types of learning processes, enabling professionals – and sometimes their co-workers – to encounter the challenges of biking.

Sixthly, the hurdles of Internet pedagogy are eased by offering a two-day opening seminar, in which the first day is given as an introduction to the course, including to the group dynamics. The second day provides a general and hands-on introduction to the technical use of Classfrontier. Classfrontier can be adjusted to fit various pedagogical and professional needs. The main framework now consists of general course information, lists of participants, weekly lessons, group activities, individual essays and a portfolio. The last function (the portfolio) is Big-Brother-sees-your-every-move, as it counts any activity by each participant (times of entry, documents read, documents written, and so forth). After having completed two courses, we are now in the process of evaluating whether we should also have a seminar about two thirds of the way through the course. Internet pedagogy has its obvious limitations when it comes to dialogue, conversation, and so forth. The human encounter remains unsurpassed. For the teacher it should be noted that Internet pedagogy does not require less work than ordinary teaching, in fact rather more, due to the necessity of thorough planning and greater flexibility allowing “attendance” regardless of domicile.

Conclusion

I have focused on the relationship between casuistry and ways of teaching bioethics. Among the many contenders in the field of bioethics, I think casuistry is one of the best approaches for making the teaching of bioethics work for students and professionals alike. It encompasses familiar tools of recognition and comparison, presupposes judgement and virtues and is based on a fertile ground of shared values. For this reason I think casuistry has more to offer the upward-striving approaches in the search for credible premises in principles and theories than these approaches have to offer casuistry. This does

not, however, mean that casuistry claims to have any kind of self-sufficient position. Casuistry needs, and thrives on, a fertile soil of moral foundations, and cannot exist without broader perspectives of the contexts in which morals need interpretation. In the teaching of bioethics there is obviously a need for reviving casuistry, but there are also a good number of other biking approaches that need to be addressed, such as narrative ethics. When the biking approaches have found their rightful place, the next great challenge for institutions offering the teaching of bioethics is to develop curricula and teaching dynamics which address the larger perspectives of bioethics (see e.g. Riis 2000) that at the end of the day are a necessary prerequisite for developing humane practice in medicine and health care, as well as in all the biosciences.

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Sociodrama in the analysis of ethical issues

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This article is an attempt to bring together two different traditions for understanding and interpreting moral life, traditions which seldom meet – at least not at the academic level. The first is so-called modern social ethics, which deals with all kinds of social and interpersonal problems, using intellectual tools for their analysis. Very often it is situation-oriented in its approach. The second is called sociodrama, developed by J.L. Moreno and others following in his tradition. Morenian thinking has been implemented mostly in the form of psychodramatic work. Less emphasis has therefore been put on sociometry and sociodrama, both of which are, however, an organic part of Moreno's ideas.

Having my basic academic training in social ethics and bioethics, as well as in theology, I thought that it would be interesting to experiment with new teaching methods using sociodrama as an effective tool in teaching and researching social ethics and bioethics. I therefore invited a group of volunteer students to participate in this experiment with me as their teacher and director. Most of them were students of theology, because my teaching is mainly part of the theological curriculum, but some members from other fields were accepted, too – partly because they showed great interest in this effort, and partly because my idea was that greater diversity in the group would have a positive effect on the outcome. The participants in question were from the fields of nursing, psychology, education, the social sciences and practical philosophy.

I have since explored this methodology further, at the annual meeting of Finnish physicians in the years 2001, 2002 and 2003. The group responsible for teaching at these nationwide occasions has been interdisciplinary, including doctors, theologians, ethicists and a lawyer.

The aim of this study is to discuss sociodrama as a fruitful method of analysing, understanding and solving ethical problems – and pos-

sibly even as a means of going beyond that point, that is, creating common moral action. This was done by surveying the major present-day schools of ethical thought and relating them to action-oriented group methods – especially Morenian sociodrama.

In this paper, different ethical approaches and their relation to Morenian sociodrama will be discussed. In addition to this, one drama will be given as an empirical example of the practical work done in the group. After this, a general evaluation can be made on the basis of this material.

The ethical discourse

In the course of recent decades moral issues have become very popular – not only in public debate, but also in education and in professional life. In particular, the 1960s was a time for many great moral themes, and it seems that quite a few of them experienced a renaissance at the end of the twentieth century. Moral issues in the fields of politics, economics, ecology, international justice and development, human rights and war and peace have been widely debated and studied. Among the participants in this discourse, we can see philosophers, theologians, social scientists, journalists, educators, political decision-makers and people from the medical, social and nursing professions.

The difficulty in this discussion has not only been that people seem to have very different backgrounds, traditions, preferences, and points of view. It also lies in the question of how valid and appropriate the ways of approaching these issues are. Analytical philosophy has been appreciated as one of the most distinguished traditions in moral academic discourse, but many scholars are now saying that ultimately it cannot reach beyond its formal definitions, logical analysis and rules for different language games. Therefore, it does not provide a solid basis for a life-style or for practical social decision-making.

On the other hand, idealistic thinking has been strong and vocal in its moral ideals and norms, but the idealistic approach very rarely fits into everyday hard realities. It might look nice, but to follow it is often hard, perhaps even impossible. In addition to this, there are many ideological and religious traditions which pretend to know what is “the best possible world” and whose rules must be followed to find the way there. But to accept them often requires that one gives up one’s individuality and critical free judgement. And, in my opinion,

solid moral thinking cannot be just an excuse for a fixed ideological view of the world or a rationalisation of old prejudices.

The main difficulty is, however, that most of the academic discussion on moral matters seems to exclude the human psyche and social interactional processes, despite these being some of the most crucial conditioning factors in moral decision-making. The human mind is at the same time both a resource and a limitation in relation to moral concerns. A person cannot be good, if he or she does not know what “good” means and what “good” presupposes at psychological and interpersonal levels of human encounter. To define “good” in the abstract is not enough to lead us to live “a good life”.

Life is a story

It is most interesting that during recent years the narrative understanding of human history and society as a methodological approach has become popular and found support. According to this approach, there is an essential aspect of reality which can be met and understood only in a story-structured form. Not only is life told in the form of stories, but life is a story. The basic characteristics of any story are that there is a process, a meaning, a development, an interaction and an experience. All that belongs to a story is constantly developing and changing, as well as meeting other stories, and it thus has a structure which is simultaneously both personal and interpersonal, both individual and social. What is most subjective can also be most universal – unlike in the physical sciences. And if there is a story, it can be my story only if there is a real commitment from my side: I am involved, I am concerned, I am responsible.

Heteronomous moral traditions tell us that somewhere outside us is the objective source of ethical norms and wisdom. We are supposed to be obedient to that source and all authorities representing it. Heteronomous traditions interpret, explain and argue why we are supposed to behave as we are told to do. This kind of moral teaching easily turns into casuistry where we have a long list of pre-defined situations and moral answers to them – what we can call cultural conserves, i.e. the structured end product of a creative action, fixed in a closed form. It seems (and may also feel) safe, but there is no creativity and no individuality in it.

Formal (analytical) ethics tries to be objective, accurate and neutral. Its basic aim is to create a moral language game without any contradictory or unexplained elements. Normally, it refuses to take a stand concerning what is ultimately right and wrong on certain issues. But the fact remains that there is no human moral position which does not imply taking a stand, and there is no human person without internal conflicts, even contradictions.

Motivation ethics holds that what ultimately matters is the basic intention behind an action. If a person has good intentions, his or her act is good, irrespective of the consequences. This approach reduces morality to individual feelings and motives, forgetting that morality is always an interpersonal matter.

The opposite bias is present in consequentialist ethics which is interested only in the objective results of moral actions. The human actor is easily forgotten.

“The golden rule ethics” claims that the basic ethical rule, which stands above all others, is to treat a human person in the same way as one wants to be treated oneself in a similar situation. It is an old moral maxim which is known not only from Christianity but from almost all the major moral traditions. It sounds good, but the difficulty in applying it is that when we only use intellectual analysis it leads either to very abstract generalisations or to an uncritical assumption that all people are like us – or ought to be like us. In complicated life situations many people may find very little help in being told that they “just have to follow the golden rule”. The point is not that the rule in itself is bad, but that the problem lies in how to apply it creatively and concretely in various life situations.

What seems important to me is that every responsible moral action has to take very seriously both the possibilities and limitations inside and outside us. Moral action has always an “incarnate” nature. Something becomes true and real only through our choices and actions. And this can take place only where we are present – in the real world, in present time, among those people who are made of flesh and blood and by whose very existence and deeds, both good and bad, we are touched. This is not possible if we do not understand and take into account human feelings, aspirations and interpersonal networks. Our question is not only what is good and right. We also have to ask: what is possible, and where can we find resources to do what is good and to avoid what seems to be bad and irresponsible?

If morality turns into rationalisation of one's own prejudices or into moralism which makes use of endless enemy images and sees life only in black and white, we have lost both our sensitivity and our human responsibility. Creative self-criticism presupposes that we are able to see ourselves through the eyes of other people.

The theory of sociodrama

From the very beginning of human culture, drama has served as an important means of human encounter with "the greater life". Drama has united people, healed them and given them the possibility of participating in the common myths of human history. As a matter of fact most rituals, religious and secular, are means of describing, mastering and changing life in dramatic form. There is a wide variation of different forms of drama, but what unites most of them is the emphasis on movement, experience, interaction, physical expression, spontaneity and creativity.

Morenian drama

The roots of Morenian drama are deeply philosophical – even theological. It seems to be important, from the point of view of this study, that Moreno says that in the beginning he was more interested in ethical issues than in pure theoretical thinking. This shows that ethics is not just one of the possible applications of dramatic work, but is at its very core. Socrates himself was, in Moreno's opinion, a good sociodramatist using his famous "maieutics" method, including role reversal in the agora of Athens. Moreno speaks even about axiodrama, which "deals with the activation of religious, ethical and cultural values in spontaneous-dramatic form".

Moral considerations are also deeply rooted in Moreno's ideas about the method and purpose of dramatic work. As he says in many places: "A truly therapeutic procedure cannot have less of an objective than the whole of mankind." Dramatic methods in the Morenian sense are also truly democratic in their outlook and purpose.

Moreno was also one of the first to develop an ethical code for group psychotherapeutic work and psychodrama. For example, the principle of confidentiality is expressed in the following way: "Every

patient is expected to divulge freely whatever he thinks, perceives or feels, to every other in the course of the treatment session. He should know that he is protected by the 'pledge' and that no disadvantage will occur to him because of his honest revelations of crimes committed, of psychological deviations from sexual or social norms, secret plans and activities." Moreno gives also three basic ethical rules for sociodramatic and psychodramatic work: "1. Give truth and receive truth, 2. Give love to the group and it will return love to you and 3. Give spontaneity and spontaneity will return."

The core of Morenian drama theory is his concept of spontaneity and creativity. They belong together, but are not the same. Creativity is something which belongs to all as an opportunity, and spontaneity is what frees one's creativity. In the spontaneous-creative process a person moves towards an adequate response to a new situation or a new response to an old situation.

The end product of the creative process is the cultural conserve, but in order to maintain a spontaneous way of living one has to give up cultural conserves repeatedly and to start from "chaos" again, where all is in "*status nascendi*". In the group, the warm-up process is the operational expression of spontaneity.

Sociodrama, in the Morenian sense, is "a deep action method dealing with inter-group relations and collective ideologies". The group itself is the true subject of sociodrama. The assumption is that in every group or audience there is already an organising structure of social and cultural roles – which, at the same time, all share in the same culture. "It is therefore incidental who the individuals are, or of whom the group is composed, or how large their number is." The method and process make the basic issue and the social structure connected to it visible and understandable. Note that the director of sociodrama is also part of the process and interaction – not an objective, non-participating observer.

All human roles include both individual and collective aspects. A person is by his or her nature a "role-player". The roles are physical, psychological, social, ethical and even cosmic. In society these "private" roles interact constantly. The total matrix of roles in a group is much more than the sum of private roles. In sociodrama we deal with the phenomenon of collective identity – and therefore everyone in the audience is included. This is true even in a protagonist-centred sociodrama, because the protagonist represents a role or roles which are "greater" than his or her private roles.

Social catharsis

“The sociodramatic approach deals with social problems and aims at social catharsis”. The purpose of sociodrama is to experience, understand and integrate collective processes and to promote social change in order to meet more adequately human needs and aspirations. In sociodrama, work always starts from a reality which is “greater than just an individual” and it aims, in its outcome, at the same wider level. As Moreno says: “The sociodrama, however, starts within the audience present, it is calculated to be educational, clarifying and energising to all members, to serve as a stimulus to spontaneity, creativity, love and empathy, and a check and balance to cultural tensions and hostilities arising from local or world-wide events and as a means of social catharsis and integration.”

It can be debated whether sociodrama is a therapeutic exercise or not. In my opinion, in many sociodramas therapeutic elements are clearly present. In one sense health itself is very much a collective good. And in sociodramatic catharsis there is the possibility for the whole group to become more healthy and more whole in the sense meant above. In a way, sociodrama transcends the narrow borderlines between the individual and the collective spheres, and between the medical and the social spheres.

The relation of social ethics to sociodrama

In my opinion, there are many evident links between modern narrative ethics and Morenian sociodrama. What is “magic” in the drama is just its ability to make everything true here and now.

Narrative ethics tries to solve the problem of distance between theory and life by using stories. If I am part of my own story and participate simultaneously in the story of all who exist, I cannot hold a neutral and alienated position. And drama, for its part, provides an effective means for making stories visible, sensible, workable. In dramatic work stories take place here and now. They do so in all dimensions of qualitative time. We can go back and still be here. We can die and still live. We can give space to the basic rhythm of life and express it in various forms and encounters.

The narrative approach to ethics always deals with meanings and interactions. It provides a creative structure, a human movement in time and space. In this „gestalt“ one can find one’s own identity – but at the same time also see the world through the eyes of others. Therefore, narrative ethics in sociodramatic form is a means for mutual understanding, growth, emancipation and responsibility. A story is always more than any explanation given of it – or even the sum of all possible explanations. A sociodrama works also on the unconscious and invisible levels of the human mind. Even when it is analysed there is still something more.

It has become clear that sociodrama means a unique opportunity to put narrative ethics into practice, to visualise it and to become part of one’s own story. The stage is the magic place where all is possible and where everything becomes true and visible. There is, in most ethical theories, a wide gap between knowing and doing, between understanding and taking actual responsibility. In drama we can act out and test what is in our thoughts and theories. In this way we have a feedback system on the basis of which we can correct and change our theories so that they fit the realities of life more adequately.

What is still more important is that in Morenian sociodrama there is a unique opportunity to put “the golden rule” into practice. All major ethical traditions respect the principle of mutuality between human beings. I have to treat my neighbour as I would like to be treated myself in a similar situation. But this abstract principle is difficult to put into concrete action, because I cannot generalise from my own private feelings and conceptions what is true and necessary for other beings. In drama, however, we concretely take the position of others in role reversal. Thus, we *are* other people and we *are* other things. I experience myself through the eyes and feelings of other actors.

In sociodrama this is still more so, because in most sociodramas we start from the situation where we are immediately put into the roles of others. We live a larger life which is no longer limited only to our narrow personal boundaries. We can be kings or sparrows, strong soldiers or helpless children, sinners or saints. It is especially useful to see how roles – seemingly opposite to each other – are deeply interrelated and interdependent. Something of the role of the mother can be understood better from the role of the child. And this also applies, for instance, to the roles of God and the devil, black and white, man and woman, police and criminal, murderer and his victim. It might disturb our stereotyped thinking, but at the same time it feels

real for the group. My experience is that this way of working with ethical issues is especially helpful in trying to avoid moralistic standpoints on various ethical issues.

This process of sociodramatic work is based on spontaneous interaction, and it feeds our ability to empathise with others, which is the basic prerequisite for staying and growing together as a responsible human community. Usually, it is said that the psychological foundation for golden rule ethics is just empathy, but if we understand the mutuality in ethics as a spontaneous ability “to feel in two directions”, this comes closer to what Moreno calls “the tele relationship”.

An example of ethical analysis using sociodrama when teaching

I have worked with students in groups using sociodrama as a method for understanding, analysing and solving different moral problems. We have met approximately every second week during the academic year for four-hour sessions. The number of students present in sessions has been between six and twentytwo. Most of the sociodramas have been directed by me, but in about seven dramas students have been directors, and I have acted as their supervisor. We also used student observers who wrote detailed reports on the sessions. Those students who wanted to have examination scores on the subject, to be included in their study record, were asked either to direct or write a drama outline on a given subject.

Usually a session starts with the report from the previous session, and a discussion of the drama acted then. First, it is analysed from the point of view of the sociodramatic roles concentrating on feelings, experiences and psychological insights. Then, a further analysis is made of the moral issues dealt with in the drama. We discuss how the sociodrama adds to and changes our previous understanding of the problem concerned. Students have the right to make their own statements and to challenge traditional moral answers.

After a short break a new drama is played, starting with a warm-up and ending with “deroling” and sharing, both from the sociodramatic roles and the students’ own roles. Theoretical debate does not normally take place here, but very often there is a discussion about how sociodramatic roles are related to group members’ own life situations and personalities.

The themes which we have worked on include the following: sexual morality among students, artificial insemination, refugees, feminism in the church, conscientious objection, the ordination of women, shame punishments, presidential elections, a church minister's moral integrity in his office, business life, unemployment, the ethics of public administration, homosexuality, loneliness, suicide, creationism, heresies, pornography, AIDS, unfaithfulness in a church minister's family, murder, abortion, incest and male and female roles. Normally, the warm-up process has been connected to the theme to be worked on. Sometimes the warm-ups lead to a theme other than that which was originally planned for the session.

The basic norms which we agreed upon in our group were the following:

1. Everything which is expressed or shown in the group remains confidential between the group members.
2. Work is done on a totally voluntary basis.
3. There is freedom of expression of feelings, thoughts and needs in the group – unless this violates the freedom of others to do so.

The following is a report on one sociodrama acted in the group. The topic was "attitudes towards AIDS". It is chosen here because it gives a good idea of the nature of the work done in the group.

Warm-up

This drama is a very special one, because on the one hand, it is one of the sociodramas made with the student group, but on the other hand it is simultaneously, by invitation, part of a much larger scene, namely the Finnish AIDS Day – an occasion open to the public, offering a range of different seminars and workshops. Over fifty people are present in the session – many of them professionals in health care. The purpose is to involve all of them in the work. Most of the people present do not know anything about sociodrama. The director therefore starts the session by talking about some of the basic ideas and ethical rules connected with sociodramatic work.

The whole group starts to move in the big room, imagining that they are walking in a dark forest. Firstly, they are told that other people are just trees in that forest, but later an instruction is given that they are angry, threatening and dangerous people and one has to

avoid them. Finally, a new instruction is given that all the other people are friends who are loving and caring. People are asked to touch each other. Immediately afterwards the group is asked to go into smaller groups of five persons and to present themselves, saying who they are and why they have chosen this workshop. People seem to be very confident and spontaneous.

Drama

The drama starts directly in the small groups; this gives the director the opportunity to involve all the participants in dramatic work. Group members are told that they are sitting in the restaurant wagon of a Finnish night train. They can choose between five different roles: The first is Mikko, who is a Finnish worker from a big construction worksite in Leningrad. The second is Ruth, a young woman from Kenya who is studying in Finland. The third is Seppo, a bisexual male waiter. The fourth is Sirkka, a teacher whose husband travels abroad a lot (especially in Africa) because of his work. The fifth is Leena, who has a history of intravenous drug abuse. That means that all of them run, at least theoretically, the risk of being HIV infected.

All group members are given a sheet of paper. The director tells them that four of the papers are clear but that one of them has a plus sign. The one who randomly receives the sheet with the plus sign has the HIV virus. People are instructed not to show their papers to others.

(In fact, none of the papers given to the group members has a plus sign. The instruction is deliberately misleading because one of the tasks of this sociodrama is to examine projections in people's attitudes related to the HIV virus and AIDS.)

On the table of the restaurant wagon there is an evening newspaper with the big headline: "Avoid this woman – she has AIDS." There is also a picture of the woman, with a text reporting that she is Olga, a prostitute from Leningrad, who has AIDS. According to the article, some Finns might have caught the infection from her, too.

The discussion in the role-based small groups starts very spontaneously – sometimes also rather heatedly. In most cases, the teacher starts to moralise to her "strange companions". There are sexual encounters, quarrels and friendships developing.

After a while, the director asks group members to guess which one of them is the one that has the virus. People also have to argue for their choices. It soon becomes very clear that the arguments are

almost solely based on prejudices – on what they think about other people, because of their backgrounds and ways of life. In most cases, only a very few people think that the teacher is the one with the virus.

The discussion goes further. More and more struggles start to develop. Many do not trust each other any more. Then the director asks the group members, one by one, to turn around and to soliloquise their internal thoughts and feelings. People say a lot of things which they were not able to say to their companions on the train.

When the director asks participants to show their papers to the others, a great silence descends on the room. Faces are very expressive. Then laughter starts when they notice that nobody has the virus.

Sharing and processing

Because of the large number of people in the group, most of the sharing is done in small groups. After this there is a general discussion. It is noticed that quite opposite traits in a person's behaviour can lead to the thought that he or she has the virus (e.g. being silent or speaking too much with a strong voice, sadness and being cynical, moralising and showing tolerance, kindness and being angry). We have a discussion about what makes some people scapegoats in a group and how this could be avoided. People say that being under suspicion causes them to feel despair, anger, sadness, helplessness, guilty feelings, a need to escape, or isolation and deep loneliness.

Summary and discussion

My experience is that sociodrama is an interesting and fruitful method for dealing with ethical issues. Our work has been experimental in its nature and, certainly, many things can be developed further. In particular, in the processing there is a natural tendency to concentrate too much on the psychological aspects of the drama and to forget important social and ethical implications. This might also be partly due to the dominance of protagonist-centred psychodrama in the Finnish tradition. Sociodramatic work needs to be kept in touch with social theories and sciences – just as psychodrama is practised mostly in relation to psychological theories and sciences. Therefore, we have to look for new partners in dialogue, and be educated in wider social knowledge and skills.

It has become very clear that the warm-up process is one of the key issues – not only in increasing the spontaneity of the group, but also as a decisive factor leading to the issues to be dealt with. Therefore, it is important that in most cases the content of the warm-up is connected to the planned theme for the sociodrama. Because our group has only met every second week and many of the group members did not know each other beforehand, in the group process it took a relatively long time to develop enough confidence needed for the work.

There are some common traits in the drama processes which might be related to the special situation and background of theology students. Most of them seem to have great difficulties in showing directly strong negative feelings – even if the role or instruction given by the director clearly indicates the relevance of that kind of reaction. Students tend to be very kind, therapeutic and reconciliatory persons, which in turn, strangely enough, hinders more than it helps them to be truly therapeutic and reconciliatory. That also has the consequence that in drama processes, very often some students turn suddenly inwards and become very stuck in their roles. Consequently, in the “derolling” process feelings of sadness and guilt are rather common.

I think that our work has shown that, almost without exception, it is essential, for solving ethical problems, that people are in touch with their real feelings and feel themselves free to express them directly. This indicates that all kinds of moralising as far as feelings are concerned are ethically counter-productive in the long run.

Dramatic work with ethical issues is also very appropriate for showing how certain choices and reactions have long-term consequences in the wider community – even if this is not normally seen at first sight. It is also clear that many aspects of ethical problems are dependent on the nature of interaction between the people concerned – and not only on either their motivation or goals.

One advantage is that in sociodramatic work it is quite easy to also involve the wider group in active work – e.g. to propose solutions, give comments, make guesses or show alternative actions to those first tried out in the drama.

The use of role reversal in sociodrama is useful in cases where more energy is needed for the person in the role or where it is important to sensitise him or her to the points of view and feelings of others. But on the other hand, it is my experience that too many role reversals can make the work too complicated, because people are in other roles than their own right from the beginning of the drama. Generally,

it has been shown to have great educational value if people take roles which are very different to their own. This adds to their life experience – and this is especially important for theology students who sometimes have a very narrow ideological background.

As a theoretical ethicist, I have learned from this exercise that people can only make those decisions which they can understand and for which they have the necessary physical, social and spiritual resources. In many cases, it is much more useful to try to influence those conditions in human life than just to provide theoretical explanations and moral principles. For that, sociodrama is a method “par excellence”.

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What can narratives do that principles cannot?

A narrative approach to teaching about misconduct in research

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I should of course have started this introduction by telling one or more stories. Stories, which could all of a sudden have made you realise what misconduct and dishonesty in research is all about; what it looks like, how it can happen, and why it is to be assessed as morally and perhaps also legally wrong. One or more stories, which brought you to the only possible conclusion: “Oh no, I will never for the rest of my life as a researcher be dishonest or depart from the path of good scientific practice!” After telling these stories I could simply have added the words of a well-known teacher in the Bible: “Go, and do likewise!” Unfortunately I didn’t find the right stories for this job. And even if narratives or stories have some brilliant qualities as tools in teaching, I realise that the hoped for effects which I mentioned initially might be a bit too ambitious. Having said this, if anything at all could cause these effects in a listener, it has to be narratives.

