

**In Search of Common Values
in the
European Research Area**

Pieter JD Drenth
Ludger Honnefelder
Johannes JF Schroots
Beat Sitter-Liver
Editors

Colophon

ALLEA - is the Federation of 53 Academies of Arts and Sciences in 40 European countries

ALLEA - advises her member academies, acts as a platform for her members and offers advises in the fields of science and science policy

ALLEA - strongly supports ethic ways of dealing with science, science policy and public policy in general.

ALLEA – ALL European Academies
P.O. Box 19121
1000 CG Amsterdam, The Netherlands
Tel. +31 - 20 - 5510754
Fax +31 - 20 - 6204941
E-mail secretariat@Allea.org
URL <http://www.Allea.org>

ALLEA
President
Prof.dr. Jüri Engelbrecht
Vice President
Prof.dr. Nicholas Mann

Staff
Dr. Johannes J.F. Schroots, Executive Director
Maarten G. Langemeijer, MA, Executive Secretary

Content

Foreword	7
<i>Frits van Oostrom</i>	
Preface	11
<i>Pieter J.D. Drenth, Ludger Honnefelder, Johannes J.F. Schroots & Beat Sitter-Liver</i>	
Introduction: Basic Questions	
Autonomy and Independence: Key Concerns for an Academy of Sciences and Humanities	15
<i>Pieter Drenth</i>	
Credibility in Science and Scholarship	23
<i>Jürgen Mittelstrass</i>	
The Limitations of Science-based Political Advice	29
<i>Jean-Patrick Connerade</i>	
Fundamental Ethical Issues	
Common Moral Standards in Europe	37
<i>Ludger