People who advocate a narrative approach to ethics have their disagreements, but most of them would agree that narrative is the only candidate with a potential to invoke in readers or listeners the kinds of reactions which I have referred to: 1) A genuine understanding of a certain action or behaviour; *what* it is and is not, *how* it differs from other kinds of behaviour, *why* it is performed or perpetrated, and *how* to evaluate it. And as a result of this: 2) A new personal commitment, or perhaps even a personal transformation (or conversion, if you prefer), concerning which acts or kinds of behaviour to try to avoid, and which to strive to carry out. By saying this I have already given a preliminary answer to the question spelled out in the title: What can narratives do that principles cannot?

Narratives – a supplement to, or substitute for, principles?

The title of my contribution might suggest that it belongs in the category of “confrontation with ...” or “polemic against” a principle-based approach to ethics. And true enough, lots of contributions by representatives of so-called “narrative ethics” have belonged to this category; focusing on the shortcomings, inferiority and perhaps also superfluousness of principles in ethical reasoning and decision-making, and arguing for the necessity of at least *supplementing*, but perhaps also *substituting* principles with narratives.¹ Considering the enormous impact of principle-based approaches to ethics, at least within medical ethics, it is easy to understand the need to question this dominant and for a long time undisputed tradition. What does it overlook? Why don’t people change their practice when they’ve been taught the relevant principles? And so on. The relation between principles and narratives has been one of the most central issues, and a source of disagreement, in the discussions concerning the possible contributions of a narrative approach to ethics. Fortunately we don’t have to settle this conflict to make use of narratives in teaching. We do not have to solve the problem of whether narrative ethics is to be considered as a supplement or an alternative to a principled approach. Both “narrative fundamentalists” who think we can manage without principles in ethics, and “narrative pragmatists” who don’t think that narrative sensitivity makes principles superfluous, but that it is necessary in order to make them work better, can agree that there are some narrative elements deeply embedded in all forms of moral reasoning, and that narratives for that reason have an invaluable role to play in teaching. Even if narratives are not seen as the only route to salvation for the teaching of ethics, *some* of our aims are more likely to be achieved with the help of narratives than with the help of other possible tools, like, for instance, principles. What we aim at in our teaching is of course dependent on who the target group for our teach-

1. There are many different ways to understand and define a “principle”. In this context the term “principle” is used with reference to rules of behaviour which are general and often categorical, as opposed to concrete and context specific, in form. Some well-known examples might be “The Ten

Commandments” or the often cited principles within medical ethics to act justly and to respect the autonomy of the patient. Principles are designed to cover a wide range of cases and are formulated in advance of our confrontation with a singular case.

ing will be, and connected to this: which area, or what kinds of issues and problems we are going to call attention to. For the realisation of *some* of our purposes, narratives might be indispensable. As far as other ends are concerned, narratives may provide one – but not the only – possible means of reaching them. Regarding still other objectives, narratives might be of no use at all. As a case study in the use of narratives, I will try to concentrate on some likely objectives when we are teaching about *misconduct and dishonesty in research*, and some possible contributions which narratives can make to our efforts to fulfil these objectives.

What are our objectives when teaching about misconduct in research?

To get closer to an answer to the question ‘Why and how should we use narratives when we teach about misconduct and dishonesty in research, and what kind of narratives should we use?’, we first have to ask ourselves about our objectives. What do we hope to achieve? What kind of cognitive or emotional response would we like the teaching to evoke? Our answers may of course differ. I have tried to figure out *some* possible answers, which I consider relevant and significant as long as the target group consists of future or actual researchers. For structural reasons I have divided the possible objectives into three separate points. They are, however, closely connected and perhaps only possible to separate when we are dealing with them theoretically.

1 That students should acquire an understanding of good practice and malpractice

I assume that one basic objective for teaching related to misconduct and dishonesty in research, is that the students² will acquire an understanding both of what comprises good scientific practice, and what counts as violations of this kind of practice. To understand *misconduct*, you also need some insight into *good* conduct. How does the behaviour which is disapproved of differ from the behaviour which is approved

2. I use the word “student” regardless of who constitutes the target-group. Whether we are talking about experienced researchers or undergraduates, I presuppose that they are all participants in a teaching situation.

of, and why is this a problem? I will assert that included in a genuine understanding of the phenomenon and concept “misconduct in research” is also an understanding of why and how it may happen, why it is considered wrong, and possible ways for individuals to avoid it, and for institutions to prevent it.

2 That students should be able to recognise, assess and react to violations of good scientific practice

My guess is that for most of the people teaching about misconduct in research, it is also part of their objective that students should be able to *recognise* and *react to* a case of misconduct or dishonesty if they are confronted with it. What kind of violation of good scientific practice are they facing? Should they pretend that they never got to know about it? Should they discuss it with the person who has performed the action currently being considered? Should they report it to somebody else? The answer to these questions is dependent on how people *assess* the action or behaviour in question. I imagine that most people teaching about misconduct in research would like their students to develop or cultivate the ability to assess different kinds of deviations from accepted norms and procedures within the scientific community. For a researcher who is accused of some kind of misconduct, it will always matter how other researchers judge his/her behaviour, whether they are just ordinary colleagues, or researchers appointed to investigate the behaviour and perhaps also come up with some reactions or sanctions. Important questions to answer before we can establish a verdict regarding an alleged case of misconduct are, for instance: What does the assessment of severity depend on? Does it depend on the *intention* of the researcher? Or the degree of seriousness as far as *consequences* are concerned? Or does it depend on other contextual features? Which aspects and circumstances of the case is it crucial to take into account? What should we look for? What kind of information should we seek? What may count as extenuating circumstances?

3 To invoke the students' desire for the good and distaste for the bad

That researchers are able both to recognise and to assess cases of dishonesty or misconduct in research may be essential for the future of scientific practice. But it would be even better if researchers commit-

ted themselves to refrain from these kinds of actions, so that there was nothing untoward to recognise or judge! Well aware that this may sound more like a dream than a realistic goal, I still assume, or perhaps I should say hope, that the ultimate goal, when teaching about misconduct in research, is that the teaching should make a difference; that it should initiate a change for the better in some way. It may improve the situation if the actual offenders are identified, judged and receive their due sanctions, but real improvement includes a change of attitudes and behaviour. Why not put it boldly and ambitiously and say that the ultimate goal for teaching about misconduct in research is to invoke in the researchers a desire for the good and honest, and a distaste for the dishonest and irresponsible?

Misconduct in research is of course not only a question of good or bad people or intentions. It is also a question of good or bad institutional structures and organisation. Bad intentions may be hindered by a well functioning institutional system of controls. And good intentions may be suppressed or overruled by strong external pressure to publish or succeed in other ways. Even if we see the necessity of changing some of the structures, routines and reward-systems in the research institutions to prevent misconduct, we have to start with convincing the people with power to bring about changes that this is a problem to be taken seriously. So whether we are talking about changing individuals or institutions, the crucial questions are: How does a moral commitment arise? How do people become not only informed, but convinced? And what are the possible obstacles for acting in accordance with convictions and good intentions?

What is a “narrative” or “story”?

I have suggested some possible goals for teaching about misconduct in research, and I have posed a lot of questions. The main question, however, is yet to be asked: what have narratives to do with these goals and the questions connected with them? Before I try to suggest some answers to this question, I find it necessary to address an even more fundamental question: what is a “narrative” or a “story”?³ The propo-

3. I will use the words “narrative” and “story” interchangeably, as most English speaking people do. There have been some attempts to separate these

concepts, but this is a subtle distinction with no relevance for the subject of this introduction.

nents of a narrative approach to ethics seldom refer exclusively to linguistic entities when they stress the importance of “narrative” or “story” for our moral education. The *prototypical* narratives, however, are oral or written texts, stories we tell to others and sometimes write down in words. Even if we all know what a story is when we hear one, they are not easy to define. Some scholars have made an attempt, and I will quote a couple of suggestions:

“A story... binds events and agents together in an intelligible pattern”. A narrative “does not demonstrate the necessity of events, but makes them intelligible”
(Hauerwas, 1985 pp. 75/76).

A narrative “is the telling of a story whose meaning unfolds through the interplay of characters and actions over time”
(Goldberg, 1991 p. 35).

“To understand the story is to understand how and why the successive episodes led to the conclusion, which, far from being foreseeable, must finally be acceptable”
(Ricoeur, 1984 p. 67).

It is common to distinguish between historical and fictional narratives. The difference, however, is not that the last category is construed and edited and the first is not. Both categories are constructions (or “configurations” as Ricoeur would have put it), however true to historical events the first category may be. But they make different “truth-claims”. On some occasions and for some teaching purposes it might make a difference whether we are dealing with a fictional narrative or a historical narrative with an ambition to constitute a true narrative. But as far as many of the pedagogical effects which narratives are concerned, it really does not matter whether we are using fictional or actual or “authentic” narratives, as long as they take their origin from, are resonant with, shed some light on, and make sense to human experience.

As I have already implied, some of the partisans of a so-called “narrative ethics” have argued that it is useful, and perhaps also necessary for our moral understanding, to metaphorically extend the notion of “narrative” from linguistic texts, oral or written, to human experience itself, or at least to some aspects of it. The underlying assumption for doing this is the idea that there is a kind of structural similarity, some essential common features between literary narratives and human

action and identity, what we might call our lived or enacted stories, our life-histories. As Ricoeur says:

“Literature would be incomprehensible if it did not give a configuration to what was already a figure in human action” (Ricoeur, 1984 p. 64).

Or in the words of the moral philosopher Mark Johnson:

“There is a narrative (or, at least, protonarrative) structure to experience, to our identity, and to action, which is the basis for our concern with verbal narratives ...” (Johnson, 1993 pp. 163/164).

This leads me to the possible connections between narratives and the objectives of teaching about misconduct in research, which I have delineated. There is a basic assumption within narrative ethics that narratives are indispensable both with regard to the understanding, the assessment, and the performance of moral action. Let us start with the first point, the understanding of moral action.

The significance of narratives for *understanding* human action

The fact that some people teach about misconduct in research is in itself an indication that if you wish to overcome malpractice it is not enough to equip researchers with some rules saying that they should avoid misconduct in research and stick to the standards of good scientific practice, which might be specified by notions such as integrity, accuracy, the following of acknowledged methods etc. The rules in themselves don't tell us what “misconduct” is, or which kinds of behaviour may be seen as signs of “integrity”. To know what counts as “inappropriate” behaviour, you have to have some idea of what can be labelled “appropriate” behaviour, and that depends on the context, and on the values and goals which are embedded in this context. In the literature on misconduct in research, it is often stated that factors which are important to consider when deciding what kind of action or behaviour you are dealing with are *intentions*, *consequences* and other *contextual circumstances*. In order to decide whether you are facing a minor deviation from good scientific practice, or misconduct, dishonesty or fraud, you need answers to questions such as: What

motivated the action? Was there an intention to deceive, or only lack of knowledge? Should we expect researchers to know better? How serious are the consequences? To answer all of these questions we need a broader framework, we need some kind of narrative. If we are to *understand* an action, we cannot abstract or separate it from the wider context in which it is embedded. Human actions are not, for the most part, isolated individual occurrences, but episodes in a broader narrative which gives the action its meaning and relevant description. Past actions condition the present activity, and future actions are based on intended goals, which we seek to achieve by performing actions oriented towards them.

EXAMPLE: A man is writing a sentence ...

The claim that you cannot understand an action in abstraction from the concrete situation in which it is performed has its origin in the observation that one and the same human activity, physical movement or behaviour may be characterised correctly in many different ways. Imagine that a man is writing a sentence. If somebody asks “What is he doing?”, there may be many different answers to this question. The answer “He is writing a sentence” is seldom satisfying. Most of us would continue with our questioning – “Yes, we can see that, but why is he doing that, what is he writing about, what kind of project is his writing a part of?”

One possible answer is: *the man is composing a suicide note*. But even if you know that this is the actual context of the man’s writing a sentence, there may still be many different ways to describe the activity, for instance: “He is trying to get out of a desperate situation”, “He is punishing his wife”, “He’s saying farewell to his family”, “He’s performing an act of reconciliation”, “He’s crying for help”. Which description best fits the concrete case is dependent not only on the context or setting of the act in question, but also on the man’s intentions. Which description covers his primary intention, and which are only side effects?

Imagine that the context of the writing is not a man planning to commit suicide, but *a researcher at work*. Then possible answers to the question “What is he doing?” could be: “Finishing an article”, “Contributing to the scientific discussion of transplantation”, “Pleasing his wife”, “Trying to fulfil his father’s expectations”, “Perpetrating plagiarism”, “Manipulating data”, “Striving for promotion and higher

wages”, “Pursuing fame and glory”. Some of these descriptions are connected with short-term intentions, like “finishing an article” and “manipulating data”, and some are referring to longer-term intentions, like “pleasing his wife” and “striving for promotion”. The short-term intentions are only intelligible by reference to some longer-term intentions, which are always connected with certain contexts and their history: relationships, social practices, institutions, etc. As far as the possible intentions mentioned above are concerned, relevant contexts may be “research”, “marriage”, “university” etc., each of which have their own narrative history. To sum up, in the words of MacIntyre:

“We cannot ... characterise behaviour independently of intention, and we cannot characterise intentions independently of the settings which make those intentions intelligible both to the agents themselves and to others.”

(MacIntyre, 1987, p. 206)

For people to grasp the meaning of human activities and the concepts describing them, including good scientific practice and misconduct in research, they need to know something about the narrative frameworks in which these practices are incorporated. And this is one of the challenges for teachers.

The significance of narratives for *assessing* human action

We learn to understand and describe action through the language and stories we have learned from others. All our notions are in some ways narrative-dependent. As Hauerwas and Burrell have phrased it:

“... we should remind ourselves that the world is not simply waiting to be seen, but that language and institutions train us to regard it in certain ways” (1989, p. 186).

Narratives guide our perception. The narratives which we have adopted will influence which circumstances we pay attention to when confronting a new situation. Perception is a matter of recognising and categorising the different kinds of actions we are facing. And at least as long as we are dealing with *moral* notions, categorisation is not a neutral affair. Included in the notions “good practice” and “misconduct” are a positive and a negative assessment respectively. We cannot separate description from evaluation. So when I have chosen to

make a distinction between an *understanding* and an *assessment* of an action in this connection, this is for structural and analytical reasons only, and not because it is in accordance with how we usually relate to a concrete situation.

What I have already mentioned as essential factors for *understanding* an action – intentions, consequences and contextual circumstances – are just as significant for the *assessment* of an action. How we respond to a certain situation is a question of how we *interpret* the situation: what is going on? Which features and circumstances should we give attention and weight to? What is of importance and what is irrelevant for the moral verdict? It has been stated that the establishment of verdicts regarding scientific dishonesty in the Nordic countries relies on “sound judgement” rather than “rigorous definitions” (Nylenna *et al.*, 1999). And I will contend that sound judgement is dependent on an awareness of the particulars of the concrete context, and therefore also dependent on what might be called “narrative competence”.

Some cases of malpractice are pretty easy both to identify and assess, for instance plagiarism and fabrication. These are what we may call clear-cut cases of violations of good scientific research, and therefore easily judged as illegitimate. Dealing with misconduct in research, however, is not only a question of dealing with clear-cut cases. There are many grey zones, cases which we are not sure how to categorise: is it a case of dishonesty or fraud, or should it be considered as a less serious deviation from accepted standards and norms? It is not always a matter of either/or, but of degrees. If our aim is to improve scientific practice, it might be just as important to assess and comment on these more marginal, ambiguous and complex cases, as on the undoubtedly illegitimate acts. A system of general rules only prepares us for judging the simple and unambiguous cases, which seldom cause us much trouble. Principles and general rules are formulated to fit the unambiguous and paradigmatic cases, and therefore principles themselves cannot tell us what to give most weight in marginal cases. What they *can* do is to direct our attention to our values and goals. Confronted with marginal cases we have to ask what lies “behind” the principles: what kind of vision, which considerations gave rise to the principles in question? Which values are they intended to protect and promote? Which situations are they intended to prevent? To answer these questions we again need to engage with narratives, because narratives teach us the values of a certain culture, and what counts as a virtuous or immoral act respectively.

A principled approach to the assessment of concrete cases is focused on the common and recurring features, the patterns of similarity among human experiences. Important as this may be, general rules do not help us to attend to the particular details in the situation, which in many cases is a prerequisite for an adequate decision. Detailed and graphic narratives, on the other hand, are capable of cultivating what I have referred to as “narrative competence”: an ability to respond to situations which differ from other cases we have met. Narratives induce this ability by developing our moral perception, our capability to attend to and care about the particulars: the specific features of *this* situation, *this* individual, *these* relations. Trustworthy stories engage us. They invite interpretation and encourage reflection. They develop our ability to imaginatively enter into and identify with constantly new situations and human destinies. Being familiar with a large reservoir of different stories might therefore be of help in our ethical judgement of human behaviour. All kinds of stories capturing human experience and the different values and forces influencing our behaviour may be of importance in this regard. As far as teaching about misconduct in research is concerned, however, it would be especially helpful if the students could become familiar with a collection of varied and nuanced stories about the questionable behaviour of researchers. But here we might have a problem.

Most of the cases I have been presented with regarding misconduct in research are, because they are anonymised (for which there are good reasons, of course), so briefly sketched, so stripped of details that they hardly qualify for the name “narrative” or “story” at all. When we remove the details regarding social context, relationships, possible individual motivations and so on, the use of these cases is impoverished: the cases have lost most of their narrative qualities. When we only have brief descriptions of a case, the formal principled approach will always appear to provide the “right answer”. If we get a fuller understanding of its history and context, however, we are likely to be less confident (Brody, 1994). Then we will perhaps discover a need for the above-mentioned “narrative competence”. If narrative competence is what we want the students learning about misconduct in research to develop, we have a challenge in finding adequate stories for teaching purposes. Perhaps the best thing to do would be to create some fictional stories, based on our common experience with misconduct? Another possibility might be to apply some of the publicly well-known and not anonymised stories about scientific dishonesty.

As some scholars have pointed out, however, applying “real life” cases in education may give rise to some ethical problems. Do we do justice to the people and narratives we utilise? Are we carrying out some kind of “reality check” or searching for counter-perspectives before we make use of the stories? (Newell, 1998).

Part of what might be called “narrative competence” is an awareness of the inevitable stylistic choices which we have to make when we present a story. When we tell or retell a story, we are always making some selection of details, metaphors and concepts, and the choices we make influence the readers’ or listeners’ comprehension and interpretation of the story in question. There is always more than one way of telling a story about real events. Some of the procedures for handling alleged violations of good scientific practice reflect this awareness. It is established that all parties concerned should be heard. A narrative competence is also a competence to interpret complex stories. Ann Hudson Jones has listed some questions, which might guide us in our interpretation, and I will pass on some of them:

- Who is the narrator? Is she/he reliable?
- From what point of view is the story told? What does this perspective leave out?
- Who are the other potential narrators of this story? What might their perspectives add?
- How can differences between stories be reconciled?

It is always possible to retell a story from the perspective of other participants. We have all got our biases, blind spots, interests and prejudices. We always leave some features out and emphasise others (Charon/Montello, 2002).

Narratives teach us that truths come in different forms. This may seem self-evident once we become aware of it, but it is a fact which is often ignored in the judgement of particular cases. I assume we have all witnessed the tendency to jump to conclusions based only on one perspective of a situation. The ability to embrace different perspectives is an important aspect of moral reasoning and assessment. It would therefore be useful if we could offer the students many different stories about the same sequence of actions, for instance an alleged violation of good scientific practice. But then we might again be left to our own devices, to construct these stories ourselves.

However important hearing different voices and being conscious of different perspectives may be, sooner or later we have to reach a

conclusion. Some people may even have to mete out sanctions for the investigated behaviour. Few people are formally obliged to this kind of activity, but since the conclusions may affect many people, all researchers – and perhaps also the common public – should take part in the discussion and reflection about adequate reactions to established cases of violations of good scientific practice. The question of reactions or sanctions is a question of *how to go on*, which is a narrative question. A responsible answer to this question has to take into consideration that the next step will constitute an episode in the continuing histories of all the involved parties. *What is the best continuation of this unhappy story?* We have to use our imagination to envisage alternative continuations and their possible consequences.

How to go on is, of course, dependent on where we are headed for. Backward-looking stories are explanatory; they help us to understand how we got “here”. Forward-looking stories are action guiding; how should we go on to best achieve what we would like to obtain? What is most important: to make the offenders suffer? To set a warning example? To educate the researchers about appropriate scientific practice? To restore the public’s trust in research? We cannot answer the question about adequate continuations of the actual story without listening to the narratives of the institutions of which we are a part. And these stories are also significant for the last point I will comment on: narratives’ possible contributions to our realisation of the ultimate objective for teaching about misconduct in research – to promote good scientific practice and prevent deviations and violations.

The significance of narratives for *performing* moral action

Advocates of a narrative approach to ethics have argued that our deepest commitments are not brought about by rules and principles, but by relational experiences and identification, i.e. by narratives which we have been a part of, physically or imaginatively. Stories do not work by argument, but by identification with the characters in the story. When we know the details of a situation, we are likely to find ourselves identifying emotionally with the participants. And when we get our emotions activated, we might be inspired and motivated to direct our behaviour towards a certain end. With the help of narratives we may also envisage the possible consequences of different kinds of behaviour for the parties involved. And again, which conse-

quences we wish to bring about are dependent on who we are, and which values we embrace.

MacIntyre has stated that I can only answer the question “What am I to do?” if I can answer the prior question, “Of what story or stories do I find myself a part?” (1987, p. 201). One of the stories of which researchers are a part is the story of the research institution. This story defines the researcher’s social role, which is one of the constituents of an individual’s identity. What our professional ethics consists of, is dependent on how we understand this social role. We cannot decide what it means to be “responsible” or to have “integrity” without having an understanding of what it means to be a professional researcher. What is the task of a researcher? What should we try to achieve, and why? What is it important to avoid? It is the narratives of institutions which can teach us about the institutions’ missions and commitments. And hopefully these visions will ring true and be convincing also to the individual researcher, so that she or he commits her/himself to refrain from certain kinds of actions and to actively engage in others.

What could potentially “transforming” and action-guiding or inspiring stories look like? Is it possible to imagine paradigmatic stories of good scientific practice eliciting the listeners’ desire to go and do likewise? Or are these kinds of stories doomed to be sentimental, untrustworthy and Sunday School-like? Are we left with the horror stories; stories focusing on the bad consequences? Is it necessary, or most effective, to *threaten* researchers into acting according to accepted norms, by envisaging the possible negative consequences for the offenders? Or is it possible to get researchers to commit themselves freely because they realise, through hearing certain stories, the possible negative consequences for other parties involved and acquire a more genuine understanding of why misconduct in research must be considered an offence?

Some people assert that part of the problem with misconduct in research is that many researchers, and perhaps especially junior researchers, lack the courage to respond to, and if needed tell others about, misconduct. If this is the case, we need stories about so-called whistleblowers with a happy ending. Is it possible to imagine some encouraging and empowering stories? But on the other hand, we do not want people to be too eager to tell others about their suspicions either. And that is one of the reasons why narrative competence may be of importance; it involves a refined attention to the complexities

of situations, and knowing for instance some possible answers to the question: how does it feel to be wrongly accused of misconduct in research?

Stories may sometimes bring about a change just by serving as a means of creating distance. We might discover by listening to a particular story that we do not at all share the view of life envisioned in this story; on the contrary, we may find that we would use every possible means to avoid the consequences delineated in the story. Whether stories portray a good or a dreadful example, they may move us to act. When all is said and done, it is a question of whether a certain story makes an impression, whether it echoes or interprets aspects of importance in the listener's/reader's life. So, let's search for some engaging stories!

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Misconduct in research

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At the beginning of 1991, the Danish Medical Research Council (DMRC) decided to take a close look at the phenomenon “scientific misconduct”, on the basis of increasingly worrying reports from the international scientific community, especially in the USA.

A year later a working group published the report “Scientific Dishonesty and Good Scientific Practice” (1). On the basis of this report, and in agreement with the research institutions, the DMRC established, in 1993, *The Danish Committee on Scientific Dishonesty*, with the mission to handle allegations of scientific dishonesty and to promote good scientific practice in health and medical science in Denmark.

This committee is still in place, but, having originally been an experiment, in 1998 it was made permanent by the Danish Executive Order No. 933 of 15th December. In addition, two new committees were established; a committee for research in natural, agricultural, veterinary, and technical science, and a committee for research in social science and the humanities. The three committees have the same chairman, High Court Judge Hans Henrik Brydensholt, who has been chairman since 1993. *The Danish Committees on Scientific Dishonesty* (DCSDs) have thus been a permanent institution since 1999. The committees are located in the Danish Research Agency and are independent of the research councils. At the time of writing, spring 2003, it has been proposed that the DCSDs should be incorporated into the new law for Danish Research.

Thus, since 1999 all areas of research in Denmark have been covered by the DCSDs.

The DCSDs have worked in accordance with the concepts developed in the report from 1992 (1). The work of the DCSDs is described in the annual reports, which contain anonymised summaries of the handling of alleged cases of scientific dishonesty, and papers on the concepts as they have been developed, reflecting experience gained by the DCSDs. We have also followed and commented on international developments in the field each year.

The definition of scientific dishonesty

In the report from 1992 (1) we explained that we wanted a clear overall term, in Danish, for “misconduct/fraud”, and we found the term “uredelighed” appropriate. The English translation of “uredelighed” is “dishonesty”.

Scientific dishonesty is defined in Section 3 of the Danish Executive Order No. 939 of 15th December 1998, as follows:

“SECTION 3. Scientific dishonesty includes actions or omissions in research which give rise to falsification or distortion of the scientific message or gross misrepresentation of a person’s involvement in the research, and includes:

1. Fabrication and construction of data.
2. Selective and surreptitious discarding of undesirable results.
3. Substitution with fictitious data.
4. Consciously misleading use of statistical methods.
5. Consciously distorted interpretation of results and distortion of conclusions.
6. Plagiarising of the results or publications of others.
7. Consciously distorted reproduction of others’ results.
8. Inappropriate credit as the author or authors.
9. Applications containing incorrect information.

SUBS. 2. In order to label a conduct as scientific dishonesty, it must be possible to document that the person in question has acted deliberately or exercised gross negligence in connection with the activities under consideration.”

The full text of the order and the rules of procedure for the DCSDs are published as appendices in the annual reports.

There have been extensive discussions, especially in the US, about the definition of scientific misconduct. The definition finally chosen in the US is as follows;

“Research misconduct is defined as fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results. – Fabrication is making up results and recording or reporting them. Falsification is manipulating research, materials, equipment, or processes, or changing or omitting data or results such that the research is not accurately represented in the research record. Plagiarism is the appropri-

ation of another person's ideas, processes, results, or words without giving appropriate credit, including those obtained through confidential review of others' research proposals and manuscripts. – Research misconduct does not include honest error or honest differences of opinion”.

It appears that the Danish definition is broader than the US definition. However, we still find that our broader definition is better suited in Denmark than a narrow one. This will be commented on in the following.

We have handled many cases over the last 10 years where we have found that the researcher against whom the allegations have been brought is not guilty of dishonesty, as the act in question is not covered exactly by the definition in Section 3, but that the behaviour is nevertheless contrary to good scientific practice. This has then been stated in the rulings. Sometimes we have, in addition, found that the accuser himself has also engaged in deviations from good scientific practice, and we have stated this, too, in the rulings.

If we had adopted a narrow definition we would have had to reject several cases where the consequences of the accused researchers' actions can be serious, although the researchers were not proved to be guilty of dishonesty (in the narrow meaning of the term). This would leave accused researchers with serious allegations against them and no institution for dealing with the accusations so that they might be treated fairly, and potentially be found not guilty. We find this function of the DCSDs very important, and perhaps especially in a small country such as Denmark. In our experience, there are different levels of dishonesty and also different levels of deviation from good scientific practice. It is an important observation from our 10-year experience that the actions of accused researchers seldom fall into either “black” or “white” categories, but somewhere along a spectrum from black to white. These questions were already dealt with in the first annual report for 1993.

Deviations from good scientific practice

It is evident from the rapidly growing literature on scientific misconduct that cases of clear-cut misconduct or dishonesty are rare. The function of the DCSDs is to handle such cases professionally, fairly and

fast. However, it is also evident from the literature, and from our experience in Denmark, that by far the most quantitatively significant problem is the wide variety of deviations from good scientific practice. We have had cases where such deviations have created intolerable conflicts and allegations of dishonesty, and have hampered the progress, quality and credibility of the research, as well as resulting in the loss of resources. When properly investigated, these deviations most often do not amount to dishonesty, but they seem to occur often in our ever more complicated and competitive scientific communities. The straightforward methods for ensuring prevention are to issue guidelines (2) and teach good scientific practice. The Danish guidelines (2) are based on the most common findings from the DCSDs' practice, and the guidelines were issued in agreement with the Danish Medical Research Council. These guidelines are explicit and very useful in the handling of cases and in the guidance of researchers in trouble.

After having studied the field of scientific dishonesty for more than 10 years I – and it would seem most others – see a need for focusing far more on good scientific practice, in order to forestall a general threat to research. This would hopefully also minimise dishonest researchers' room for manoeuvre. The mandate of the Office of Research Integrity (ORI) in the US is to approve the research institutions' guidelines for the handling of allegations of misconduct, but also to promote good scientific practice, which is labelled Responsible Conduct of Research (RCR). Much can be learned in Europe from the ORI's experience with RCR (see <http://ori.dhhs.gov/>).

In the mandate of the DCSDs it is (to the DCSDs' dissatisfaction) not stated expressly that the mission of the DCSDs includes the promotion of good scientific practice and decisions on deviations from good scientific practice in the handling of alleged cases of scientific dishonesty. We have, however, decided to continue beyond 1998 with our practice from 1993–98 concerning good scientific practice, and we have reported this in the annual reports. For the above-mentioned reasons we find this way of handling the cases unavoidable, and without any doubt it has had a preventive effect. I shall here mention a case from January 2003 where the DCSDs ruled that a person was not found scientifically dishonest, but had deviated from good scientific practice (the Lomborg case). The case is still pending and the details will not be commented on here. However, this case has caused much debate in the mass media in Denmark and also internationally. Almost 300 political scientists and some professors of law have publicly and vehe-

mently opposed our 10-year-long practice of evaluating if a researcher, while not proven to be guilty of an accusation of dishonesty, has nevertheless in his behaviour acted against the norms of good scientific practice. Those who criticise the DCSDs think this ruling is a threat to freedom of thought and freedom of speech, and they emphasise that deviation from good scientific practice is not mentioned in the executive order for the DCSDs. Furthermore they claim that good scientific practice is ill-defined – if defined at all – in the social sciences. Consequently, these critics argue that the ruling contravenes administrative law. On the other hand, twice as many scientists from the health sector and medical sciences, from the natural and technical sciences, and also from the Research Council for the Humanities, have publicly given the DCSDs their strong support. As a result of this conflict the government has asked for the rules for the DCSDs to be scrutinised, and this is to be carried out by a special committee before the summer of 2003. Due to this episode the DCSDs are now widely known to the general public, as are the concepts of scientific dishonesty and good scientific practice. This is the up-side of this episode, which hopefully will make it clear that good scientific practice is an important aspect of science, which needs more attention in the research communities. A driving force in this process will be that the DCSDs will continue to hold the mandate to decide on deviations from good scientific practice in the future, when such deviations are discovered during investigations of alleged cases of dishonesty.

I have covered far from all the aspects of this article's title question "scientific misconduct", but have called attention to some differences in definitions, which can also be found between the definitions used in Finland and Denmark. However, since 1993 we have held Nordic conferences on the definitions, the handling of cases and on theoretical and practical aspects of scientific misconduct or dishonesty. As a result, we are convinced that allegations of dishonesty are handled in a very similar way in the Nordic countries. It should be noted, though, that Iceland has not yet participated in these meetings.

Who should handle allegations of scientific dishonesty?

For several reasons the DCSDs believe that it is important that allegations of scientific dishonesty are handled in a central committee. Scientific dishonesty or misconduct are conceptually somewhat difficult

to grasp and handle, and it is necessary to have sound knowledge of what has taken place internationally. Allegations are rare, and it would therefore be very difficult, if not impossible in a small country, to gain sufficient experience in the handling of allegations if this were to be a task for e.g. each university. The central handling of cases is also the best guarantee of an impartial handling of allegations, since local authorities, e.g. in a university, easily become trapped by emotions and personal relations, and by the understandable desire to protect the institution from scandals and other unpleasant events, and may therefore be tempted to sweep the problems under the carpet. Members of such committees must be experienced researchers of high integrity who are well versed in this special field of the sociology of science. The task of a committee investigating an allegation of scientific dishonesty is demanding and very time-consuming. Finally, it is important that cases are dealt with in the same way in different parts of the country, while keeping an eye open for what is done in other countries. All this adds up to a rather complicated and comprehensive task, where it is difficult to obtain knowledge and experience, and therefore it is – in our opinion – best taken care of by a central committee, at least in a small country.

Up until now the DCSDs have been well treated and respected by the mass media, the scientific community, and the “clients”, both the complainants and the accused. Furthermore, the “Nordic model” is well respected internationally. But now, after 10 years of work, we are suddenly faced with severe criticism from the social sciences, which have apparently known very little about the DCSDs until now. The DCSDs cannot work efficiently in this field of science until this breach has been repaired, and hopefully this will happen soon.

Finally I want to emphasise that this paper is not an official paper from the DCSDs, but only my personal view on some aspects of the Danish experience in this field since 1992.

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Analysis and argumentation

Practical exercises in the use of new biotechnology in the beginning of life

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In decision-making concerning either research projects or the implementation, for routine use, of new biotechnological developments, it is important not only to explore all the factual dimensions of the problem, but also to clarify possible ethical dilemmas and make clear the arguments – the pros and cons for using the technology – based on underlying ethical principles and values. Research students in biotechnology, but also in philosophy, theology, law and other humanistic sciences, share responsibility with the general public and politicians for a safe and ethically sound use of new technologies. In order to achieve skills in ethical analysis, not only basic knowledge of the ethical theories and principles but also exercises in the analysis of authentic examples or cases are necessary, so that one examines and clarifies one's own reasoning and priorities of values.

In this chapter I will show two examples of how to teach bioethics by practical exercises in argumentation relating to decision-making. These methods have been developed and described for slightly different purposes (1, 2) but have successfully been used in teaching ethics for medical students, doctors and members of research ethics committees.

An exercise in argumentation and defining values

This exercise has been developed for different types of training of students in psychology, sociology and also health care workers, and is described in (1). It has been used for many years in the teaching of medical ethics in the course obstetrics-gynaecology-paediatrics at Umeå University, Sweden. The main idea is to initiate an active discussion in which everyone must participate, perhaps without words, to make students aware of their own ethical values.

The teacher presents a case to the students. The case should preferably be authentic but anonymous. It can be a well-known “sensational” case, debated in media, of which the students may have heard, but it can also be a less sensational, but still ethically provocative case. In this part of the workshop, cases were chosen to illustrate ethical problems occurring when new biotechnology is applied in the beginning of life.

When the case is presented to the audience, four possible solutions are given, and the audience must make an intuitive decision within a couple of minutes, choosing one of four alternatives, and then walk over to one of the four corners of the teaching room, each corner representing one possible choice. It is important that the group is not too large, ideally 20 to 30 individuals. Two alternatives should be clearcut opposites, and these alternatives should be represented by diagonally opposite corners of the room. One alternative could be a bit of a compromise between the two main alternatives, and there should also be one opportunity to develop new or alternative strategies for solving the problem.

THIS IS AN EXAMPLE OF A CASE: A couple has a child with a severe genetic disease which means that the child will need one, or perhaps several, blood stem cell or bone marrow transplants in order to survive. To achieve a successful transplant, a genetically similar donor is necessary. The ideal would be a sibling with similar gene specificities in the so-called HLA system, important for immune reactivity. Using a combination of in vitro fertilisation and preimplantatory diagnostic testing it would be possible to create a sibling free of the inherited disease but with HLA-identity. One possibility is that blood stem cells from the cord of the newborn could be successfully used as transplant material (this involves very little discomfort for the donor child), but in case of failure bone marrow transplant will be necessary (with possible pain and discomfort for the donor child). If you were the obstetrician and the parents asked you to help them, would you:

CORNER A: Support the couple and help them as soon as possible.

CORNER C (diagonally opposite corner): Tell them that you could not help since you have strong ethical concerns.

CORNER B: Tell them that this is a very sensitive problem which in the future may cause ethical and psychological concerns in the family, and therefore you advise the parents to discuss the

issue further with each other and together with the hospital social worker and return in one month's time.

CORNER D: Other alternative(s).

After the initial decision has been made by all participants, they are allowed a five minute discussion in each corner before one of the students summarises the arguments given for standing in that corner to the other participants. If there is only one person standing in any of the corners, it is a good rule that the teacher or other members of the teaching staff join that corner, or for that matter any possible empty corner, to help in the argumentation process.

After a first round where the arguments from each of the four corners are presented, the teacher informs the students that anyone who, while listening to other arguments, has changed his or her mind is allowed to go to another corner. After this, the debate starts between the corners, and the teacher should make it clear that the students should sharpen their arguments so as to entice as many people as possible to join one's corner and abandon their own. The students are also asked to not only give arguments about the specific case but also to try to relate the arguments to an ethical principle (e.g. the principle of beneficence, non-maleficence, justice, autonomy, solidarity etc.) and/or other basic values or ethical theories. It is important that the teacher let representatives of all corners speak, that opposing arguments and values are given equal space, and also that the arguments are not just repeated but constantly developed further. Anyone can of course change corners during the debate, but it must be stressed by the teacher that the aim is not to reach consensus but rather to help the students to understand and communicate their own values.

This exercise should not take more than between 30 to 40 minutes per case, and is usually very effective and well-appreciated as a way of starting a workshop or seminar in ethics.

A technique for analysing a conflict of values in decisionmaking ethics

This method is based basically on the so-called "actor's model" developed and described by Göran Hermerén (2) and widely used in the teaching of medical ethics in Sweden, in analysing for example ethical problems in clinical paediatrics (3). When using this method of

analysis of ethical problems the students are supposed to have some basic knowledge of ethical theories. In addition, the teacher will give them an introductory lecture specifically focusing on the method of analysis and highlighting some specific dilemmas concerning decision-making in the beginning of life where, for instance, the principle of autonomy is often challenged.

Clearly the method can be applied in several different ways to different types of problems; it is useful both where different individuals or groups of individuals and where society as a whole are involved in decision-making. Moreover, this method can be applied and developed for teaching both where the focus is on moral education and improving moral competence, and where the focus is on exploring the consequences of certain ethical theories such as hedonistic utilitarianism and theories based on rights and obligations, as well as the application of such theories to policy issues within the society (see ref. 4).

STEP 1: Find a case

At our university hospital we have developed this method and have used it as the basis for group discussions based on authentic cases seen during the course of clinical gynaecology-obstetrics-paediatrics. Thus both students and teachers have personal knowledge of the case. Clearly authentic cases could be prepared in advance for the students, but cases which students have experienced first-hand seem to work better. Some cases discussed at the workshop, illustrating ethical dilemmas when applying new biotechnology in the beginning of life, are given in appendix 1.

When the students are to find a case themselves, they are also asked to prepare a case report collecting as many facts as possible by reading hospital records, text books and other reports, discussing with the doctors and nurses responsible in the case concerned, and of course also with the patient and relatives and other persons involved.

STEP 2: Define the problem

The problem and the specific action to be taken (or not to be taken) should be specified, and the facts and relevant probabilities related to the consequences of a decision should be detailed as far as possible. Indeed, part of this exercise is designed to illustrate the difficulties in risk assessment and its different dimensions: factual, statistical,

emotional and unforeseeable. The interpretation of risk in decision-making concerning the use of new biotechnologies is clearly worth a seminar of its own. In an individual case you often simply have no chance of assessing all the dimensions of facts and probabilities, and still you may have to make a sensible decision based on the present available knowledge. In the ethical analysis exercise the students are also asked to show how changes in risk and benefit probabilities would affect the argumentation, and hence perhaps also the decision taken.

The students are then asked to clarify the two other dimensions in decision-making, i.e., the basic values involved and which values may be in conflict with each other in the decision-making process. Finally students are asked to state their preferred method of ethical reasoning (e.g. mainly deontological, teleological, utilitarian).

STEP 3: The involved persons and their interests

When the case – and the action to be taken – have been defined in relation to the available facts and probabilities, the students are asked to prepare the background for the ethical argumentation. This means that they must try to identify all relevant involved individuals and/or groups of individuals including society as a whole (either as responsible for the public economy or as a body obliged to serve the public and the public's presumed common interests and values). A table of "actors" and their different interests is then constructed (appendix 2). The students are asked to use their imagination, and consider the possibility that different family members as well as different members of the professional staff may have different interests, and should therefore appear as separate "actors" in the table.

After identifying all the persons involved in the case, the students should identify the interests of the involved persons regarding the specified action/decision to be taken. Next, the defined conflicts of values should be made apparent, for instance the conflict of values which arises when trying to preserve life but finding that this is only possible through a form of treatment which causes suffering, pain or severe side-effects (preserve life/do not harm). Furthermore, different involved persons may be shown to have different interests to protect. For instance, using a lifesaving treatment on a patient with a limited chance of survival will take resources away from other patients, whereas on the other hand not using all available resources may harm

the family's trust in the medical system. Then the consequences of acting or not acting should be scrutinised in relation to the identified interests and/or values to be protected for each of the involved persons/groups. These consequences must be seen in both a short-term and a long-term perspective. This part of the exercise is really a form of training in empathy or solidarity, trying to understand the interests of the involved persons/groups. In the table of actors, brief sentences or signs (pluses and minuses) or ratings (1, 2, 3) could be put in each cell. Still, it should be emphasised that the table can only help to identify the different dimensions of the problem and so serve as a background for the analysis and argumentation; it is not a tool for blindly calculating the correct answer.

STEP 4: Ethical argumentation

In the next step the ethical analysis begins, and the students are asked to express their own values and argue why they personally would attach importance to a specific person's/group's interest in the short- and/or long-term perspective, and thus justify their decision. They are then also asked to refer to an ethical principle and/or to a specific ethical theory. The latter may not be possible with students from bio-science or medicine, but the basic values or principles prioritised in the discussion should be made clear.

STEP 5: Presentation and general discussion

When a group of students (6-8 is an optimal group size) have found a case, defined the premises and the action/decision to be taken, also in terms of a conflict of values, and have spent perhaps an afternoon (or at least two to three hours) on the analysis and discussion, they then have to prepare a presentation of the analysis. This presentation is given at a seminar where all students and as many teachers and other involved persons as possible – e.g. clinical doctors, nurses – should be present. At this seminar the groups must leave at least 10 minutes of the 30-minute presentation slots for comments from the audience, before they conclude by explaining the decision taken by the group. It must be stressed that consensus in the group is clearly not the aim, but rather that each member should give arguments for a decision.

After many years of using these methods in teaching biomedical or research ethics to MD students, PhD students, researchers, clinical doctors and nurses – slightly differently according to the category of student – I have found these methods to be very well appreciated. I have experienced how active and involved the students have become, and also how easy it is to break down an initial reluctance to the subject field of ethics, sometimes expressed by students in the natural sciences.

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APPENDIX 1

CASE 1

A group of researchers are interested in studying, in human foetuses, the effect on the immune system of a bone marrow transplant to the foetus in utero. The aim of the study is to gain knowledge which may help to cure, while still a foetus, children with severe inherited immune diseases. The experiments might lead to severe side effects for the foetus, and presumably also to foetal death. The researchers approach an ethics committee with the following request: could we ask women who have already decided to abort a foetus for personal reasons if, one week before the planned abortion, we may inject the foetus with bone marrow, and when the abortion is completed take over the aborted foetus to study immune cells in various ways?

As a member of the research ethics committee you would make the following decision:

- a) This study should be approved
- b) This study should not be approved
- c) This research should only be approved if the researchers could show that the foetus would not suffer, or have any severe side effects from the injection.

CASE 2

A couple seeks the obstetrician for in vitro fertilisation treatment since the mother has been infertile for the last three years, probably due to complications with tubar dysfunction after a severe gynaecological infection. The mother has three children from different previous relationships. Two children have been taken into care, and the third lives with her biological father, since the mother has had severe drug abuse problems. For the last year she has been living with a new man, and this couple now wants to start a new life, and, as they say, a child would make them a complete family. The man has also had previous drug abuse problems but they say that they have both been completely "clean" for the last six months. They have just bought a new apartment; the mother is looking for a job whereas the father has started to study to become a skilled carpenter.

The IVF procedure may be successful, i.e., it leads to the birth of a child in 25–30% of cases. Repeated miscarriages are, however, common. Around 25–30% of successful pregnancies lead to premature birth, and in around 25% there are twins or triplets. Twins are often born prematurely with an increased risk of handicaps. The odds for a neurological harm is significantly increased after IVF, but clearly around 90% of the children, despite prematurity and twinning, will be healthy or without severe handicap.

At present the policy of the IVF clinics in Sweden is that IVF is offered only to mothers younger than 45 years, due to an increased risk of complications after that age. The mother in this case is 44 years old and the father is 46, so the treatment procedure must be started very soon.

How would you act if you were the obstetrician?

CASE 3

A 42 year-old woman approaches you as an obstetrician for a possible abortion after 14 weeks of known pregnancy. The mother has previously had three healthy girls, the youngest is three years old and this pregnancy was very complicated for the mother who experienced severe hypertension and oedema and also severe joint pain during the pregnancy. She was actually advised not to have another baby after that pregnancy, but her husband very much wants to have a boy. She agreed to become pregnant, but now wants you to determine the sex of the child so that she can consider an abortion if it is another female foetus. How would you act?

CASE 4

Ultrasound examination of a pregnant woman in week 16 shows that she carries twins. A new examination in week 26 shows that one of the foetuses is severely ill with growth retardation and slow foetal movements, indicating a clear risk of this foetus dying in utero. The other twin looks healthy with normal height and weight development. Premature birth in week 26 means a great risk for the newborn, and many weeks of neonatal intensive care. Caesarean section means a small risk for the mother and also for possible future pregnancies.

QUESTIONS

1. Would you decide immediate delivery by caesarean section?
2. Would your decision be different if the first twin also showed signs of having myelo-meningocele (a severe neurological malformation leading to different degrees of neurological handicap, especially in the lower part of the body and perhaps also mental handicap)?

APPENDIX 2

The action is:

The ethical problem is:

Actors*	Actors' interests*	Effect of acting	Effect of not acting	Short-term/ Long-term

DECISION:

State your motives/arguments:

Define the ethical principles or the methods of reasoning you will base your decision on:

* Each actor can have several interests and therefore more than one line is needed.

STRATEGY FOR ETHICAL ANALYSIS

1. Identify the problem
2. Gather medical facts and probabilities
3. Identify everyone who is affected by the action/ decision
4. Identify the interests of those affected
5. Evaluate all the relevant consequences of actions taken/not taken, short-term and long-term
6. Discuss the alternative actions in terms of points 1 to 5 above
7. State the motives for your decision in terms of your own norms and values
 - based on an evaluation of the consequences or on ethical principles
8. If there is disagreement – decide if it is due to one of the following:
 - different 'moral views' (normative)
 - different semantic uses of language (terminological)
 - different experiences (empirical)

Cultural encounters

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Introduction

This article is based on my introduction to the session “Biotechnology and the end of life”, at the workshop *Teaching Bioethics. A Nordic workshop on how to best teach bioethics*. The introduction aimed at presenting a basis and a pedagogical model for how to teach bioethics. My approach is cultural analytic, and my knowledge about bioethics comes from research as well as from teaching in the interdisciplinary field of humanities and medicine. Analysing the links between culture and medical technology has for several years been the task of our research group at the Department of European Ethnology in Lund. The obvious links between biology and culture indicate the importance of working across disciplinary boundaries. Our group has developed an interdisciplinary platform for research and initiated interdisciplinary courses at Lund University. Using as a case the problems related to biotechnology and the end of life, I will show the importance of encounters between cultures in understanding moral phenomena, and how such encounters can be realised in the teaching of bioethics.

Negotiable facts

Development in bioscience is rapid, and this has radical consequences for people in today’s society – in biological, social, cultural and ethical terms. Neither experts nor laymen can possibly familiarise themselves with, or take a stance on, all the knowledge that is produced in biosciences such as medical technology, gene technology, reproduction technology, etc. The biosciences and their development arouse mixed feelings among scientists and people in general. Hopes of medical advances are confronted with worries that all the new technology

involves a risky intervention in nature which may easily get out of human control or be exploited in improper ways (Beck 1992, Giddens 1990, Sachs 1998). Above all, genetics and gene technology contain an existential dimension: research in this field explores the innermost core of humanity and of all other living things. Genetic knowledge and its application in gene technology concern life itself.

My own research analyses how genetic knowledge is integrated in our society.¹ In focus are those technologies which in one way or another “create” or sustain life. This can be when eggs and sperm transgress the body (IVF), or when cells from aborted fetuses are transplanted to patients suffering from Parkinson’s disease. It can also be when cells, tissues and organs are transplanted from animals to humans, as with xenotransplantation (Lundin 1997, Lundin & Åkesson 2000, 2002). It is obvious that clinical experiments and biomedical treatments like these raise ambivalent feelings. Life and death have always been the self-evident limits of our lives. At the same time, these benchmarks are not definitive and general. From a cultural and historical perspective, views of life and death are constantly changing, as different religious systems show – reincarnation, transmigration and the idea of a paradise are some well-known examples (Görman, in press). If we take a look at cultures which differ from Western societies, we can notice similar phenomena. An illustrative example comes from Victor Turner’s classic study of the Ndembu people in Africa and their attitude towards new-born twins. According to the beliefs of this people, the human species could only give birth to one child at the same time. Thus, twins were abnormal and inhuman – not worthy of life (Turner 1997).

Stories like this certainly give a feeling of uneasiness. At the same time, however, they provide an understanding of the fact that biology and nature are constantly being negotiated. Another example is the concept of death in modern western society. Only a few years ago death was defined as taking place at the moment when the heart stopped beating, while today’s criteria is brain death – a concept making it possible to transplant hearts and lungs. This means that, in the same way as the Ndembu people, our western society creates new definitions about what is life and death – and what is a human being.

1. My recent research is financed by the Juvenile Diabetes Foundation and the Swedish Medical Research Council,

the Swedish Council for Research in the Humanities and Social Science.

Cultural encounters and contextual morality

Making comparisons with historical times and *foreign cultures* are important tools which give perspectives on norms and values in one's own society. Comparisons can also be described as cultural encounters. The cultural meeting and the encounter with the unknown makes it possible to reflect upon apparently self evident patterns – to visualise and problematise them (Ehn & Löfgren 2001, Douglas 1966). Comparison as a method can also be used *within one's own society* where cultural encounters are constantly going on. As, for example, when individuals from different social categories and with different experiences meet and are confronted with each other – the old and the young generation, industrial worker and academic, poor and rich, men and women, sick and healthy people, etc. There are, for example, many reasons to believe that the parent of a child with cancer would welcome gene therapy, hoping it could save the life of their child. A person who is not in that specific situation, on the other hand, and who considers modern biomedicine as a dangerous game with nature, would define the treatment as unnatural and ethically unacceptable. Thus, our ideas about what is right or wrong, good or bad, natural or unnatural are produced in a context permeated with specific experiences and needs.

Cultural encounters are useful methodological tools to discover basic values and patterns in foreign as well as in well-known societies. In addition, cultural meetings and confrontations can also be found *within the individual* (figure 1).

FIGURE 1

Cultural Encounters – Comparisons – Context

1. Comparison with other societies/cultures

2. Comparisons within the society/culture

3. Comparisons within the individual

In my ongoing research project “Ethics as praxis. Cultural perspectives on ethics and moral concerns within stem cell research”, a group of scientists working with stem cell research regularly come together to discuss bioethics. The aim of the sessions is to enable scientists to reflect upon their work. In these meetings, ethics has been discussed

on at least two levels. On the one hand, from a general and principle-oriented perspective where the researchers have talked about which ethical guidelines and ethical regulations the scientific society should have. On the other hand, from a personal and experience-based perspective, which does not necessarily coincide with the level of principles.

A female scientist, working with brain-cells from aborted foetuses, said that when she became pregnant she acquired a whole new attitude to her work. What had previously been self-evident – creating immortal DNA from the brain cells of aborted embryos – no longer seemed so unproblematic. Her new experience partly transformed her understanding of stem cell research. But only partly; she still could switch from the level of principles to the personal and contextual level. Another example comes not from my focus group, but from my fieldwork on Parkinson's disease where transplantation with cells from aborted foetuses has proved useful (Lundin & Widner 2000). A patient, who rejects biotechnology in principle, declares that he can accept the treatment with stem cells because it gives him a better quality of life (figure 2). These two examples illustrate how people can condemn various biomedical techniques in principle, but welcome the method on a subjective and pragmatic level. Cultural and ethical negotiations are constantly taking place, as these cases as well as the case with the Ndembu people indicate.

FIGURE 2

Two levels of individual ethical positions

1. From a general, principle-oriented position
 2. From an experience-based position
-

The dialogue model

Biotechnology raises complex feelings which are hard to handle, since the new technology challenges established values without giving new guidelines (Bauman 1993). This causes feelings of insecurity and ambivalence, and opens up for further moral crises. It is against this background that we find the call for ethical regulations. It is also against this background that the seminar "Teaching Bioethics" was arranged, to find pedagogical tools for teaching bioethics. The peda-

gogical model being used in this session, the dialogue model, has developed from an interdisciplinary seminar started in 2000 at Lund University – “Life, Love and Death”.² The seminar gathers students from the medical school, the natural sciences as well as from the humanities.

The fundamental idea for the whole programme Humanity and Medicine is to form a platform for students coming from different disciplines with different understandings of science. This is further emphasised by the fact that the dialogue model is designed to create an arena for cultural encounters. In the same way as comparisons and encounters are conducted with other cultures, this pedagogical model aims to create a meeting with “the other”, which is achieved by letting “foreigners” reflect upon a specific problem or a phenomenon raising bioethical problems. “Foreigners” and “the other” are to be understood in terms of C.P. Snow’s concept of “the two cultures” (Snow 1959). There is a gap which is difficult to bridge between these two cultures, natural sciences and the humanities, since they are rooted in different thinking.

Furthermore, the dialogue model aims at letting the different reflections and ways of thinking contrast with each other, to achieve what Edward O. Wilson terms concilience (Wilson 1998). Concilience is not to be confused with consensus, but describes how researchers from different scientific traditions attempt to explain human behaviour together, in a very wide sense.

In the seminar, students as well as teachers represent the “foreigners” from different disciplines who meet to discuss topics together. Over the course of ten three-hour meetings, the seminar examines ethical and cultural issues concerning the human body and human life – taking its starting-point before birth with embryo diagnostics, and ending up after death, in the autopsy room. Two teachers coming from the humanities and the natural sciences introduce every meeting. The current topic, for example suicide, is then illustrated from their respective disciplinary perspectives. In connection with this, the students and teachers define three or four themes for discussion. These themes or cases are then discussed in smaller student groups.

2. Information about the programme Humaniora och Medicine can be found at http://www.klinfys.lu.se/hum_med/

The last 30 minutes are reserved for a joint discussion together with the teachers. The seminar “Life, love and death” is completed by taking an examination, where students are required to give a lecture about a topic from the seminar, which is followed by discussion. As an alternative, students have the option of writing an essay. However, the oral presentation is preferred, as a way of stimulating common reflections and concilience (see Wilson).

To enable and encourage creative discussions, the number of students has to be limited, and in the first year of “Life, Love and Death”, no more than 25 persons were accepted. Due to the great interest in the seminar, however, its form was reorganised and the group of students was increased to 30. Up to this day the seminar has been evaluated as excellent by the students. Nevertheless, the programme Humanity and Medicine’s aim of encouraging cultural encounters by enabling students from different disciplines to come together has, irrespective of the great interest, not been fulfilled. That is to say, the programme has mainly attracted students from the medical school and from the natural sciences. This is partly due to practical reasons, for example the problem of bringing different administrative education systems together, but it does also show the level of interest for cultural and social perspectives within medicine.

The dialogue in the session “Biotechnology and the end of life” at the workshop *Teaching Bioethics – A Nordic workshop on how to best teach bioethics* was carried out by Nils Persson, providing a medical professional’s perspective, and by Ulf Görman, who gave his perspective as an ethicist.³ The empirical focus was on various forms of donation and transplantation: transplantation with living donors, cadaver donors, marginal donors and xenotransplantations (Omnell, Persson, Källen *et al.* 2002).

3. Nils Persson, Department of Nephrology and Transplantation, Malmö University Hospital; Ulf

Görman, Centre for Theology and Religious Studies, Lund University.

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Teaching bioethics – the case of organ transplantation

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It is no more than 40 years since all patients with end stage renal disease faced a certain and excruciating death within weeks or months. Today their lives can be saved by dialysis treatment or by a renal transplantation. During the 1960s it was questioned whether it was ethically right to use dialysis in order to prolong a patient's life when there was no chance of regaining full health. The lack of resources for dialysis was managed by regarding elderly patients and diabetics as unsuitable for this kind of treatment, and thus they were left to die.

At the beginning of the transplant era, also in the 1960s and 1970s, the success rate was low, with a one-year graft survival rate of slightly over 50%, and significant mortality rates. With the introduction of new immunosuppressive medication and better total handling the results have improved; there is now almost no early mortality, and more than 90% of the patients will end up with a functioning graft.

Today all patients with end stage renal disease are offered dialysis, and those who are fit enough are accepted for renal transplantation. The ethical problem is now caused by the lack of organs for transplantation. Patients accepted for renal transplantation can expect a waiting time of several years, during which time their health deteriorates further and they have to spend a significant part of their daily life undergoing dialysis treatment.

Scandiatransplant

Scandiatransplant is an organization for organ exchange within the Nordic countries. It was founded by the Nordic Council of Ministers as early as in 1969. The Nordic countries combined have almost 25 million inhabitants. At the end of 2002 more than 1,600 patients were on the common waiting list for renal transplantation, and the number is increasing for each year. The yearly number of renal transplants is

stable, lying between 800 and 900. Of these transplants, almost 30% are performed on patients who are not on the waiting list, with a kidney from a living donor, usually a close relative. Of the patients on the waiting list around 600 each year receive kidney transplants from cadaver donors; i.e., persons who are declared brain dead during ICU treatment (Intensive Care Unit). That makes an annual organ donor rate of less than 15 PMP (per million population) compared to Spain where the yearly number of organ donors is over 30 PMP.

Differences between the Nordic countries and Spain

There are several reasons for the differences between Spain and the Nordic countries. One reason is probably that there are different views on the treatment of ICU patients when death is imminent. With modern technology, the diagnosis of severe brain damage with no chance for the patient to recover can be made with full security. As continued treatment will be of no value for the patient, it can be considered ethically right to stop life-sustaining treatment, including the patient's ventilator, before the patient is dead. Another view, which can also be regarded as ethically right, is that one should continue all kinds of treatment until "the bitter end", when death can be confirmed.

Registration of ICU deaths in Sweden and Spain shows that the number of patients PMP that are declared brain dead is twice as high in Spain; around 60 compared to around 30. The important question to be asked is whether it is better for an unconscious patient with massive intracerebral bleeding to:

- die because of respiratory insufficiency in the ward together with his family
- or*
- die because of brain death during ventilator treatment in an intensive care unit?

Another question which should be raised is whether it can be right to treat a patient, not for his own sake, but in order to be able to help several other patients. Perhaps the answer to this question depends on whether you know whether or not the patient in question is in favour of organ donation.

The registration of ICU deaths shows another important difference. In the case of a person declared brain dead and who is medical-

ly suitable for organ donation, the family acceptance rate for donation to go ahead is almost 80% in Spain, while in Sweden it is around 50%. Can this difference be explained by different ways of asking for permission to remove organs for donation in the two countries, or is there a cultural difference?

Finding a strategy to increase the number of organs

The current strategy for overcoming the gap between the number of organs available for transplantation and the demand for organs from the patients on the waiting list includes promoting well-functioning organisation within the health care system, information and education for the public and the use of donor cards and donor registry. So far this has not been enough. Another way to increase the number of organ donors is to expand the medical criteria for acceptance of a donor. As kidney function is reduced with increasing age, elderly potential donors have not been accepted. The upper age limit varies between different countries; often it has been set to 60 or 65 years, while in the Nordic countries donors up to an age of 70 have been accepted for many years. Over the last decade even this age limit has been abolished at several transplant units. Donors with a medical history indicating impairment of renal function, such as hypertension, diabetes and cardiovascular disease, can now also be accepted.

Donors from this extended donor pool are regarded as marginal donors, and the outcome after transplantation with a kidney from such a donor can be expected to be inferior. When comparing large groups of patients, increasing donor age is the most significant risk factor concerning long-term graft survival. Thus for the patients on the waiting list we have an allocation problem. We have “the best” kidneys from young, otherwise healthy, donors, the “normal kidneys” from the average donor and the “marginal kidneys” from the marginal donors with significantly higher risk for impaired graft function and graft loss within five years. On the other hand, with the improved results of the last decades, the outcome today with a marginal kidney is in the same range as could be expected overall 20 years ago. Even at that time most patients wanted to have a transplant in order to be liberated from the dialysis treatment, and thus the use of “marginal kidneys” ought to be an acceptable alternative today.

All patients want to receive a perfectly good transplant kidney after a short waiting time. However, using only the best kidneys would lead to even longer waiting times, and many patients would never receive transplants. To be able to give more patients transplants and to achieve shorter waiting times, we must also use the second best kidneys. The patient population will benefit from also accepting kidneys with a somewhat worse prognosis, as long as they give a better quality of life for the patient than when he/she is dependent on receiving dialysis. This situation raises some other questions: which patient should get the best kidney and who should receive the second best? Should we have a procedure for giving informed consent for receiving a marginal kidney, or is it totally up to the doctor to decide?

Another way to solve the problem of lack of organs for transplantation would be to use animal organs, xenotransplantation. In particular, kidneys from pigs have been discussed. We already kill pigs for their meat, so why not also kill them so as to get their organs for transplantation? Recent research has identified and partly solved the immunological obstacles for xenotransplantation, although some problems still remain. If it becomes a clinical alternative we will again get into allocation problems. Transplantation with a pig kidney will probably demand heavy immunosuppression, and the outcome will, at least in the beginning, be uncertain. Here informed consent would seem to be mandatory, but to whom should the procedure be offered?

Living donors

As mentioned above, around 30% of kidney transplant operations within ScandiTransplant are performed using a kidney from a living donor (LD). For a healthy person with two perfectly well functioning kidneys, one of the kidneys can be donated and this can be done at very low risk for the donor. For the patient needing a new kidney, an LD transplantation is preferable; the operation can be planned, and the short and long-term graft survival is somewhat superior to that resulting from transplantation with a kidney from a cadaver donor.

The use of living donors varies between the Nordic countries – in Norway LDs are used in almost 50% of all renal transplantations, in Sweden around 35%, in Denmark around 25% and in Finland only a few percent. Finland has, on the other hand, a higher number of cadaver donors each year – around 20 PMP. The variations between the countries are reflected in the variations in mean times for patients

on the waiting list at the end of 2002. In Denmark this was around three years, in Norway slightly over one year, with both Finland and Sweden somewhere in between.

Living kidney donors are so far restricted to relatives, spouses and close friends. To buy and sell a kidney is forbidden by law. The underground black market where poor people from poor countries are exploited and the transplantations are performed under questionable circumstances is easy to condemn. But what about an open system where the health care system pays “the donor” a significant amount of money? Offering an average one-year salary as compensation for those who are willing to “donate” one of their kidneys would probably create enough volunteers to transplant all the patients on the waiting list. The “donors” should be examined and followed up in the same way as living related donors are today. As the yearly cost for dialyses is more than 50,000 EUR, such an arrangement would also save money for the health care system. Must such a procedure be morally and/or ethically condemned if all the persons involved are thoroughly informed, and give their full consent?

In this paper I have provided some clinical background information, and suggested some important questions for further discussion, all firmly based in reality.

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Organ transplantations and views of life

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Organ transplantation is a recent technology, which has been highly controversial. Problems that have been discussed are, among others: is it right to use the body of another human being as a tool to save or improve the life of a person with a malfunctioning organ? Is there a risk of organ trading, and should such trading be accepted? What are the risks that the transplanted organ will be rejected or will not function properly in another body? We have two kidneys but can live with one; a donor can thus live on with only one kidney, although he will have a higher risk of death. But heart or lungs can only be taken from a donor with no future life. Should then brain death be accepted as a criterion of death?

The development of medical techniques helps to extend lives, to avoid premature death, and to increase quality of life. Not least the solutions to a number of technical obstacles have made it possible to help people with failing organs to receive new ones from donors. Even so, there is a continual shortage of organs to transplant.

In his presentation, Nils H. Persson pointed out some challenging differences concerning organ donations between different countries. For instance, compare the number of annual organ donors in the Scandinavian countries, which is less than 15 PMP (per million population), with the situation in Spain, where the yearly number of organ donors is above 30 PMP.

Cadaver donors in Sweden and Spain 2000-2001¹

Annual rate PMP (per million population)

	Sweden	Spain
2001	12.1	32.5
2000	10.9	33.9

1. Organs and Tissues. The Journal of European Transplant Coordinators Organization Vol. 5 (2002):1, p 7.

How can this astonishing difference in transplantation rates be explained?

For Scandinavians who occasionally visit Latin countries, one explanation easily presents itself: the number of traffic accidents in the different countries may be one explanation. Divergent attitudes to driving may influence the rate of fatal accidents. Statistically, this would seem to be the case. Spain has a higher number of fatal road accidents than the Scandinavian countries.

Another explanation often put forward by representatives of the Spanish side is the efficiency of the organisation for handling transplants. The expression “Spanish Model” (and sometimes even “the Spanish miracle”) has frequently been used to refer to the National Transplant Organisation in Spain and its way of coordinating tasks. Part of this success may depend on a successful campaign to create a positive attitude to organ donations.

Both of these aspects can surely be expected to contribute to the difference between Spain and Scandinavia. However, I would like to suggest another factor of a different kind, which may be of importance for the different transplantation rates.

A view of life (“livsåskådning” in Swedish) is the combination of a number of basic assumptions concerning the character of the world and the place of the human being in this world. Such a view of life includes a number of empirical assumptions, as well as basic values and preferences. In a weak sense every person has such a view of life. It does not always need to be elaborated and argued for, and it may not even be conscious, but it constitutes the presuppositions for a person’s acts and choices in everyday life as well as in critical situations.

A view of life is not only a personal matter, but it is to a large extent a result of social training in family and social life. This means that the cultural traditions in a society transfer a number of values and preferences between individuals and even from generation to generation. Ideas of what the right thing to do is in any given situation are to some extent personal choices, but to a great extent they are part of a pattern of what is regarded as self-evident not only for the individual, but for the group or society as a whole.

I want to suggest that some small but decisive and evident differences in views of life in different areas of Europe can contribute to explaining the different rates of organ transplantation.

Some aspects of cultural heritage can be discerned. One of these is the fact that Europe historically is an area influenced by its Christian heritage. However, the Christian heritage is not a unified heritage; rather, there are different versions of Christianity. The South of Europe is dominated by the Catholic tradition, while the North of Europe is influenced by the Protestant traditions, mainly the Lutheran and Reformed churches. So, in slightly simplified terms it can be said that Spain is Catholic, while Sweden is Lutheran.

A standpoint in favour of organ donation

The Catholic Church is well known for having a very reluctant attitude towards many aspects of modern biotechnology, not least when it comes to the growing possibilities for dealing with the beginning of human life. However, the church has taken a clear standpoint in favour of organ donation, which is not only accepted, but also recommended. The church encourages individuals to be willing to donate their organs, and national governments are recommended to presume willingness to donate organs in their legislation. In Germany, the bishops of the Catholic Church have even managed to formulate a common statement with the Lutheran bishops to this effect, a statement that proved to be controversial within the Lutheran churches in Germany.²

The argument for this standpoint is the principle of goodness. This principle is often described as the idea that humans want to do good for others, which in this case means that people want to help those who are in urgent need of an organ for securing continued life or a higher quality of life. However, the principle of goodness is not simply a descriptive principle, even if it may sound so. It is definitely a normative principle, which tells people that they should be willing to do good for others. And in the case of organ transplantation they are told that they should be willing to give their organs to others as an act of goodness.

So, the teaching of the church may have an influence in several different ways. The principle of goodness is a part of the received view of life in the culture of Catholic countries. But it is also the case that

2. *Organtransplantationen. Erklärung der deutschen Bischofskonferenz und des*

Rates der Evangelische Kirche in Deutschland (Bonn 1990).

the church in its current teaching clearly and explicitly recommends willingness to donate organs.

Now compare this with the treatment of similar problems in a Lutheran church. The Reformation grew out of the era of the Renaissance. The capacity of the individual was an important aspect of the interpretation of Christianity in the Lutheran reformation. In the modern Lutheran tradition this trait is again in focus. In the current Lutheran tradition moral problems are often seen as complex, and every situation is considered as having certain unique traits. The individual Christian is regarded as having a capacity to handle complex situations and make difficult moral decisions. The role of the church authorities is to give advice, not to make definite declarations in a specific situation, according to a common understanding.

Because of this general attitude, the Lutheran church in Sweden, together with some other Protestant churches, argued against a recent bill in Sweden to presume willingness instead of unwillingness to donate organs in cases where the wishes of a potential donor were unknown.

The differences between the religious traditions are evident. The Catholic tradition can be expected to create a higher willingness to donate organs among its adherents, while the Lutheran tradition may result in a lower willingness to do so.

But how influential are these standpoints? Are not European countries today to a large extent secularised? What I am suggesting is that presuppositions and basic ideas in traditional religious moral teaching do survive and continue to have some influence among people in a certain tradition, even if the traditional belief in God has diminished. This means that the differences between the Catholic and Lutheran approaches to common morality may to some extent contribute to explaining the different willingness to donate organs in the different countries.

Sanctity of life vs. quality of life

Another difference between the two countries is also interesting. In his presentation, Nils H. Persson pointed out that there seems to be a tendency in Swedish hospital care to stop treatment of a patient with severe irreversible brain damage when it is evident that he or she will

not be able to recover, but will die within one or a few days. As an effect of stopping the intensive care, circulation soon comes to an end, after which the patient can be declared dead. In such a case organ donation cannot take place. By contrast, there seems to be a tendency in Spain to continue intensive care until the brain damage has developed into complete brain death. In this case the patient can be declared dead and intensive care be continued until organ donation takes place. This difference has an interesting correspondence to the different attitudes of the Lutheran and Catholic churches to the value of life and living.

The Sanctity of Life Principle is often considered to be one of the high profile issues of the Catholic Church. The meaning of this principle is that every human life is a gift from God, and thereby holy. It must be treated with respect, and it is not allowed for humans to intentionally shorten the life span of another human being. It is evident that people who accept the Sanctity of Life Principle may be more reluctant to stop life-sustaining therapy than others are.

The Quality of Life Principle is often looked upon as a contrasting principle. According to this idea it is the quality, such as experiences in the life, that are valuable and worth preserving. This principle has been understood in different ways, but the interesting point here is that people who accept this general idea may find it easier to abstain from introducing life-sustaining treatment when death is imminent, or even stop life-prolonging therapy in such cases.

The Quality of Life Principle has often been regarded as a secular principle, but in Protestant churches there has also been a certain understanding for this kind of argument. The upshot of this is, then, that we can predict a tendency to continue life-sustaining treatment at the end of life for a longer time in a country influenced by the Catholic Church than in a country influenced by a Lutheran tradition. This may also be reflected in the lower rate of brain death declarations (30 PMP) in Spain, compared to Sweden (60 PMP).

Views of life are not only individual constructs, but belong to some extent to the cultural traditions in different communities. Even in a partly secular society the dominant religious tradition has some influence on such understandings. Willingness to donate organs, as well as different views regarding life-sustaining treatment, may be influenced by such views of life. Consequently, the different religious traditions may contribute to our understanding of the different organ transplantation rates in Sweden and Spain.

Problem-based learning as a method of teaching bioethics – *as told by a science educator*

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Marianne was given a problem. She was supposed to give a presentation and write an article about teaching bioethics through using problem-based learning. The context should be within the area of GM foods. What did she do?

First, she confronted the problem and asked the question: How can I make an understandable, motivating and useful presentation and article? After brainstorming she came up with several approaches to the problem. She would gather existing knowledge and information about problem-based learning, compare it with her own understanding and experience of such learning, and present the information in a considered way. (Her background is in science education.) She thinks that she should also present a practical solution to the problem in addition to the article, for instance by finding a good example of an ethical problem involving genetically modified food, preferably with a global perspective. She would like to present the problem as a role-play. Since the context involves GM food she would have to gather existing knowledge and information about the ethics of GM food as well. Finally she would have to design a plan for solving the problem involving these approaches.

This is a quite recognisable way of solving a problem, and one that most of us have used. However, there must be other approaches that work just as well. The above story about this article is an example of how problem-based learning may proceed. The following sections present the information used while solving the problem.

“Recipes” for problem-based learning

When searching the literature on the subject, several step-by-step lists of how to conduct problem-based learning were found. The educationist Kirsten Hofgaard Lycke (2002) presents a seven-step model. (See table 1.) This model has been used by students of medicine, and Lycke’s studies provide an insight into their learning processes.

TABLE 1. “The Seven Steps” model of problem-based learning, as referred to by Lycke (2002).

“The Seven Steps”:

1. Confronting the situation.
 2. Identifying the nature of the problems.
 3. Suggesting possible causes (hypotheses).
 4. Discussing connections between problems and causes.
 5. Formulating learning needs.
 6. Gathering information/knowledge.
 7. Applying gathered knowledge to solve the problems.
-

After being presented with a problem, the students first examine the concepts involved. They have to agree on their comprehension of the situation, and analyse the relevant facts. The students are encouraged to continuously ask and answer questions and in this way exchange information throughout the learning process. They regularly brainstorm and have discussions. The next phase is to identify possible problems, recognise the need for further clarifications, and organise the problems depending on, for instance, how serious and interesting they are. Having identified the problems, the students should suggest possible hypotheses as to the causes of these problems and choose the most probable cause for further investigation. They discuss the relationship between problems and causes, and try to determine what additional information is needed. The requirement for learning more is thus motivated by the situation. What do the students need to know in order to understand the problem – cause relationships and form an opinion about the hypotheses? The following phase involves individual information-gathering work, from different knowledge bases. The information gathered is then used to solve the problems by discussing how the new knowledge corresponds with the group’s formulated learning needs, and with the original problem. (See table 2 for another example of a step-by-step model of problem-based learning.)

Table 2. Step-by-step process of problem-based learning, according to Samford University (2003).

Another step-by-step process of PBL:

- The students confront a problem.
 - In groups, the students organise their prior knowledge and attempt to identify the nature of problem.
 - The students pose questions about what they do not understand
 - The students design a plan to solve the problem and identify the resources they need.
 - The students begin to gather information as they work to solve the problem.
-

Obviously there is no correct recipe or formula for problem-based learning. The learning process should be adjusted in order to be applicable to individual groups and disciplines. However, the common idea is that problem-based learning is an instructional strategy that encourages students to develop critical thinking and problem-solving skills that they can carry with them throughout their life. It provides meaningful experiences where students apply new knowledge to real world situations.

Characteristics of PBL

The main characteristics of problem-based learning, despite the different step-by-step instructions, are that it is organised in groups, and led by a teacher, guide or instructor. It is learner-centred instead of expert-centred, and it builds on the learners' prior knowledge. Hence, it results in an altered, non-authoritative teacher role, where the teacher acts as a facilitator or guide instead of as a transmitter of information. The learning is context-specific because it is stimulated through focusing on a real life problem. Students gain knowledge through solving problems, which makes the knowledge seem coherent and relevant. Instead of a teacher presenting a topic piece by piece and hoping the students will later assimilate and apply the knowledge to personal and professional problems, the students themselves are in charge, they start with a problem as a whole and bit by bit construct coherent knowledge. (Lycke, 2002; James and Baldwin, 1997.)

Because the learning is contextualised, offering real-world challenges, it prepares for problems that can be encountered when prac-

tising a discipline (as a professional or lay person). This is of course not a new way of learning, since apprenticeship is an anciently known practice. However, problem-based learning differs slightly, because it is more of a hypothetical situation. It may give a “border crossing” experience (Aikenhead, 1996), meaning that the student is given an opportunity to cross the border into the professional culture of the practitioner, and explore its standards, its professional language and the practitioner’s way of thinking. The awareness of being able to cross the border back into the student’s own culture gives necessary distance, but at the same time proximity in the learning situation, and this may facilitate and encourage exploration. The students are not yet professionals and can allow themselves to be critical and to make mistakes. They will also understand that in real life situations there are no right and wrong answers. In this way problem-based learning stimulates critical and creative thinking. “Critical” is not used here in the sense “negative”, but rather to mean the ability to conduct an extensive and thoughtful analysis in a historical context.

Problem design in PBL

A good PBL problem is crucial, and it has the following characteristics: it is engaging and oriented to the real world; it generates multiple hypotheses; it requires team effort; it is consistent with desired learning outcomes; it builds on previous knowledge and experiences; and it promotes the development of higher order cognitive skills (Bloom, 1956). PBL problems may be presented as cases (real or constructed) and narratives from the study’s related field of practice. They can be presented as democratic challenges, for instance a simulated consensus conference or a role-play that brings the problem to life. Video clips, pictures or newspaper articles may also be used to present a problem. With their close reference to real situations they will be interdisciplinary (Lycke, 2002).

Difficulties which function as obstacles are often called “problems”. Such problems can be about understanding something, doing something, or understanding what to do. A problem can be of a quite prosaic material nature, like how to repair your bicycle, or it can be intellectual, like understanding the function of junk DNA. There are emotional problems, for example how to persist in loving without being loved back; moral problems, for instance about euthanasia; and

political problems, for instance relating to how to distribute society's benefits in a socially just way. Problems often involve ethical dilemmas. (Margetson, 2002.)

Margetson (2002) further describes a problem as a situation with three characteristics. There should be a *difference* between the *present* and *future* condition. *Difficulties* or *uncertainties* exist about how to achieve the future condition, and finally, the future condition should be *valuable*.

Cognitive perspectives of PBL

When a cognitive perspective on learning is taken, we see that students are offered opportunities to construct their own knowledge because they are motivated to think and mobilise their prior knowledge. The connection between learning and utilisation is ensured by the realistic, problem-based nature of the assignment. Prior knowledge is activated when the students devise hypotheses and try to understand the relationship between problem and cause. Further they seek new in-depth knowledge, which they articulate and apply to the present and future situation. The learning process promotes cognitive initiative and a struggle for meaning.

Ludvigsen and Handal (2002) focus on several principles that constitute the basis for the development of a productive learning environment. There should be a *richness* of examples and perspectives relating to the phenomenon being studied. Knowledge is always *situated*, but in order to be transmitted in such a way as to be relevant and useful in the students' future lives, it is important that the learning situation is as similar to the future situation as possible. Another principle Ludvigsen and Handal highlight is *active participation* and *companionship*, which offers a greater chance of developing multiple perspectives and finding opportunities to negotiate meaning and validate one's own knowledge. We have all probably experienced the importance of *articulating* our thoughts in order to understand what we mean, and articulation also is important for testing out knowledge. Ludvigsen and Handal also emphasise the principles of *support structures* (scaffolding), *metacognition* (knowing how you learn), and *the temporary nature of knowledge*, meaning that students experience complex areas of knowledge with no absolute answers, where the production of new insight leads to an adjustment of their prior knowledge. This is what they call

cognitive flexibility. Ludvigsen and Handal do not think that problem-based learning is the ultimate solution to all teaching difficulties, but they claim that if PBL is used wisely as part of a whole educational program, it has the potential to fulfil several of the above principles.

In a problem-based learning programme, the students' learning activities and learning processes are in focus. Thus the teacher's role has to be reconsidered; the teacher no longer has a traditional role of mediating knowledge, but takes on the role of guide in the students' learning process. The teacher-as-guide should be attentive to the students' progression in learning, but also provide models of different problem-solving strategies, as part of a kind of cognitive apprenticeship. It is also important to ask meta-cognitive questions like: "How do you know that?", and "What assumptions might you be making?" This helps students to become self-aware in their learning process. Another important mission of the teacher-as-guide is to provide for social learning requirements, for instance by giving all group members attention and time to speak.

Socio-cultural perspectives of PBL

Compared to traditional teacher-based learning activities, where a transmission model with the teacher as informer is dominant, problem-based learning groups may provide students with a learning environment that encourages them to express and explore their opinions. This provides excellent opportunities for being socialised into the professional culture concerned, under the guidance of the group teacher. Thus, the teacher-as-guide also serves as a culture broker (Aikenhead, 1996). This process is called enculturation (see figure 1).

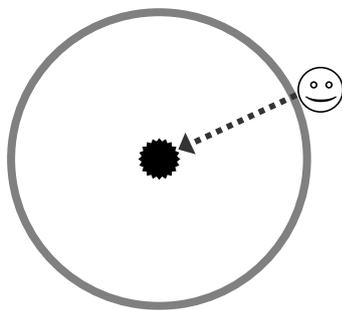


FIGURE 1. Enculturation: from peripheral to central participation in a professional culture.

However, in our case of learning bioethics, we have the challenge of being in a transdisciplinary position between the professions of science, medicine and ethics. Being enculturated into bioethics is not a straightforward matter, and would presumably depend on the background of the teacher-as-guide.

If the focus is put on the individual learner, the learning environment of PBL groups with a guide-teacher provides close follow-up, often called “scaffolding”. The students are helped and supported in their own attempts to explain complex ethical dilemmas, and they may accomplish reasoning that they would not have mastered alone. The learning potential is increased because of the “scaffolding”. Vygotsky describes this as the zone of proximal development. (See also figure 2.)

The zone of proximal development is the distance between the actual developmental level as determined by independent problem-solving and the level of potential development as determined through problem-solving under guidance or in collaboration with more capable peers. (Vygotsky, 1978, p. 86.)

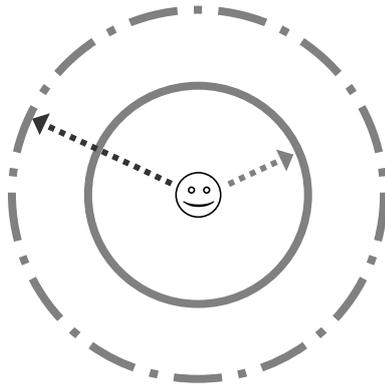


FIGURE 2. Vygotsky's Zone of Proximal Development: learning potential without scaffolding (whole line), and with scaffolding (dotted line)

GM food and ethics – a practical example of a PBL problem

With the above theoretical knowledge about problem-based learning in mind, Marianne wanted to construct a bioethical problem about genetically modified food that could be used as an example of a problem-based assignment. Again, she first gathered her prior knowledge, this time about ethics and GM food.

Three (or four) ethical paradigms should be included, and the students should be made capable of identifying them. (Burkhardt, 2001.)

Consequentialist ethics

- will the product or technology produce good consequences?
- cost-benefit approach, QQP (quantity, quality, price)

Ethics of autonomy or consent

- people are entitled to make their own judgements
- is our food safe? Transparency in food systems, labelling

Ethics of virtue or tradition

- consistency with a set of virtues or ethical traditions
 - *Agrarian* ethical philosophy
agriculture as a "way of life"
 - *Nature-ism* (in Burkhardt's sense), life in accord with Nature,
"playing God" or ecological balance

People discuss GM food and make ethical judgements based on all of the paradigms identified above, but they tend to fall into one of the camps. The PBL assignment should illuminate the fact that discussions about GM food are often characterised by people having different ethical perspectives with different moral standards. In order to elucidate this, a role-play was chosen as the problem design. The case was partly based on a real situation – sending GM foods to hunger-stricken countries – but the additional personal roles were constructed.

The four ethical perspectives or paradigms are illustrated by four roles: (see appendix)

Consequentialist: US farmer, Bill Norris – Missouri

Autonomist: African science teacher, Andrew Mulemva – Malawi

Agrarian: African farmer, Okonkwo Jegede – Uganda

Nature-ism: European scientist, Ingrid Åkerman – Sweden

The context of the role-play situation is an advisory board for the UN, of which all the role-play participants are members. The matters for discussion are: should the UN send GM food to hunger-stricken countries? What would your recommendations be in the case of a future famine?

According to Margetson's three characteristics of a problem, this case would be a suitable PLB project. The dilemma lies in making a difference between a difficult present situation in a world with hunger catastrophes, and a valuable future situation. The project draws on group experience (the role-play discussion) and is enriched by the participants' different perspectives. The structure and context of the role-play serves as scaffolding in the learning process. With a professional teacher-as-guide it should be possible to identify various ethical paradigms and have a thoughtful, critical and creative debate and analysis. Because the group has been working through a role-play, it is possible to reflect on the problem with personal empathy. (See Ødegaard, 2001.)

Final remarks

Both science and philosophical ethics are usually characterised by a detached, objective and general approach to problems. In fact, these characteristics are traditionally considered to be the virtues of these disciplines. However, in an educational situation these virtues may, for some students, prove an obstacle. Contextualising and personalising a problem facilitates learning. Problem-based learning is a useful and valuable tool in this respect. Both science and ethics education may benefit by offering PBL learning environments, but doing so involves particularly great challenges, as well as significant changes to the traditional teacher role.

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APPENDIX

Role cards for role-play on GM food

1. Andrew Mulemva

You are a science teacher from Malawi in Africa – 32 years old. You have not yet settled down with a family. Actually you consider your students (10-16 years old) to be your “children”. You are so proud of what you have achieved as a teacher, especially the science club that the students voluntarily participate in after school.

What breaks your heart is seeing how the growing hunger in Malawi affects your students. No one has the energy to show up at the science club anymore, and much fewer students come to school. It is the government’s responsibility to do something about this! When you heard that there where ships being held up at the harbour filled with maize donated from the US, you were furious! Then you heard it was genetically modified. What does that mean exactly? Is it dangerous? Why does not Europe want to eat it? Then you remembered that you once found an empty tomato-can in the garbage you use at the science club that was labelled “Genetically modified food”. Well, at least you should have a choice whether to eat it or not.

2. Bill Norris

You are a farmer from Missouri, USA – 50 years old. You are married to Claire, who is a doctor, and you have three children. You live on a big farm that has been in your family for two generations. Your farm is continually expanding, and you are very proud of your achievement, and of being able to produce enough food to feed a growing non-rural population.

Your farm is a developing business, since you have been able to keep the production at a low enough prize in order to stay in business, yet high enough to make a profitable living. However, you do feel bad about buying up land from your old friend Michael. Six years ago you were convinced

by your brother, who works at Monsanto, to start growing genetically modified maize with several better qualities than the old sort. Thanks to that, your crop and income has increased.

When you were young, you followed your wife and lived a year in Tanzania, where she worked as a doctor. You loved being there and really appreciate and respect the people there. So now you are proud to be able to share your wealth and donate a part of your crop to a starving Africa. (And actually you also get a tax-reduction by doing so ...)

3. Ingrid Åkerman

You are 59 years old and a science researcher of plant ecology from Sweden in Europe. You have two children and a grand-daughter. You love taking your grand-daughter out and showing her the wonders of nature. It's fantastic having the opportunity to see plant and animal life through a child's eyes again. It reinforces your feeling of nature as a sacred place on earth.

You are asked to lead a group giving ethical guidelines about the donation of GM food in hunger catastrophes. Hopefully we might avoid the situation we had last year, when some African countries did not know what to do with the shiploads of GM food that they were offered.

You think that we should be very precautious about placing GMOs in nature. You are worried about the possible ecological imbalances we might create. It will be a challenge to achieve consensus in the group.

Your opening line is: *Welcome to this advisory group about ethical issues, GM food and food-aid. Shall we start with a short round of personal views on the problem?*

4. Okonkwo Jegede

You are a traditional farmer from Mozambique, 40 years old with 6 children. Your small farm has been in the family for generations. The crop you grow is adapted to the soil in your village, and you are well-known for its good quality. Your father resisted changing to "better" maize and grain types offered during the green revolution in the 70's. That turned out to be very fortunate. You strongly believe that traditional African farming is the best and only way for you and your family to live your lives and survive.

However, because of the drought last year, you were not able to sell anything. You had to use your crop to feed your family. As a result of low income you sadly had to take your children (your three sons) out of school. You have heard of the GMO-food that was offered to Mozambique during the famine, and understand that people have to have food, but at the same time you are afraid that farmers will use the seeds to grow gene modified crops. Would not that make the farmers more dependant of the GMO-companies? And how would that effect the African agricultural lifestyle?

Ethics and science

– companions or competitors?

Marja Sorsa

Finland

Science has to achieve a new social contract with society. Such a contract should also have its effects on the directions and priorities of research, yet without jeopardising the basic elements of freedom of research, within an ethical framework. It is a new challenge for the scientific community to enlarge its competence in ethical analysis and debate, and to intensify communication with the public. Bioethics has developed out of the public awareness that scientific and technological progress have important social implications which need to be analysed by the various stakeholders.

Changes in the research environments

Along with the changing role of universities, the working environments of scientists have experienced major changes over the last few decades. Universities increasingly have obligations to their surrounding societies and to the global village as a whole. The scientific process itself has become more complicated and embedded in society and in international rules and regulations. It is no longer a product of the efforts of an individual scientist, but a collective undertaking by research groups and global networks. This requires long-term planning, international collaboration, extensive funding, and often expensive instruments (See Table 1). The demands for researcher training have similarly changed, while new and different kinds of skills and talents are required in increasingly competitive international research work.

TABLE 1. Recent changes in research environments

-
- Rapid development of scientific methods
 - Need for sophisticated instruments
 - Increased competition for funding, resources, instruments, positions, brilliant students
 - Race for primary publishing of research findings
 - Tightening of result-oriented budgeting in basic funding
 - Increased variety of research practices, due to international and multidisciplinary projects
 - Increased sponsorship and private funding in academia
-

Knowledge and know-how have become objects of investment in modern societies. Governments in many countries have recognised this by increasing funding for research and researcher training. In the recent OECD comparison of the proportion of GDP spent on research and development funding (2001), Sweden and Finland are the leading nations with figures of 3.6% and 3.4% respectively, the OECD average being about 2.2%. Denmark and Norway are slightly below the average. This also reveals the increasing public interest in the directions and priorities in science through public funding.

Public images of science

Politicians dealing with science have recently become extremely concerned with the public image of science, especially applications of new biotechnology and the genetic modification of plants, animals and human beings or their cells and tissues. The increasing popular mistrust of science is of utmost concern, also within the European Union Commission, responsible for scientific direction, and for quality and funding of research in Europe. The current Sixth Framework Programme for Research (2002–2006), targeted towards integrating, strengthening and structuring the European Research Area, has special areas of activity relating to the study of public understanding and perception of science (“Citizens and Governance”, “Science and Society”). Very clearly, science has been seriously confronted by a variety of social, political and ethical debates, which cannot be swept aside as irrelevant or marginal for the progress of science.

The European Commission has for some time been monitoring the views of Europeans on science, especially biotechnology, through interview studies performed in all member states. The recent Eurobarometer 55.2 (European Coordination Office 2001) on “Europeans, science and technology” is based on interviews with some 16,000 citizens in 15 member states (1,000 per country). The general trend was depressing for the understanding of science: young people in particular were not interested in science or science careers, and 60% of Europeans were not interested in following science news in the media. Attitudes towards genetically modified organisms were generally negative, and 80% of respondents requested researchers to follow ethical regulations in their research work. The critical opposition towards gene technology and especially genetically modified food was also clearly seen in the previous Eurobarometer 52.1 on Europeans and biotechnology (European Coordination Office 2000).

At around the same time, in the spring of 2001, a science barometer survey was performed in Finland (Finnish Society for Scientific Information, 2001). This questionnaire study revealed that attitudes towards science among Finns were strikingly more positive than among average Europeans. Science and research results are generally seen as interesting, and nearly 80% of respondents with an academic education regularly follow science news in the media. Finnish people also trust science, scientists and universities. Most people (59%) feel that scientists operate responsibly and know their social obligations. In fact, Finns trust research institutions more than the church or the legal system. The study showed no specific age-related correlations. Rather, positive attitudes towards the use of genetic technology correlated with the respondents' level of education. Within the whole group of respondents (913 persons), 30% reacted negatively to the use of genetic technology and 43% approved of the application of genetic technology for human benefit. Even so, as far as public funding of science was concerned, 49% of respondents agreed with the statement “a lot of useless research is conducted with the taxpayers' money in Finland”. Despite various reservations, the general attitudes of Finns are realistic and optimistic towards science. This intrinsic difference in perception of science among Finns and other Europeans should be further analysed.

Stakeholders and deviant opinions

The individual researcher is responsible for her/his research – its quality, originality and demonstration of good scientific practice – to several other parties: to the research group and scientific community, to the funding organisations, and to the research objects – whether these are human subjects or laboratory animals. The social responsibilities of researchers to the public, as well as their political obligations, are increasingly evident. Potential industrial users of scientific innovations are also involved parties with a stake in the research process. All these stakeholders should participate in the ethical debate on the future directions and consequences of the progress in knowledge and technology (see also Sorsa 2003).

Stakeholders may have different viewpoints on the ethical debate, based on their values and interests. The three most obvious interest groups as far as the ethical dimensions of modern biotechnology are concerned are academic scientists, industrial scientists and the general public.

Typical comments from these interest groups concerning the need for ethical codes, rules or analysis may include the following:

Scientist may say:

- Ethics is not a science
- Ethicists or people calling themselves ethicists should not make rules for scientists
- Scientists themselves know best what they do and what they should be doing
- Too many rules and laws prevent the progress of science
- Freedom of research must not be threatened.

The Public may say:

- Everybody is exposed to the applications of science
- The rapid development of science makes it difficult to predict the consequences
- Scientists may be specialists in their own field but they are not ethicists
- Taxpayers have the right to know how their money is being spent in science
- Scientists should step down from their “ivory towers”.

Industry may say:

- Progress should not be delayed by unnecessary debates
- Employment should not be threatened by restrictions
- Economic goals are the primary objectives
- Industry has its own ethical guidelines
- Universities need collaboration with industry, but it is industry that knows how research results can be put to use
- Industrial research provides excellent career opportunities
- Innovations cannot be developed without industry.

Even if the comments given by the key stakeholder groups on the importance of making ethical analysis part of the scientific process are cynical and contradictory, the differing views reveal the importance of bringing the ethical debate into science – as a companion rather than a competitor. Consequently, all researcher training must give scientists the tools necessary for taking part in a thorough multidisciplinary discussion about their research, the future of their research and its potential applications.

Participatory democracy requires that information and education are given to all parties involved. The science barometers have shown that level of education and knowledge of scientific principles generally correlate with public confidence in science and academic institutions, and with public acceptance of modern biotechnology (e.g. Eurobarometer 2000 on Europeans and Biotechnology). When a large proportion of a nation's citizens think that "ordinary tomatoes do not contain genes, only genetically modified ones do", the level of public trust in science is also generally low. Educating the public is a long task, but it needs to be undertaken. Similarly, scientists need to be taught how to inform the public about their results.

Several difficulties need to be resolved in the proper transmission of scientific information to the public, in order to facilitate an ethical debate:

- The logic and paradigms in different disciplines (science, economics, philosophy) vary
- The pace of things in the development processes of the different disciplines varies
- The public (and media) want simple answers, but often scientists cannot give them

- The lack of confidence in science is increasing, science news is often presented as “bad news” in the media
- Information is being globalised
- Opinions change and shift over time.

The role of ethical committees should include giving guidance to the public and structuring the debate by giving open and public recommendations. This kind of discussion is currently ongoing in several countries, for instance about human cloning, the use of stem cells and gene patenting. In the following section, the patenting of human genes is given as an example of an ethically focused public debate.

Ethical issues in patenting human genes

The European Directive on the Protection of Biotechnological Inventions (Dir. 98/44/EC), which was passed by the European Parliament in December 1998 after long and heated debates, states as a general principle that inventions which are contrary to public order or morality *cannot* be patented. The directive is thus a European Union document where serious consideration is given to ethical issues in a legal text. Its implementation in the national legislation of the member states has, however, been severely delayed, and the political discussions and ethical debates, focusing especially on the issue of human gene patenting, are ongoing in several countries, in the EU, OECD and in UNESCO (Simonsuuri and Sorsa, 2002).

At the same time, patent applications and pending patents are piling up in the patent offices. In the United States, the number of DNA patents granted by the USPTO was over 5,000 in the year 2000, and there is an annual increase of about 15%. The European Patent Office (EPO) has taken a rather cautious line, especially since one of the very first stem cell methodology patents (in December 1999; EP 0695 351) had to be cancelled. The patent was first granted to cover “mammalian stem cells”, but the patent claim was later changed, making it explicit that human beings are excluded from this method of somatic cell nuclear transfer (cloning). In the year 2000, about 5,000 patent applications were filed in the EPO pertaining to “mutations or genetic engineering”, and 605 of these were related to human or animal DNA sequences (OECD, 2002).

The European directive has so far been implemented in only six of fifteen member states, and there is increasing pressure to try to revise the directive, especially where human gene patenting is concerned. President Chirac expressed this opinion in his speech honouring the 20th Anniversary of the French National Committee on Ethics on 24th February 2003 in Paris. His opinion followed the ideas presented in UNESCO's Universal Declaration on the Human Genome and Human Rights (1997), on the universal ownership of human genes as part of our common human heritage. Even if human genes cannot be owned by anybody commercially, legislation should not prevent innovation but rather allow access to all on an equal basis. Even so, the European directive clearly spells out the exceptions from patentability in its article 6:2, following the ethical issues taken up in the UNESCO Declaration and the Council of Europe's Bioconvention (1997) (see Table 2).

TABLE 2. Exceptions from patentability in Dir. 98/44/EC on the Legal Protection of Biotechnological Inventions

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- Procedures for human reproductive cloning
 - Processes for modifying the genetic identity in the germ line of human beings
 - Use of human embryos for industrial or commercial goals without a therapeutic or diagnostic purpose
 - Processes for modifying the genetic identity of animals which are likely to cause them suffering, without any substantial medical benefit to man or animal, or to animals resulting from such processes
-

The number of gene patents is expected to grow rapidly, since researchers have the possibility of exploiting the genomic information not only of the human genome but of several higher organisms (so far the genome sequences for baker's yeast, *Arabidopsis*, rice, *C. elegans*, fruitfly, malaria mosquito and mouse have been completed). For the ethical discussion, it is important to note that a great number of genes in animals and plants are also found in humans.

Some of the issues stated in article 6:2 and described in Table 2, e.g. the use of human embryos for stem cell production, are matters to be interpreted. It should be of utmost importance that this interpretation is not only done by patent lawyers, but also through an independent and thorough ethical analysis. Some of the key points to be assessed are given in Table 3.

TABLE 3. Some critical problem areas in gene patenting

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- To define the distinction between discoveries and inventions
 - To test the practical criteria for excluding patentability for “reasons of morality or public order”
 - The degree to which the human body is instrumentalised by making parts of it patentable, and the impact of this on human dignity
 - Threats to biodiversity and to the protection of species and ecosystems due to gene patenting
 - Restriction of research or health care services through patenting
-

A broad debate about the operation of gene patenting practices is beginning. It is important that researchers also take part in this debate. This again emphasises the importance of researcher education, i.e., giving proper tools to researchers so they can take part in the ethical debates.

In conclusion

Ethics and science should be considered neither companions nor competitors, but essential and intimate collaborators which form a necessary framework for good scientific practice. The ethical requirements are a prerequisite for research, which should not be seen as a necessary obstacle, but as part of good research management and a criterion of research quality.

This also requires new and additional skills on the part of the researcher. Education and training can promote both ethical sensitivity and sensibility to realities. Not everything that *can* be done technically always *needs* to be done. Solidarity and tolerance are the road marks to pluralism – an important European ethical value. The scientists of today need, when planning their research, to commit time and effort to ethical analysis. Teachers of young researchers should provide them with the necessary tools to do so.

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Bioethics and the public

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Advances in science and technology have traditionally been considered a good thing, because they have improved the quality of life for the majority of people. Innovations in transportation and communication and the development of new medical equipment and pharmaceuticals are only a few examples of beneficial technological achievements. The generally positive view of science and scientists has allowed scientific progress to happen without the scientists having to explain or defend their work to the public, nor participate in the social debate. This is no longer true. Science has become politicised and controversial. All science is not perceived as good, nor is it well accepted by the public.

Ethics and perceptions

The new biosciences are particularly controversial. Huge advances have been made in biosciences during the last fifteen years, but at the same time the public debate on the benefits and risks of these innovations has intensified. The development of genetically modified organisms, stem cell research and the cloning of animals have been the focus of heated discussions both among experts and in the media. When the debate on modern biotechnology started more than ten years ago, many scientists held the view that lack of knowledge was the reason for negative attitudes among the public. It was thought that improved science education would lead to greater public understanding and acceptance of the new technology.

Fairly soon, however, those who were involved in biotechnology education realised that better knowledge of biology and biotechnology applications does not necessarily lead to increased acceptance. It became apparent that trust in the source of information is a crucial factor. People are inclined to believe only information that comes from sources they trust.

During the last decade many public and private initiatives have been taken to increase public understanding of modern biotechnology, but the controversy persists and the debate continues.

In my view, the main reason for the continued controversy is that ethical issues play an important role in the perception of biosciences. We should accept this fact and try to properly address the ethical questions raised. Biosciences and the new knowledge and applications touch on fundamental ethical values in society and have great social implications. These ethical issues have to be discussed both for the sake of the discourse itself and to ensure that the innovations are applied in ways that are acceptable to our society. Communication on bioethics issues is needed, in order to provide the society and the public with the requisite tools to participate in this debate. Thus the aim of bioethics communication is to facilitate a societal discourse and the possibility of making informed choices.

Informed choices

We live in an increasingly complex world, where a multitude of choices have to be made. In policy making, the choices concern, for instance, social policy, research policy and funding. We need to answer questions like: Should research on therapeutic cloning be allowed? Do the positive effects of IVF-research and treatment outweigh the negative when many treatments are unsuccessful? What kind of research is needed on biodiversity? What should be done about the pollution of the Baltic Sea? Policy-makers hold a key position, and they need to be well informed in order to be able to make far-reaching decisions.

The scientific results and applications also affect people on a personal level, and there too choices have to be made. Genetic tests are a good example. Taking a test requires an explicit decision by the individual. It may, however, be difficult to understand and foresee the implications of the various possible test results, both for the person primarily involved and also for her or his closest family members.

Other types of personal choices are related to consumption. Green energy, for example, is available in many countries. The consumer can choose to buy green energy, which normally comes at a premium price. To be able to make an informed choice on energy requires at least some knowledge of energy production alternatives, cost efficiency, the environmental effects of various energy production alternatives, etc.

Genetically engineered foods have been a topic of heated debate in many countries. Today a consumer in the Nordic countries cannot choose between GM and non-GM food in shops, but that situation might soon change. To make an informed choice between the two alternatives the consumer needs to have some knowledge of molecular biology, agricultural production, trade policy etc.

The biosciences are complex and controversial and they have become very politicised. Ethical issues are often, without explanation, referred to as issues that can determine the fate of the technology. People are left with the impression that fundamental values are at stake, but they are not given the tools to deal with these issues. Often relevant scientific facts are lacking, and, more importantly, people feel that they do not have the necessary education for participating in the ethical debate.

Lay people have a right to know basic facts about innovations in science and technology and have a right to make choices. More knowledge does not necessarily lead to better acceptance, but increased understanding makes it possible to base one's choices on both facts and emotions.

Who should participate in the debate?

Based on my view that information concerning, and communication of, both scientific facts and ethical questions raised by advances in biosciences is needed, I would argue that it is the responsibility of various key groups to provide such information and to participate in the debate.

The first important group is of course the scientists. I think that it is the social responsibility of scientists to inform about research results and future prospects, and to participate in the ethical debate. Only those at the cutting edge of science can tell us where the research may lead. Whether or not these consequences are desirable is, however, the choice of society.

Scientists should not only provide information on scientific questions, but they should also be involved in the ethical debate. It is important both for the scientific community and for society as a whole to know what ethical values the scientist adhere to and what the driving forces of scientific pursuit are for the individual scientists. This

becomes particularly important in the case of controversial research like stem cell research or molecular biology.

The second group is the ethicists. Without discussing in depth the definition of an ethicist, I'd like to include here all those who have some kind of professional training in philosophy or theology or those who otherwise have experience of, or interest in, these issues. Today there is an increased awareness in society of ethical issues, and this should be taken advantage of in promoting an ethical discourse. The task of the ethicists is, above all, to promote this discourse and participate in it. Here the ethicists are well equipped to complement the scientists in the discussion. Recently social scientists have also become interested in biotechnology issues, and they play an important role in adding broader views and different perspectives to the debate.

Young people today are those who in the future will have to live with the consequences of the decisions we make. The rapid pace of the advancement of science in general and the biosciences in particular has led to an increased awareness and interest in bioethical issues, also among younger generations. School teachers are thus a third key group in teaching bioethics. In my view, both biology teachers and teachers of religion and philosophy should include bioethics in their classroom teaching. There are some very good examples of how this has been successfully achieved, but much more could still be done.

Journalists play a key role in passing on information from scientists and ethicists to the public. It is their task to report on new scientific results and achievements and to discuss their implications. This is not easy. Often the information to be conveyed is extremely complex and difficult to understand, and the implications may be a subject of controversy and different interpretations. The role of the journalist is then to try to give an objective and balanced view, as a basis for continued debate.

Other groups that can and should communicate bioethics issues and participate in the debate are ethics committees, and environmental, consumer and patient organisations. These are fora where the views of lay people and interest groups can be added to the debate. The views of both interest groups and lay persons are valuable, and we need to find proper channels for these to be included in the debate.

Methods of communication

There are a vast number of different methods that can be used in communicating bioethics issues to the public. Which method is most suitable in any given situation depends on who is communicating, and with whom. Only a few examples will be given here.

Publications are widely used by the scientific community and also by the various interest groups and ethics committees. A publication can be a collection of learned articles, but it can also mean pamphlets, newsletters and brochures. It should be noted, however, that a publication is rarely a forum for debate, but through a publication the voices of individuals and groups can be heard.

The media is a better forum for debate. In particular the printed press and radio are suitable in this sense, but some ethical debates have also been successfully broadcast to the public on television, even if the public does not necessarily have the same chance to participate in the debate as is the case with the printed media.

Meetings and conferences are, of course, good fora for debate. Their drawback is that the scope of the debate is limited to the participants, unless broadcast has been organised. But even then, the broadcast only provides one-way communication. It is encouraging to note that public lectures more and more often are organised in connection with professional congresses and meetings. This is a good method of enlarging the discussion so as to also involve the public.

Consensus conferences, stakeholder dialogue and outreach activities are also used to inform the public and involve lay persons in discussions on ethics. In some of the Nordic countries like Denmark and Norway, such meetings have been successfully arranged for many years, whereas in others, like Finland, they have not yet been tried.

Communicating ethics is difficult. The first step is to realise that this is important, and that it is the duty of various individuals and groups to engage in the dialogue. The second step is to gain some experience in communication and try different methods of communication and debate. Only through the exchange of information, views and ideas can we make sure that science is used to benefit us all.

Journalists and scientists – friends or foes?

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Scientists and journalists have certain things in common, at least in principle. The aim of our work is looking for the truth. There are rather big differences in how we do it, and I shall not discuss the results as such, but take you back to the reality in which newspapers work. Scientists, I believe, tend to think that newspapers are so eager to earn money that they publish rumours, smashing love stories and political scandals, and present very tiny pieces of irrelevant information as final research results even when they know they are serving the public half-lies. But why should journalists – maybe with the exception of a few morbid individuals in the gutter press – build up their whole professional identity on such grounds?

One way to understand journalism is to look at it as an ongoing story. Every time a journalist makes a mistake in a newspaper of some quality, there is a phone call the next day reminding him of the depth of his mistake. If the mistake is severe, a correction is published the following day. This means that although the press may seem capable of publishing just about anything, there is a control mechanism. And at the end of the day the press cannot really sell just any rubbish. If representatives of different media are not interested in the truth, the public will not be interested in the media!

A picture – not necessarily reality

In order to understand why news is published in a certain way, let us look at how the media work. I think that a rather comprehensive way of describing this is to think of a painter. A painting – however good – is never a completely true picture of a certain scene. Even so, it may look very real. What makes it “real” is the fact that the important lines are drawn in a way that makes you recognise the structure of the

scene. The rest you fill in with your own imagination or prior knowledge. The same goes for the media.

If we stick to newspapers or comparable news concerning bioethics on radio and TV, there is a great similarity in what is seen as news. The focus is – or should be – on what is relevant to discuss. News is where the common focus of interest lies at a certain time. The reason why the focus changes can be discussed, but in order to make it easy for ourselves, let us for instance look at bioethical topics. These topics pop up either when new knowledge is presented or when politicians or experts want to argue for their way of looking at some problem. Most people usually begin to understand the depth of the problem only when it is described in the media and when the background is described in a comprehensive way, which may emerge from a broad discussion.

The problem is that the spectrum of possible topics, generally speaking, is too broad for newspapers. There is not enough scientific expertise in the media to handle all kinds of questions as promptly and accurately as the public – and the experts – would like. Journalists are of course trained to treat information correctly, but newspaper journalists cannot be aware of every piece of necessary information themselves, or even know where to look for it. That is where the networking comes in. A good information strategy depends on a broad network of informed persons.

Think of issues such as prions, stem cells, and cloning. Today they are well-known, but not long ago hundreds of journalists had to inform their readers what these things were all about. Since these issues could surface for example in a political debate in a government working group, there was often a need to find the answers straight away. That is what journalism often has to live with. Journalists know that they might have to find experts *now*, get them to *comment* on the issue *today*, find background information *promptly* and on the top of it all make the experts talk so that people who have never heard anything about the subject before now understand the point of bringing it up. To that you can add that only a story that is read has any importance. People are lazy. You cannot count on anybody reading more than 3,500 characters if he is not very interested in the subject. This paper, by way of comparison, consists of almost 12,000 characters.

On the beach of time

But let us make a jump to something completely different. In her book *Don't Let's Go to the Dogs Tonight*, which deals with an African childhood, Alexandra Fuller tells of a conversation with someone which she was astonished by. "We are minute", says Gerald Hartman, a German aid worker who has come to Malawi on an aid programme. He is a man who seems to be aware of the importance of our choices, "keen on saving the environment" as Fuller puts it. One evening he declares to the Fuller family:

"We are grains of sand on the beach of time. We are not important. There was a time when the planet was without people and especially with the way we are going, there will sooner or later be a time when again we are gone from this earth."

When I read those lines I found them strikingly true. In a way it hits the nerve of our guilty consciences, the awareness we have that very many things on Earth may be in the process of developing in the wrong way, or at least in a manner that is potentially dangerous. And this brings us to my point.

It is a big problem that science has developed so far beyond the horizon of the general public. There is a gap between those who think they see the complete picture and those who cannot do anything but trust or distrust the authorities. The kind of discussions on the level of principle that should always be held before making important decisions are becoming hard to conduct. And standing between those who may be quite sure they are choosing the only right way and those who feel that they do not understand anything at all, are the journalists.

The role of journalists in society

In an ideal world, decision-making is based on an informed choice. Many choices are political. Political choices are the result of a democratic process, which involves different views and the participation of representatives from different professions. This brings us to the importance of knowledge, and of relevant knowledge on different difficult issues. This is where journalism comes in. How can society identify

the problems that require majority consensus if nobody stands up and demands to discuss topics on the cutting edge in science?

Please join me on one of my favourite thought experiments. We think that we are so well-informed, so vastly ahead of the former inhabitants of this globe that we live in quite another world. But how little we actually know! Just imagine that you yourself were the only survivor of an atomic war, the only one with knowledge of this civilisation. For some reason you end up in a very primitive village somewhere in the world where the inhabitants have no technology whatsoever, apart from using fire; they live at a Stone Age level. So you say to them: “Oh you poor guys. Where I came from we could talk with each other over long distances – even between continents.” Now they look at you very suspiciously. They have guessed it already. You must be insane.

And then – you go on: “We had clean water coming from little holes in our homes. And we just had to switch on a button and we could cook food. And food was very easy to make, we picked it up all over our cities and we kept it fresh in refrigerators.” “Fine,” says the chief after a while, “why don’t you make a stove with such a button for us?” “Sorry, I personally can’t make those things. You have to have ...”

And then you mention that you don’t know anything about, for example, mining. And even if you had all the things needed you could not construct an electric stove, and of what use would that be anyhow? For heaven’s sake, don’t you understand that you lack electricity in this jungle?

I have two reasons for wanting you to imagine what it would be like to be this last person of a lost civilisation. First, this imagined discussion reveals how little each of us actually knows at a very basic level. We are lost without the support of a very complicated society where everyone is expected to do his part. Hardly anybody actually knows how to manufacture the things we are dependent on.

My second reason for bringing this up is that the general public tends to look at scientists in the same way as the guys in the jungle look at the survivor in the example. “You say you know,” they say. “Well prove it! Oh, you say you are only talking about a little molecule. Too bad, I want the whole picture. Who do you actually think you are, and why should I believe you?”

The necessity of openness

In my opinion, openness is a quality worth fighting for. There are many obstacles to openness. Let us jump directly to one aspect that journalists are always alert to; the idea that what is said is not the truth, or at least not the whole truth. Let us go back to what happened in southern Australia some time ago. The first sheep cloned in Australia – she was called Matilda – suddenly died outside the research centre near Adelaide. But what actually happened? Very soon she was cremated, which raised lots of questions.

This event took place against a background of heated discussion about cloning. Those who are opposed to cloning state that cloning as a method has not yet been refined, that we do not know enough, which is why mistakes are made, and that therefore the technique should not be used. Others think that if we get involved in the process of creating life we should at least do it properly! The truth is that mankind is already manipulating life on a broad scale. We are accepting assisted fertilisation, life can be prolonged and between life and death all kinds of different cures and medicines interfere with the natural outcome of life. But every time science takes a step forward there is a risk that this new step goes in the wrong direction. Therefore discussion is needed. In the case of cloned animals critics are saying that there is – among other things – a peculiar aging problem. Why do cloned animals not age in the same way that natural born animals do? It is in this context that the question arises: What went wrong in the case of Matilda? At which step is the mistake taking place and how is it manifested? In other words: What can we learn from what is seen in a dead animal?

Why is it so hard to discuss a matter of this kind openly? Why are experts hiding behind each others' backs, not willing to take part in a public debate on a matter of such a delicate nature? If the general public are prejudiced, why is nobody coming forward with crushing arguments against their prejudices? When discussion is not taking place, public uncertainty grows.

Today's truth may deteriorate

Let us bear in mind that science can make mistakes. For a long time, mankind lived with the idea that science was always beneficial. Today we do not have to look back very far to see that there is more than just a danger that science can be misused. We begin to see very clearly that these things are complex and that time changes the way we look at them.

Just remember the debate in the late 1990s concerning lobotomy. Lobotomy was once a small operation performed on patients with severe mental illness. The operation was at that time considered quite a good way of easing the pain, despair and aggression of persons with so called hopeless cases of schizophrenia or severe depression. In mental hospitals there was no way of keeping patients calm until some time after 1950 when an entirely new type of drugs entered the market. That revolution was so huge that afterwards it is hard to understand the kind of problems that had to be dealt with earlier. But if we now could go back in time and visit such hospitals, for example in the first half of the last century, I think that a common reaction would be to become very upset.

Patients had to be tied to their beds – to prevent them from jumping out of the windows or hurting themselves in other ways. Patients were calmed down with cold baths. People were screaming and crying and many certainly behaved in a very peculiar way. Since no drug at that time had been invented to ease that kind of pain, no relief was available. Doctors had to look for other methods.

The Portuguese scientist Egas Moniz then came up with a cure that was considered very successful. He conducted a small operation, cutting off a certain connection in the brain. This made the patients calmer. Many were actually cured. Afterwards when studies were made of how these patients had managed, it was found that the operation had helped many of them immensely. There are persons among them who later studied at universities; some even became doctors. In light of this, Moniz seemed to have solved a great problem, and in his own time he was greatly honoured. He was awarded the Nobel Prize in 1949 for devising the technique of lobotomy, and at that time his method had been practised for fourteen years in different countries. Lately, however, there has been a major debate about lobotomy, and

Norway for example has paid NOK 100,000 to around 500 patients who are still alive. Now lobotomy is considered brutal, unethical and damaging. We regard it with disgust and would never accept anything like it today.

This is, however, because there are medicines for treating mental illnesses now. Moreover, we now know that one in every five patients was severely damaged after lobotomy. Today it is also known that many patients became totally apathetic and did not take an interest in anything at all afterwards. Some even became aggressive, and a few had problems with their bladder or became completely incontinent. Another effect experienced by some was the development of eating disorders.

I picked this example in order to point out that you never know how time will change our views. We are therefore obliged to look at things from many angles and make sure that the necessary discussion involves others than experts. This is something the media can do.

Four eyes see more than two, we often say. Let us at least try to have a real exchange of thoughts. To start with, let us try to be open.

Milliways and the frustrations of bioethics

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A very odd restaurant

To connoisseurs of the British author Douglas Adams and his famous trilogy (in five parts) *The Hitch Hiker's Guide to the Galaxy*, the name Milliways signifies a lot. For the sake of those who have never heard of Mr. Adams, HHGTTG or Milliways I will begin this essay by briefly explaining what Milliways is. It is a restaurant. A restaurant that is situated at the end of the universe. The phrase *the end of the universe* does not however point to any physical location (that would be impossible since the universe, if cosmologists and astro-physicists are to be believed, seems to be shaped like a doughnut and doughnuts have no ends) but to the rather peculiar fact that it is the result of a combination of advanced dabbling with the space-time continuum and entrepreneurial money seeking out new possibilities in the catering business. The truth is that Milliways is built on *the fragmented remains of an eventually ruined planet which is enclosed in a vast time bubble and projected forward in time to the precise moment of the End of the Universe* (Adams 1986, p. 217). This is, of course, as both the author and probably you admit, impossible. To this you can add a string of other impossibilities, one impossibility being the fact that you just have to place a penny in a savings account before leaving your own place and time, and when you arrive seconds later in the future, it will have accumulated enough interest to enable you to pay the horrendous cost of a meal at Milliways. All this forms the background for one of the most recognised advertisement slogans in the galaxy: *If you've done six impossible things this morning, why not round it off with breakfast at Milliways, the Restaurant at the End of the Universe* (ibid., p. 217).

The reason that Milliways comes to mind when faced with the task of giving an impression of what happened at the workshop "Teaching Bioethics" is this: just as Milliways in many ways is an impossible idea that carries with it a certain poetic beauty and truth, so is the concept of both doing and teaching bioethics in the 21st Century a sort of poetic

enterprise full of almost insurmountable challenges, but nonetheless an enterprise which makes the world a place just a little more interesting to spend a lifetime in. And since one of the most difficult challenges within the field of bioethics is to pass on to others what little one may have grasped oneself, it follows that the workshop set itself a goal that is not easily obtained, as did the builders of Millways.

All teaching is faced with didactic problems and questions, and within bioethics, which intrinsically is a multi-disciplinary research area, these problems and questions seem to multiply like concerned bioethicists around a breakthrough in stem-cell research. This essay will describe some of these problems as they manifested themselves at the workshop. Some were almost invisible, others were flagrantly walking around Hotel Klækken in Norway (where the workshop was held), shamelessly pointing out that the problems of teaching bioethics may be very different from building a restaurant at the end of the universe, but by no means smaller.

If you've done six impossible things this morning – you have probably been doing bioethics

Far from being a comprehensive list of the challenges facing bioethicists, the following points can be seen as six problems that surfaced time and time again at the workshop, both in the lectures, discussions, group sessions, and at the few hours of talking shop each night before people passed out from what must be the most unpedagogically planned conference on didactics ever¹. They are mentioned in no par-

1. I am not just talking about constantly cancelled coffee-breaks (*"You can just take the coffee with you into the groups"* was a common phrase) or three-hour sessions without a single break. As a protestant theologian I am used to this type of work-ethics, which according to Max Weber can be explained by a very problematic relationship to guilt. No, I am talking about a conference on bioethics in a Nordic country where the bar was empty at 10 pm. Not even the most guilt-ridden protestant would make a program that would inspire to such unnatural behaviour in bioethicists. Now one might think I lament because of the missed beers, but that is

not the point. The point is that usually the most insightful, inspiring and educationally challenging talks at any conference or workshop happen in the breaks. The participants typically use the official program to polish their egos and give long monologues on their attitudes towards whatever and then, having fulfilled their academic duties, become open-minded and ready to have a dialogue in the breaks and in the evening. It is therefore of the most paramount educational value when arranging a conference that one reflects not only on the need for work-ethics but also on the need for break-ethics.

ticular order, and I assure you that I have no clear solutions to any of them. This is just an attempt to highlight questions within bioethics that it might be beneficial to reflect upon before attempting to teach bioethics to innocent students. They are put forward in the hope that at least some of the participants will recognise some of the things I mention. Otherwise you may read this as a report on what may happen in the brain of a bioethicist during a workshop.

Some bioethicists are from Mars, others are from Venus

There is an obvious lack of educational common ground between people doing bioethics. All are trained experts in some field: medicine, philosophy, theology, law, anthropology, genetic engineering, molecular biology etc., but very few have extended university-based training in bioethics. The explanation for this is that such training does not exist. Bioethics is something you do on the basis of your expertise within a certain field. This means that people doing bioethics are usually highly academically qualified within some aspects of bioethics and more or less self-taught within others. One of the more striking consequences of this is that people trained in the natural sciences tend to give the technical or scientific part of the problem a lot of attention, whereas people trained in the humanistic tradition² tend to be more interested in getting a broader perspective on the problem and see it as connected to other problems.

This in turn leads to some very unfruitful discussions, since some of the participants will be diving into what to the rest seem like unnecessary technical arguments and will only view the case in question as if it was not interrelated with the rest of the world, while some will be describing consequences that, to the rest, seem pretty unlikely and not relevant to the problem at hand. For example, in one of the group sessions we were faced with the challenge of deciding whether it was ethically right to feed farm-fish with genetically modified soy that would reduce feeding costs. One half of the group began discussing what kind of genetic modification was used, how it would affect the micro-biology in the oceans, whether the taste and structure of the fish-meat would change, what risks this imposed on the farmers, the fishing industry etc. The other half of the group began discussing the

2. And in this connection that means the natural sciences and that reflect all disciplines that come from outside upon these.

idea of raising fish in tanks and the concept of GM crops, and scrutinised our attitudes towards nature as a resource that can be used in any way that is not harmful to humans and the possible impact that biotechnology would have on strengthening this attitude.

It takes a lot of time and education to cross such barriers. Barriers such as these, that are a consequence of earlier education, have a tendency to make the two sides suspicious of one another. People coming from the natural sciences are often seen as some kind of utilitarians, which is a term that in large parts of the humanistic tradition has the same function as a sign saying “Unethical Thinking Ahead – Proceed at own Risk”, whereas people coming from the humanistic tradition have the same effect on natural scientists as the proverbial red flag on bulls, since they are seen as hopeless idealists with no understanding of the problems and solutions of the real world.

This conflict is often hidden behind a pronounced will from both sides to draw the perspective of the other side into the debate, but at the end of the day usually very little has changed and the arguments stemming from your own perspective are given most, if not all, weight³.

Bioethics in a pluralistic society

There is no consensus about the values that should guide the bioethical decisions. There is no need to waste a lot of paper on this point. In democratic, secular and pluralistic types of society such as the Nordic countries all are, at least to some degree, it is impossible to find common values to use as a foundation for bioethical decision-making – that is, unless we are satisfied with a number of different values that are kept at a very vague level and that will thus create a number of questions when they come into conflict. For example: which values should guide us when we have to decide whether genetic diagnostics should be offered as a public health service to all pregnant women and

3. This is of course a more than simplified picture of reality. There are many bioethicists coming from the natural sciences, who want to broaden the perspective and not just decide on a case-by-case basis, and there are many coming from the other tradition that are very aware that doing bioethics involves a lot of pragmatic thinking

and a will to give clear and practical advice. As a tendency it is true though, at least from my perspective. But that probably just brings us back to the problem: We treat things according to how we see them, and we see the world differently based on our different perspectives.

their partners either before implantation or in the early stages of pregnancy? To name just a few considerations, ought we to emphasise respect for the pregnant woman's autonomy, respect for the embryos, the financial benefits this could result in, respect for the feelings of those already born with a severe genetically caused handicap, or the wisdom of not reducing the human gene-pool in the light of us having no clue of its value in the future?⁴ All these values are to be debated and questioned in public and be available for philosophical scrutiny, but we will still end up with people having different values which all are, if you pursue their origins long enough, irrational or perhaps pre-rational. There is no way to prove that an embryo has any ethical significance, but there is no way to disprove it either.

The Meaning of Bioethics?

There is no consensus about the purpose of bioethics. This is quite natural since there is no consensus on the purpose of ethics. I will not give you a long list of the different possibilities that exist within the ethical literature (if one goes into detail, it seems that every ethicist has her or his own view on the matter) but just draw attention to one very large demarcation line that runs through the ethical landscape, as philosophy's answer to the Grand Canyon. To some, and here I am referring to people coming mostly from the consequentialist tradition (think of a philosopher such as Peter Singer) and the tradition that is sometimes called principle-ethics (think of Beauchamp and Childress and the "Georgetown-Mantra"), the task of ethics is to solve problems. The ethicist is, roughly speaking, seen as an expert among others. When you are having trouble with your toilet you call the plumber, and when you have an ethical problem you call an ethicist. This is, with some reservations, the idea behind the multitudes of ethical committees, councils, advisory boards etc. that have sprung out of the fertile ground of biotechnological progress over the past 10–20 years, to a degree that makes one tempted to rephrase the famous article by Stephen Toulmin and say that DNA saved the lives of ethicists.⁵

4. For an elaboration of these points see Engelhardt, H. Tristram, Jr. (1996): *The Foundations of Bioethics*. Second ed. Oxford University Press. Oxford.

5. Toulmin, Stephen (1982): How Medicine Saved the Life of Ethics, i: *Perspectives in Biology and Medicine* Vol. 25, The Johns Hopkins University Press and Milton S. Eisenhower Library, Johns Hopkins University, Baltimore, s. 736–750

On the other hand you have a very diverse group of thinkers, about whom you can say that they have very little in common with the analytical tradition within ethics. I am thinking of people who are inspired by ethicists like Iris Murdoch, Emmanuel Levinas and K.E. Løgstrup.⁶ They do not see ethics as a way of solving ethical problems. One of the main reasons for this is that if ethics is made into a list of good actions that can be formulated by ethicists and subsequently enacted by others, the whole idea of ethics breaks down. Within this tradition, ethics is a question of responsibility and of acting according to your conscience. Ethics is first and foremost a question of *being*. *Being* in situations, *being* aware of all aspects of them and acting in the right way at the right time and place according to your understanding of your own *being* and the *being* of the other. Subsequently one can formulate heuristic principles and do the consequentialistic juggling with factors, but the primary task of ethics is to make people understand that they are responsible creatures⁷. The difference is perhaps best characterised by claiming that the first tradition sees ethics as a tool to solve ethical problems with, a hammer to drive the ethical nail in with, whereas the other tradition sees ethics as a way of looking at a situation from different perspectives, not necessarily solving anything but perhaps clarifying something. The Danish philosopher Ulli Zeitler has phrased it this way:

“Essentially, the task and reasonable expectation of philosophical activity is not to solve problems, although we may advance considerably by clearing up the central concepts, but opening our eyes to previously unconsidered problems. The last function is crucial for giving new directions to future inquiries”
Zeitler 1997, p. 39

These different approaches affect the way bioethics is taught, too. If you want students to be problem-solvers, you give them the tools to solve problems, which is basically a set of principles that are more or less open to interpretation, ideas about what constitutes a good or bad life (joy and suffering) to be used in consequentialistic algebra, and a

6. In a Nordic context thinkers like Ole Jensen and Peter Kemp from Denmark and Anders Lindseth from Norway come to mind.

7. An excellent presentation of this way of thinking can be read in: Lind-

seth, Anders: Løgstrups etikk i et omsorgsperspektiv. Wolf, Jakob & Gjerris, Mickey: *Spor i sandet. Bidrag til forståelse af K.E. Løgstrups forfatterskab*. Anis, København 2002, p. 63-80.

firm conviction that doing good is a question of applying your pre-meditated ideas of the good to the situations you encounter. If you want students to resemble ethical light-bulbs, capable of illuminating the complexities of ethical dilemmas, you make them familiar with a range of different ethical positions from the tradition, train them in shifting their perspectives, and tell them it is not a failing that they cannot always do good (unless you are teaching them religious ethics, where this is an excellent point of departure for teaching them about the concepts of original sin and free will).

When has bioethics ever made a difference?

There seems to be an idea within the heads of administrators of research funds that ethics is a good thing to have, especially within biotechnology. Ever since the innocent days of the 1990s when the Human Genome Project was fuelled by massive public funding, there has been a small percentage of funding set aside for research into the social, juridical and ethical aspects of biotechnology when bio-tech research has been initiated, at least when the research has been more or less publicly funded.

Now, one should never bite the hand of the zoo-keeper, if one wants to be a happy, albeit imprisoned, lion, but I cannot help thinking that the situation is a little absurd. First, we (who is hidden underneath this *we* is a very intriguing question) decide to invest heavily in bio-tech research, under the presumption that it will bring glory and prosperous times to our kingdoms.⁸ Secondly, we pause for a moment, a little unsure of the consequences (perhaps the only moment when ethics could have made a real difference), only to continue after having decided that it is possible to check for ethical problems at the same time as we develop new ways of becoming prosperous. It might just be me who has turned into a cynic from watching too many news channels, but does it seem likely to you that *any* ethical argument can put a stop to biotechnology? I mean, if I had invested 100 billion trillion fantasillions of my own money and the money of others in a specific technology by persuading people that they would benefit

8. From my perspective the arguments for investing in biotechnology are the same, no matter what societal level you are on. From the local university, to local government, to international organisations like The Nordic Council, the EU and the UN, the argument is that research in biotechnology will bring new wealth to the world.

from this investment, how would I then react to even the most sound and obvious ethical arguments saying that I should give up all or part of my investment in the name of ethics? I would, perhaps, be willing to discuss some borderline cases and direct my research away from the most sensitive areas (e.g. cloning babies), but I would probably not say: *Oh, I see. Yes you have a point. Using genetic technology to create animals as pharmaceutical factories is ethically wrong. How silly of me. Yes, you're quite right. Well, I'll just stop doing that then.*

What I mean is that it seems a little late to start thinking about the ethical consequences of hurting people, when you have already decided to go to war. So in some sense it is already too late to discuss the ethics of biotechnology in any fundamental way⁹. We are way past the slippery slope and are already on a wild rollercoaster ride either to some sort of post-genomic paradise or to hell. But perhaps next time, when some scientists bring forward ideas that quite possibly can change the way we live, think and understand ourselves and nature, we could take the time to discuss ethics before actually beginning to change the above-mentioned things.

The consequences of the current situation for bioethics is that bioethicists are becoming akin to intellectual fire fighters, who run from one technology to the next trying to see whether this or that might ring some ethical alarm-bells. It can be claimed that people who have thought about ethics have been playing that role ever since the idea that some things might be evil even arose in the human consciousness. And that is true. But even so: biotechnology and the speed with which it is developing have raised the problem to a whole new level.

Another consequence is that ethical problems, as far as they are recognised as such, seem to be viewed as one factor among others. Any given technology can be looked upon from an ethical perspective, but this perspective can subsequently be weighed against the economic, societal, medical and juridical perspectives. This means that the value of protecting the integrity and dignity of a human being can be weighed up against corrupting him or her if the economic benefits for

9. I mean in a fundamental way that will actually *change* anything. But there is nothing stopping us from being even meta-fundamental in our current discussions, indeed many are. I just do not see how it can have any effect, when

the opponent in the discussion, in the end and when all is said and done, is money. That does not make discussions about fundamental issues unnecessary or stupid, but it does give them a rather theoretical aura.

a given group of people are deemed to be great enough. From a consequentialistic perspective this is quite unproblematic and just proves the point of consequentialism, but from a different ethical perspective one might ask if this is not the end of ethics. Lars Hertzberg has expressed the problem in this way:

“Moral considerations’ – to the extent that we take them seriously – 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.”

Hertzberg 2002, p. 56

All this might contribute to a kind of bioethical despair, where the futility of doing bioethics might overwhelm you and make you want to find another field of research. The only ones left at conferences on bioethics would then be some grumpy old men with huge beards walking around saying “*I told you so*” and some high-pitched younger women with square glasses yelling at innocent bystanders “*why won’t you listen to me?*” To avoid such a scenario it seems necessary to do three things. Firstly, to teach students of bioethics about the economic and cultural back-ground of biotechnology instead of just presenting one very specific biotechnological possibility to them and asking them to decide on the ethics of that possibility; and secondly, to focus on the “Illumination of complex problems” part of ethics instead of focusing on the “Ethics as a tool-set” part. And thirdly it would be wise to instil a deep sense of humour and some high-spirited fatalism in the students.

Who am I teaching bioethics to?

One thing that became almost painfully clear during the workshop is that the question *How to teach bioethics* is very dependent on the answers to two other questions: *Why* am I teaching and *who* am I teaching? The “*why*” question I have already touched upon. Making clear to oneself what the purpose of teaching bioethics is (or should be) seems like a vital preliminary step to take, if one is to have any success as a

teacher. Whether one chooses to educate ethical problem-solvers or problem-finders, one has to choose methods of teaching that are congruent with the educational goals.

But the “*who*” question is probably even more important. Basically, the students can be divided into two groups: Those who have had prior training in philosophy and ethics and those who are trained in the natural sciences. This means that the two groups have very different prerequisites for grasping the problems that arise from biotechnology and that the teacher has to present his or her material in accordance with the level of student knowledge in the different disciplines that bioethics contain. At the workshop this problem was hardly touched upon. Almost all lecturers and group session supervisors took it for granted that the problem at hand was how to teach bioethics to medical students. I will readily admit that this is an important question that can be answered in a lot of different ways, but it seems that it was presumed at the workshop that presenting ways of teaching bioethics to medical students at the same time covered the question: How to teach bioethics?

I believe that there is a lot of staying up all night, drinking too much coffee and hard thinking ahead in trying to answer the question of the didactics of bioethics. One question that could keep you awake for several nights is figuring out what kind of didactical problems one encounters when teaching bioethics within different disciplines (students of law create their special demands for the teacher, I am sure, just as theological students create theirs). As an example, I will just mention that one of the main problems touched upon in almost all lectures at the workshop was how to make the ethics part of bioethics seem interesting to the students. When teaching philosophers and theologians, the problem seems to be the reverse. They have a high competence-level within ethics and can be expected to find even Immanuel Kant interesting, but they often find the scientific background knowledge hard to grasp and boring. And as the teacher very often has the same educational background as the students, it can be very difficult to present molecular biology in an interesting and engaging way to a group of theology students. One suggestion that could solve this problem, which was presented at the workshop, is to have two teachers in each class – one that is trained in ethics and one that is trained in e.g. molecular biology. But it is one thing to suggest this solution; quite another to make it work. My guess is that as a model

of teaching it is highly dependent on the personal and didactic qualifications of the teachers and the relationship between them. But it should be further explored as a way of making unknown disciplines known to the students.

Another problem that arises from the fact that students have very different prerequisites due to their educational background is that this makes it very hard to teach students with different backgrounds at the same time. Gathering a group of interested students from different faculties at the university and then trying to teach them about the ethical problems connected to genetic engineering is a beautiful idea, but the didactic problems will be enormous. At the same time, it is often the case that bioethics only thrives in such an inter-disciplinary environment, where the presuppositions of both students and teachers are seriously challenged. Although I promised that I would give no solutions to the problems highlighted in this article, I will just state that one way of getting around this problem would be to begin by teaching the students with the same background separately in order to bring them up to a certain level on the subjects that are unknown to them, and then bring the students together afterwards in a common course.

These were just a few of the didactic problems that were discussed at the workshop (and to some extent not discussed). There were many others, since a lot of the participants at the workshop had teaching experience and all had encountered some kinds of problem. And there were probably a lot of ways to deal with these problems that the participants could have told each other about, some perhaps with a theoretical foundation, but the majority developed through the always interesting process of trial and error. The lack of time to discuss personal experiences in teaching bioethics at the workshop can to a large extent be explained by the strenuous schedule, but I believe it would greatly enhance the didactic value of a workshop like this if there was time to discuss these experiences, preferably in smaller groups¹⁰.

10. One might say that the lectures were meant as this sort of experience-sharing, but since most were occupied with the didactics of bioethics in relation to medical students (as I have already gone on about), it would have been fruitful to hear other perspectives.

In the larger perspective I think that the workshop in many illustrative ways reflected that a lot of the problems of bioethics come from neglecting to illuminate the perspective from which bioethics is being done and taught.

Ethical dilemmas and guilt

It is very rare that we ask people: “*Why did you do that?*” when they have done something deemed ethically good. In other words: There is no need to justify an ethical act, because we all want to be morally good (well, almost all of us. One has to admit that crooks do exist). But sometimes we find ourselves in situations where we become unsure about what the ethically right action is. There are usually three reasons for this doubt.

The most common is probably self-deception. The problem is not that we do not know what is ethically right, but that we have other reasons and motives that make us do something else. But since we all want to be good, we have to invent some sort of conflict of interests that can be used to legitimise our actions to others and not least to ourselves. It might be a worrying experience, but it is a good way to stay humble to just once in a while reflect upon the ethical value of one’s own arguments regarding e.g. eating meat. Part of doing bioethics is precisely to unmask these self-deceptions; a task that admittedly is much more fun when it is not turned against yourself.

Another reason that we might feel lost in a sort of ethical darkness is that we do not have a thorough understanding of the situation. This is a feeling that often creeps up on you, when you are faced with cases from ethical textbooks. They usually state very briefly a few facts about the persons involved and then ask you to choose the ethically right action on a matter that means life or death to these persons¹¹. The remedy in this situation is not, I repeat *is not* to grab blindly in the bag of ethical principles in search of something that might fit the situation, but to insist upon gaining a deeper understanding of the situation and the persons involved in the hope that once we understand the situation better, the ethical fog will disperse.

A third reason why we might find ourselves in the dark regarding the right ethical choice in a situation is that it might be one of those situations where there is no choice or course of action that is ethically good. From many parts of the ethical landscape it will be contested that such situations do not exist. A possible hypothesis is that almost all who hold that ethics is basically a human attempt to bring some order into a meaningless universe will say that as ethics is a human

11. The cases presented in the appendix in Beauchamp & Childress are good examples of this. See Beauchamp, T.L. & Childress, J.: *Principles of biomedical ethics*. Oxford University Press (1979) 1994.

construction, we will either have to refine our existing principles/values/calculations or reconstruct them and then the situation will be back to normal. But if ethics is seen as something that humans encounter in their lives with each other as a demand that is put forward by something other than man (God, nature, reality, the universe, life itself)¹², it is quite possible that we can find ourselves in situations where there is no possibility of being good. Since I do not have space in this essay to argue for this understanding of ethics, I will instead just give a short example.

In the current debate about using embryonic stem cells for research purposes there is a lot of calculating going on, even though the two ends of the attitude-spectrum as always have clear-cut cases. Thus to those who hold that the embryo has the same ethical significance as an adult person, embryonic stem cell research is ethically wrong in itself and nothing can justify doing it, no matter how positive the outcome of the research could be. At the other end you find those who view the embryo as nothing more than biological material that can be used as we see fit. To them the only question is whether stem cell research is so promising that it should be funded. But to the rest of us, who ascribe the same ethical significance both to the embryo and to the potential benefits in medical treatment that embryonic stem cell research might cause, it is a lot more difficult.

Some try to weigh the interests, the preferences, the rights and the ethical values that the different groups involved have against each other (embryos vs. future humans who will benefit from the supposed cures that the research will develop). A very noble occupation, but not very fruitful, because what we have here is a genuine ethical dilemma. We have two groups of entities that we are ethically obliged to care for and a situation where caring for one group leads to suffering for the other group. If you insist that the goal of ethics is to find the right or good action, you very often end up doing calculations along the lines of: *killing a thousand embryos with x-value is wrong because the potential benefits of the research and the likelihood that it will succeed is only of y-value*. Now this piece of mathematics is clearly dependent on a lot of valuing, and that valuing cannot be done in an objective way. How much value we put on an embryo or on the healing of a cancer patient, to what extent we think that the research might be successful and so

12. The Danish theologian K. E. Løgstrup calls his type of ethics *ontological* to show that the ethical demand is something that we are faced with

independently of ourselves. See the appendix article in: Løgstrup, K.E. (1997): *The Ethical Demand*. University of Notre Dame Press. Notre Dame.

on is not decided by objective standards, but by who we are as persons embedded in our relationships, societies, cultures and religions. So within bioethics you often find very firm convictions about a lot of subjects and a lot of questionable calculations to back them up. It is a little like experts who try to guess the result of a soccer match on the basis of the two teams' statistics. It is all very interesting (if you happen to like soccer), but there are no guarantees that what they predict will be remotely connected to the actual result.

One way of dealing with the problem is to maintain that ethics is a human construction that at least has to attempt to achieve an understanding of the problem that enables people to do the right thing, although sometimes on the basis of shaky arguments. Another way is to leave ethics and join politics, in the realisation that it is a dirty world where the concepts of good and bad are just relative. But I would like to argue for a third possibility, a possibility that means using the word *guilt* – a word that is mysteriously lacking in much of the literature on bioethics.

To humour me, please let us at least for now, accept that there may be ethical dilemmas where there is no way out, and furthermore accept that the question of embryonic stem cell research is such a dilemma. How are we then to decide what to do? We can always go back to our struggling to be good and try to figure out a way in which we can show that what we do is the ethically good thing in the situation concerned (or at least the lesser evil). Indeed this is what the large majority of ethical councils, advisory boards and committees have been doing for the last couple of years¹³. But perhaps we could try to

13. One noteworthy example where the word *guilt* is almost written is from The President's Council on Bioethics (US) where those who support embryonic stem cell research in a report stated that: "In sum, what is owed the embryo is not the same protections, attachments, and rights as a human person; nor is it no respect at all. In making the decision to proceed with research on embryos or cloned embryos, we must do so only for the most compelling reasons – namely, the reasonable expectation that such research will save human lives – and only with eyes open to the moral burden of doing what we believe to

be morally best. Even as we establish the biological and moral grounds for using human embryos in certain forms of research, we must face and accept the solemnity of what we propose. Finally, we must proceed with the paradox that accompanies all human suffering and human imperfection in full view: that sometimes we seem morally obligated to do morally troubling things, and that sometimes doing what is good means living with a heavy heart in doing it". The President's Council on Bioethics, Washington, D.C. 2002, Chapter 6. The full report can be read at www.bioethics.gov.

accept that ethics, and especially bioethics, is not so much about being and doing good, but about taking care of others and then asking the question: *what kind of guilt can I live with?*

To use the concept of guilt in the current bioethical discussion is the sixth and possibly most impossible impossibility that I have encountered yet within the business of doing and teaching bioethics¹⁴. This could of course be seen as a sign that I should stop using it, since it is needless and stupid. Although I cannot rule out that possibility completely, I will try very briefly to state another reason why it is so difficult to bring it in to the discussion and try to explain what could be gained from reflecting on bioethics while entertaining the idea that being human is being guilty.

I see three main reasons why the concept of guilt is so unpopular within contemporary secular bioethics. First of all it has religious connotations. Being guilty in an ethical sense simply sounds a little too much like being a sinner. And since the idea of a god in front of whom humans might be judged as sinners has no place in a secular society, the notion of being guilty, especially when that guilt, as in the case of ethical dilemmas, cannot be avoided, seems wrong. Instead of taking upon us the responsibility for our actions, we excuse ourselves by pointing to the fact that we – as in the case of embryonic stem cell research – could not avoid harming someone and that the only guilty party in the whole question must be the universe that is created in such a way that these kinds of dilemmas arise. And since we do not believe in any sort of creator either, it does not make much sense to talk about guilt in connection with a universe that can be fully understood within the natural sciences as one big coincidence, so we just forget about the matter, while telling each other that doing what we believe to be the lesser evil constitutes the ethically good action in the situation. In other words: it seems that it is impossible to talk about

14. Some will say that it is only an impossibility for those of us who feel the need to talk about guilt to make sense of some of the problems within bioethics. Many bioethicists think that they are doing quite all right without this religiously tainted concept and will probably feel that this is only a problem for some forms of bioethics, not for bioethics in general. But since

my point is that many of the problems of dealing with conflicts of interests and other more or less airy attempts to try to distinguish between different entities and their ethical value all have at their roots a fear of the concept of guilt, I will claim that the reluctance towards using the concept of guilt is a problem within bioethics in general.

guilt in the ethical sense, because it is too closely connected to a religious way of thinking.

Another reason why guilt, if it were a person, would be very lonely at a secular workshop on bioethics is that, from the “Ethics as a tool” perspective, it seems very unproductive. From a psychological point of view guilt can be seen as a negative inhibiting factor that prevents people from living fulfilling lives, or from having the energy and zest for life to make them able to help others.¹⁵

The third and most important reason why the concept of guilt is so totally absent from the current debate¹⁶ is that we have no idea of how to handle it. Guilt between living persons is perhaps the least difficult problem. The growing awareness of the need for finding ways of reconciliation between different ethnic groups is a sign that even within a secular framework the thought of forgiving is not totally lost. But if we turn to cases where the guilt is accepted as a reality (whether the guilt is caused by a deliberate action, a choice of the lesser evil or just plain carelessness) and the entity harmed is either dead or unable to enter into a dialogue of reconciliation (children, embryos, plants, mentally handicapped, animals etc.) the question becomes: how can we seek forgiveness? Since we have eradicated God as a possibility, it seems that we are faced with carrying the guilt alone. We finally end up in a situation where we find that we are existentially guilty, because we have chosen (and the reasons for this choice are not important at this point) to sacrifice an uncertain number of embryos to the benefit of potential cures for deadly diseases. This brings us into a situation where there are three possibilities, according to the Danish theologian K. E. Løgstrup.

We can give up trying to act ethically. Having failed once to live up to our ethical standards, we simply stop trying altogether, either out

15. It is very important to remember that guilt can have many faces (just as the evils we do, which make us guilty, have many faces). If one is obsessed with guilt it quite possibly has the consequences outlined above. But it is not necessarily so that one becomes obsessed with guilt, just because one recognises that one is guilty. There are both healthy and mentally disturbed kinds of guilt feelings.

16. It appears within the literature written from the “Ethics as a light-bulb” perspective (and within religiously based bioethics) but is hardly ever discussed within the prevalent “Ethics as a tool” perspective. At the workshop we discussed bioethical problems for four days and not once did anybody say anything about what happened to people who did the wrong things – although the idea that they become ethically guilty is pretty obvious.

of respect for the victims that we have already created or because we become bitter and cynical from the experience of failing.

We can deny that we are guilty and blame the evil done on society, nature, upbringing, circumstances, bad luck, misunderstandings, and chance. Only one thing is for sure – it is not our fault. This is, as I have already mentioned, probably the most common way of doing ethics – the ethics of self-deception.

The third possibility when faced with inevitable guilt (and this comes as no surprise to those who know that Løgstrup was a theologian) is to live on the mercy and forgiveness of God; to trust that God will take care of the victims that we have created and that he has forgiven us so that we have the courage to turn our attention away from our own guilt towards the needs of the other (Løgstrup 1972, p. 81).

To Løgstrup then the case is pretty clear. Either you break down, lie to yourself or become a Christian. But perhaps there are ways of dealing with guilt within a philosophical framework without having to convert to Christianity. One way, as I mentioned earlier, would be to ask the question: *what kind of guilt can I live with?* And that question should be posed both at the personal, the communitarian and the societal level.

To hold on to the notion that in some cases we become guilty in an ethical sense no matter what we do would change the way bioethics is practised and taught in a lot of ways, but I will mention just one: it would make us more humble towards the gigantic powers that biotechnology gives us to change both ourselves and the rest of nature. Being guilty means needing help, and perhaps the realisation that we need other people to help us carry our burden would make us more aware of the fact that humans are basically social creatures, created by the relationships that they are embedded in. Our lives are lives of interdependence, also when it comes to facing up to being guilty. And it would perhaps make us reflect a little more on the need for humility within bioethics, a humility that could be a safeguard against the roaming visions of biotechnology¹⁷. It might be that the realisation that ethics is not a question of securing our own goodness, but a question of understanding the needs of others and acknowledging that we

17. The American bioethicist Lee Silver has given an excellent example of what the future should not be like in his book *Remaking Eden*, although a lot of the technologies that lead to this kind of future are currently being developed.

are all guilty both of deliberate wrong-doings and in situations where we choose between evils, is the best way to ensure that we proceed with great care and humility, as we pursue all the gold that allegedly lies at the foot of the biotechnological rainbow.

And the answer is: 42

Salman Rushdie once wrote that every day asks us the question of the meaning of life and each night we lie like question marks in our beds. Doing and teaching bioethics could be seen in the same way. As I have tried to illustrate above, bioethical thinking is faced with a lot of challenges that there are no simple answers to. But each and every one of us is obliged to try to answer these questions anyway, whether as teachers and researchers of bioethics or simply as human beings who have a responsibility to participate in the decisions that will shape the way biotechnology will change our lives. Otherwise it would be unethical to continue to breakfast at Milliways.

To some, ethics is a way of making the world rational and controllable. As I think should be clear by now, I do not agree with this perspective on ethics. I rather see it as a way of discovering how complex and ambiguous our lives are, when we try to understand how, when and why we are ethically committed to each other (and indeed to the rest of nature too). In *The Hitch-Hiker's Guide to the Galaxy* a group of meta-intelligent beings from another dimension builds a computer called Deep Thought to answer the question: "What is the meaning of Life, the Universe and Everything?" Deep Thought ponders that question for about seven and a half million years and then reveals (much to the bewilderment of the descendants of the original designers) that the answer is 42. This may seem rather disappointing, but according to Deep Thought the problem is that the question was not put precisely enough. And perhaps the real problem is that the texture of the universe is such that the question and the answer cannot exist at the same time¹⁸. As soon as they are both known, the universe simply dissolves and is replaced by something even stranger.

18. A couple of the meta-intelligent beings that are very focused on commercialising the answer from Deep Thought, suggest that the question to

the answer 42 could be *How many roads must a man walk down*. But since we all are still here and the answer still seems to be 42, this cannot be true.

All of this might leave you completely in the dark, but at night when the only sound in the house is the breathing of my loved ones, and the problems of doing and teaching bioethics seem to grow like fungi in my brain and I feel like screaming or becoming a carpenter, it usually reassures me to think that the answer to all our questions is 42, and that all we have to do is to ask our questions about life, the universe and everything in a better way. And that, should we succeed and finally phrase the questions in the right way, reality would just take one step up the bewilderment-ladder and leave us once again in the same sort of interesting, fascinating, worrying and challenging ethical mess that we live in today.

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APPENDIX

The participants' experiences from the workshop

The dialogue model: group work on organ donation

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Introduction

In this report I will describe one of several group work sessions I participated in during the intensive five-day workshop. Starting with the presentations and instructions given to us, I will go on to explore the make-up of the group, as well as group dynamics. Finally, I will identify problems which arose during the group work, and suggest ways of dealing with them.

Presentations and instructions

The session started with ethnologist Susanne Lundin's description of the "dialogue model", which involved presenting two perspectives on a particular question to the audience. In this case we were presented with the perspectives of a nephrologist, Nils Persson, and of a theologian, Ulf Görman, on the question of organ donation. Persson focused on the inadequate number of donated organs, suggesting very practical ways of dealing with the problem, such as giving considerable financial compensation either to the donors or to their relatives. Görman, on the other hand, pointed out that there were significant cultural and religious differences between different countries that might explain the varying degrees of willingness to donate organs. He advocated adopting a comparative cultural perspective when dealing with such questions.

The groups were formed in such a way as to ensure that there was a random mixture of people in each group. After this we were instructed to choose and then discuss two of the five questions posed by Persson. The questions given to us (in writing) were as follows:

1. Allocation problems
 - Everybody wants “the best”
 - Who should be given “the second best”?
2. Problems with donor deficiency
 - If we only use ideal donors more patients will die while waiting.
 - With an extended donor pool more patients will receive transplants, but some of them with a higher risk.
3. Is it, for an unconscious patient with a massive intracerebral bleeding,
 - better to die because of respiratory insufficiency in the ward together with his family, or
 - better to die because of brain death during ventilation treatment in an intensive care unit?
4. Paid donors
 - Underground black market.
 - Open market with payment from the state.

We were asked to deal with the chosen questions, taking Görman’s comparative perspective into consideration. After this we were to give our views on the questions to the rest of the participants.

The group work

Paradoxically, despite the fact that the group members were picked at random, the participants of our group formed quite a homogenous whole. By training we were three theologians, two philosophers (myself one of them) and an ethnologist, so it could be said that the emphasis was more on understanding human action and culture than on the natural sciences. Other relevant factors contributing to the homogeneity of the group were the fact that we were from the Nordic countries and that five out of six of us were doctoral students. The homogeneity of the group may have had the effect that our views did not seem to conflict much, even if the discussion was very lively.

Nevertheless, we could not unanimously decide upon which questions to discuss, so we took a vote, ending up with the questions about

an unconscious patient (3) and about paid donors (4). To me this was a slight disappointment, for I would have preferred the question of “problems with donor deficiency” (2) instead of the question about the unconscious patient, as the former would have given us a fruitful starting point for dealing with the culturally comparative perspective. However, the questions chosen turned out to be very productive for the discussion.

Despite the relative harmony within the group, our different interests, knowledge and experience produced subtly different emphases. As there were no group members whose work was centred on saving human lives or trying to find cures for serious illnesses, this perspective was given less attention than in the plenary sessions. On the other hand, the theologians had experience of helping people to deal with death and grieving, so these aspects were discussed extensively. As for the philosophers, our concern could have been described as a general one for the course the Western way of life is taking, or cultural critique. The ethnologist had a scientific interest in the diversity of human experience.

Even if we were all interested in ethics, then, our points of departure were influenced by our respective fields and, in most cases, by our research topics. Not surprisingly, those whose research interests were closest to the problems posed dominated the discussion. There were no moments of silence during the group discussion; you had to be quick and determined in order to voice your own ideas. This does not mean that there was any manipulation or unwillingness to take everybody’s ideas into consideration; on the contrary, the atmosphere was inclusive and enthusiastic.

My task was to take notes and to present them later on to the other groups. It proved almost impossible to throw oneself into the turmoil of the discussion and simultaneously take notes, giving even-handed attention to everybody’s comments. Consequently, I participated in the discussion less than I would otherwise have done. In terms of power, the presenter’s role was interesting: during the discussion you had to be more reflective than active (if you wanted to get your job done, that is) but you did have the opportunity, or even the obligation, to point out some ideas which had crystallised within the general flow of thought, and afterwards you were the one who got the final say. This role with responsibility, however, was not as much fun as participating freely in the discussion.

How did, then, our thoughts flow? The question of the unconscious patient was dealt with first. It was suggested that the very question was not correctly phrased, but that it was designed to present the patient as someone without interests of his own, and therefore as a material object. Attention was drawn to the overall process of death, including the feelings of the relatives. In general we were concerned with the possible objectification of the body and the possible disregard of the mourning of the relatives. The idea of the body as spare parts also came up with the question of paid donors. It was considered to be unfair that rich people could have more alternatives (whether to keep two kidneys or not) in the market of global moral economy. Here we were able to bring our work to a conclusion consisting in a common declaration of principles: instead of giving financial compensation to donors, we recommended donating organs as gifts, seeing the gift aspect as an important factor to be maintained in the society.

When it was time for my presentation, so many groups had already dealt with the question of paid donors, that I had to willy-nilly give our views on the question of the unconscious patient (3). I introduced the points discussed above, only in more detail.

The drawback of being one of the freely discussing group members, is, of course, that your views may be overlooked in the presentation. To me it seemed that the presentations were always biased, regardless of the presenter's intentions. Often I heard comments like "it is surprising that this did not come out in your discussions" from the teachers in charge, followed by a murmur from the group: "in fact, we *did* discuss it". Because of this, it is important that the other group members feel free to add their views, when they feel something important has been left out. In this case, the big crowd and tight schedule in the plenary sessions did not always encourage additional comments to be made. After my presentation, however, one of our group members added his views, which I experienced as a welcome support.

In general, my feelings about the session and the group were very positive, so even if I now turn to look at some problems within the group work, I want to emphasise that, all in all, the session was a success.

Problems in the group work

The general problem with the groups' way of dealing with their task was identified by Susanne Lundin as paying too little attention to the cultural aspect, and, consequently, posing most of their questions to the doctor and hardly any to the ethicist. I agreed, for throughout our discussion I had the feeling that we were not able to go into cultural comparisons very much. On the other hand, when talking later to the other group members, it was obvious that each of us had a slightly different understanding of what had been discussed – in somebody else's opinion we had covered the cultural differences.

However, there were reasons why this tendency to lose focus on the model of cultural dialogue may have arisen. First of all, at the time the instructions were given there was quite a lot of noise, so it was difficult to understand them clearly. Secondly, the way the task was designed made it easy to slip into considering only the questions asked in Persson's paper, without taking Görman's ideas about intercultural comparisons into consideration. An easy solution to this problem would have been to hand out sheets with exact descriptions of our tasks, accompanied, preferably, by more detailed questions including the cultural-comparative perspective. When you have something concrete in your hands, you tend to refer back to it for guidance. In this case we had only Persson's questions, and these were what people tended to lean on, trying to "solve" them, whereas Görman's views seemed to have only an assisting role in the task.

It might also have been useful to include a free discussion between Persson and Görman, so that they could have explored what were in fact the most significant differences in their views. Another question is, of course, whether we as Westerners still tend to regard ethical problems as partly or mainly technical or practical problems, and therefore prefer a doctor's guidance to that of a theologian.

The use of problem-based learning (PBL) in teaching bioethics. The case of genetically modified food (GM food)

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Introduction

I will here describe my experiences of and reflections upon the group work sessions involving Problem-Based Learning on the fourth day of the Teaching Bioethics workshop. Before the group work began, the debate over ethics and GM food was introduced to the course participants in a talk by Aina Edelmann (Federation of Norwegian Agricultural Cooperatives). She focused on the difficulties in the strategy of offering technological solutions (such as GM food) to problems which she defined as political (such as world hunger). Additionally, Einar Mäntylä (ORF Genetics, Iceland) gave a talk emphasising the problem of perceived and actual risk connected to the production and use of GM food. We were also introduced to the basics of using Problem-Based Learning (PBL) and role play in teaching by Marianne Ødegård (School Laboratory, University of Oslo).

Five groups participated in two group work sessions, both ending in a plenum presentation and final discussion. The theme of the first session was to find relevant problems within the theme of GM food for students to work with using the method of PBL. Each group had to construct one problem, which then served as the basis for the second group work session, where the different groups worked with the problems formulated in the first session.

I will mainly report on the discussions in my own group. Additionally, I will present some of the ideas from the plenum discussions.

Problem-based learning and bioethics

I will briefly summarise some basic theory of PBL, which served as a starting point for the course discussions¹. One possible description of PBL is that it is a student-centered, group-organised type of learning, where the focus is on solving specific problems, and that it is a form of learning which builds on the prior knowledge of the students. The role of the teacher is supposed to be non-authoritative, like a facilitator, a moderator or a guide. One possible step-by-step model of PBL, which served as a basis for the group work sessions, is presented below:

1. Confronting the problem
2. Identifying the nature of the problem, organising prior knowledge on the subject
3. Designing a plan for solving the problem, identifying the resources needed
4. Gathering information
5. Applying gathered knowledge to solve the problem

Marianne Ødegård underlined that even if she presented us with a step-by-step method of how to proceed through a problem, it is very important to fit the method of PBL to the particular problem chosen. Ethical problems might require a different approach than, for instance, medical ones. Many consider it difficult, if not impossible, to find the one correct solution to a particular ethical problem. There could be several equally correct solutions, or perhaps no clear solution at all. Based on this, the goal of using PBL in bioethics is often to enable the students to see more clearly the various options, views and values involved, rather than “solving the problem”.

1. For the most based on Marianne Ødegård's lecture notes

The problem of formulating a problem

In the process of formulating a suitable problem for a PBL approach to teaching GM food bioethics, my group discussed the following main points:

- A. The choice of target group for the problem
- B. The rationale for selecting this particular problem
- C. The phrasing of the problem

A. Target group

It was first suggested that we should find a problem suited for the general public, however we ended up agreeing on a specifically defined group of students, namely molecular biology students in their third year. The main reason for our choice was that these are students with a considerable amount of knowledge in the field of molecular biology, and for whom we recognised a need to consider ethical perspectives in their field that are not necessarily connected to the discussion of risk and benefit². It was suggested in the discussion that the debate surrounding the risks and benefits of GM food is, in general, the main perspective presented for these students when approaching ethical problems. Another reason for choosing this target group was that molecular biology students should be a prioritised group when organising bioethics courses, as they probably will participate at the forefront of the future development of GM food.

B. Rationale

We discussed the following points as a rationale for our problem:

- There are surveys suggesting that increased knowledge of the science behind GM food does not necessarily lead to increased acceptance of GM food among the general public. This being the case, it seems that the rest of society does not share the values held by many scientists, and that more reflection on values is needed within science itself³.

2. This touches on the rationale for the problem, thus the discussion was not quite as systematic as presented here.

3. This point is taken from the lecture by Peter Sandøe

- Risk analysis is often the main approach used when discussing problems of GM food. The risks involved using the technology are of course an important matter; however, it was suggested that it is essential to discuss other aspects than risk in bioethics courses. Thus, we decided to choose a problem not focusing on risk analysis.
- Molecular biology students should be able to understand different bases of public scepticism towards GM food, and which factors are crucial for the attitudes of different people.

C. Phrasing

Based on the rationale described above, we chose to formulate the following seemingly simple problem:

Why are people afraid of GM food?

Our idea was that this question can be a good starting-point for obtaining a deeper understanding of the scepticism towards GM-food in the general public. One problem of the phrasing may be that the question seems to anticipate a rather straightforward answer. The teacher should in that case suggest that the answer may not be as simple as lack of knowledge. The results of the surveys concluding that knowledge does not necessarily lead to higher acceptance of GM food could be given as background information. Working with this question through discussions and information gathering, the students will hopefully be able to detect and map different values and ethical positions that may lie behind the low acceptance of GM food.

Other themes discussed in the group that could serve as the basis for formulating a problem for PBL were:

- the relationship between perceived risk and measurable risk
- the precautionary principle and scientific uncertainty
- how does the future of GMO relate to the goal of the green revolution?

Evaluation of the problem

The problem formulated by my group, was worked on and evaluated by another group during the second group work session. The question “Why are people afraid of GM food?” was found by the other group to

be too open, and it was therefore suggested that the problem should be reframed, resulting in the following phrasing:

Do we as scientists have an obligation to understand people's attitudes to GM food? How do we handle this obligation (if it exists)?"

This is a more focused question, but it may lead to a different discussion than we aimed for in the rationale. It was suggested in the plenum debate that one difficulty attached to open questions is that they can easily be interpreted so as to fit certain solutions. A corresponding difficulty of very detailed problems is that they can point the students towards a specific manner of solving the problem, and the students may thereby overlook other important aspects.

Further, the group which was assigned to solve the problem formulated by my group suggested that information to solve this particular problem could be gathered from experts on the public's understanding and evaluation of science (e.g. psychologists, ethnologists, sociologists). Information may also be found on the internet, in newspapers and by discussing surveys. Role play may be used as a method for discussions. The group also pointed to the importance of the group instructor in guiding the students in the information-gathering process (e.g. helping them find sources on public attitudes towards science) and in clarifying what the criteria are for ethically relevant arguments.

Problems formulated by the other groups

The four other groups formulated the following problems:

1. GM soya for food and feed is developed by a company. GM soya for fish feed might replace the need for fish used for fish feed, which constitutes an ecological benefit. GM soya will spread, which constitutes ecological disadvantages. Identify the problems of allowing the GM soya. (Target group: Students of multidisciplinary background).
2. You are at the lunch buffet at a conference hotel, and all sorts of food is placed before you. Which food is ethically ok to eat?

3. Round-up ready yams in Eritrea. The multi-national biotech company Monsanto is financing research by Eritrean scientists to develop yams that are resistant to the herbicide, Round-up. The technique involves the transfer of a gene from soil bacteria to the yam to make it herbicide resistant. What are the problems and benefits of developing this technique?
4. At McDonalds you can choose between different products. If you buy a menu with meat you will eat GM vegetables and meat from cows treated with growth-hormone. If you buy a vegetarian menu you will eat GM vegetables. If you eat nothing you might be socially excluded from the group (and you will be hungry). What problems arise from the different ways of acting? (Target group: School children, age 15).

The problem of solving a problem

My group had the opportunity to work with problem no. 4, and we discussed the following main points:

- A. Evaluation of the problem
- B. How to work through the problem using PBL
- C. The role of the teacher

A. Evaluation

The following comments were made in the group discussion:

- A feature which makes this a good problem is that it addresses an everyday situation familiar to many teenagers, and where there are several important ethical issues involved that may catch the interest of the students.
- A problem with choosing McDonalds as the setting for the problem may be that focus easily is steered away from GM food, as there are so many other ethically intricate issues connected to this company (issues involving for instance rain forest destruction, personnel policy, health). As we experienced in our group, the discussion was difficult to keep on track.
- Some found a more or less hidden negative attitude towards McDonalds in the phrasing of the problem, which could steer the discussion in a certain direction.

- Some participants from the Baltic countries pointed to the fact that the problem may not be as relevant to young students there, as McDonalds is not as widespread and may have a different status than in other Nordic countries.

B. Working through the problem

The group did not have enough time to work through the problem using the full method of PBL, but we managed to work through a short version and produce some points through organising our prior knowledge and asking group session leaders for more information on certain points. We found the problem to have three parts, and found that the main ethical discussion was related to the two first parts:

1. Problems arising from buying a vegetarian menu with GM vegetables:
 - Many people hold a principle that humans should not change the hereditary material of living beings. This principle could be based on different sets of values, different religions or moral standings, which should be further explored in the continued work with this problem.
 - There is a risk of genes spreading to wild populations, which might cause significant ecological alterations.
 - There may be a health risk connected to eating GM vegetables.
2. Additional problems arising from buying a menu with both meat (produced using growth-hormone) and GM vegetables:
 - The worry of producing “Frankenstein animals”.
 - Animal rights and animal welfare.
 - Fear of disease.

For further exploration of these issues, it was suggested in the group to gather more information on both technical issues like the use of growth-hormone in meat production, health risks and the risk of genes from GM plants spreading to wild plants. More information was also needed on ethical issues concerning animal welfare and on ethical theory in general, for instance regarding rights- and principle-based ethics.

C. The role of the teacher

The following points about the role of the teacher came up in group and plenum discussion:

- It is important for the teacher not to get too involved in the group discussion. The teacher should rather function as a moderator if the discussion is heated or dominated by certain individuals, or as a facilitator if the discussion is slow.
- The teacher should focus on keeping the discussion ethically relevant.
- The teacher is important as a guide in gathering relevant information.

Final comments

An important experience many had in group and plenum discussions was the ease with which we lost sight of ethics in the discussions, even if the problems were designed especially to stimulate ethical debate. Many groups used most of the time discussing scientific questions and felt that the information most needed was various types of scientific information. It is therefore essential that the teacher or group leader emphasises the importance of the ethical dimension both in creating the problem, in discussions and in information gathering.

PBL does not consider students as “empty vehicles” to be filled up with knowledge. On the contrary, the method is based on the assumption that students have a certain level of knowledge on the subject chosen, knowledge which they can use to develop a greater and deeper understanding of the issue in question. The students themselves approach the problem, discuss what information is needed, and gather the information, which is then used to discuss and develop possible answers. Taking a course in bioethics will necessarily involve a considerable amount of self-scrutiny, and perhaps also changes in personal attitudes or the developing of a stronger foundation for one’s present views. With this in mind, PBL seems to be a good method for teaching bioethics, as the students’ individual resources and value-basis are actively used and challenged.

Exercises in values and argumentation

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The following is an overview and some general thoughts arising from my own personal experience regarding the “Teaching Bioethics” workshop that took place in Klækken, Norway. To begin with, my experience in teaching ethics and bioethics is very short. I have been running medical ethics seminars for first year students of medicine at the University of Tartu for a couple of years. In addition, I have put together and co-taught a course on bioethics aimed at students of philosophy, the social sciences and also genetics and biotechnology (both at BA and MA levels). Clearly, these have been very different experiences both for me as a teacher and for the students. The event in Klækken was geared towards teaching bioethics as interdisciplinary material in itself, and to a lesser degree addressed the issue that bioethics can also be a rather different subject for different audiences. Nevertheless, over the course of the five days, we were immersed in a multitude of techniques which can be used for bioethics teaching, from casuistry to narrative approaches, from problem-based learning to value exercises. Supposedly we would then all be able to select the appropriate technique for the audience in question.

My examples will mostly focus on the second day of the event, but many generalisations are probably applicable to the entire workshop. The second day of the event focused on the analysis of ethical problems and exercises in values and argumentation, with special focus on cases from the beginning and end of life. Thus the ‘classic’ bioethics issues of abortion, IVF, severely disabled newborns on the one hand, and euthanasia, organ donation and transplantation on the other, were discussed. The morning session was chaired by Gisela Dahlquist from the University of Umeå, who started by giving a short lecture on the actor model of ethical analysis. We were then randomly divided into groups of five to eight people, and given a specific bioethical case to analyse. I found this method of first introducing the technique and

then applying it straightaway in group work most useful throughout the workshop. Of course, just thinking out of mere curiosity, it would also have been interesting to apply various techniques to the same case and examine the outcomes; but considering the shortage of time, it is understandable that this was not done, and with the knowledge provided, we should be able to do that ourselves.

The second part of the day, chaired by Susanne Lundin from the University of Lund, centred on issues relating to the end of life. This session followed a similar pattern of lectures and group discussions.

In the course of the group work, the participants had to “position” themselves into various roles and give arguments for certain decisions. At the same time as we replicated the circumstances of specific cases, taking on the roles of actors in these cases, we, the teachers of bioethics, practising doctors and researchers, were also put in the position of students, because many of the group work exercises were the ones that teachers of bioethics ask the students to complete throughout various courses.

This was certainly an interesting experience for me, especially by forcing me to take a specific stance on a particular case. When teaching (bio)ethics, I have very often found myself focusing instead on providing as many varied arguments as possible, and on voicing positions not brought up in particular discussions. Consequently and surprisingly, I suppose that often there has not been a structured position available from the teacher’s point of view. Now, I don’t think that a teacher should always make public his or her personal point of view on a case, especially with younger students who often feel the need for a definite and final ‘right’ answer and a solution to a given problem. But I admit that group work succeeded in forcing me to have a new experience (it is important to stress my background in philosophy here, which means that I myself have never before been taught bioethics; this is most probably not the case for doctors, for example).

Group work provided a much-needed opportunity for proactive thinking, instead of the usual passive listening and writing in similar courses. The cases themselves were not anything out of the ordinary, but the very process of discussion, with argumentation for and against, was a useful experience that teachers themselves rarely get to do.

I found the composition of the group of participants almost perfect for such seminars. The representatives from various relevant disciplines as well as from different regulating and advisory bodies guaranteed the interdisciplinarity that the discussion and teaching of such a topic very much needs.

But at the same time the Klækken event confirmed a similarity of thinking between everyday medical practitioners and bioethics teachers from other disciplines. Having said this, in a few cases I thought I noticed a line of thinking arising, for example, from the “philosophers’ camp” being perceived as odd or even unacceptable by medical people (concerning organ transplantation, for example). On the other hand, philosophers sometimes voiced discontent at case analysis focusing predominantly on the medical details and insufficiently on the ethical aspects of the case. In general, however, these were the exceptions. It follows that the differences in people’s backgrounds did not seem to create systematic differences in group discussions. Thus my personal experience in participating in various group exercises was very positive.

Finally, a few notes on what could possibly have been better. What I missed the most (and this is again based on my own limited experience, although similar opinions were voiced by others as well), was the sharing of actual examples from prior teaching experience. Three elements in particular could have been shared and discussed if the occasion had been given. First, short overviews of the content of courses (syllabuses) taught by the participants.

Next, overviews and discussions of resources (bibliographies) used in teaching bioethics would have been of great interest – what currently exists and how it is used, what sources are best and why, and what is missing. This could be used to analyse and evaluate the material our teaching is based on.

Thirdly, comparative perspectives arising from among the participants on the subject of teaching different student audiences (how to teach philosophers vs. medical students vs. biotechnologists) would have been most beneficial and interesting as well. It would also have been useful to identify differences and similarities in teaching among Nordic and Baltic countries, although I realise that the direct aim of the workshop was to provide quite straightforward practices for teaching bioethics. I only hope that NorFa together with the Nordic Committee on Bioethics will continue with this fine event, and if so, I am certain they will succeed in transforming an already excellent educational occasion into an even more complex and beneficial one.

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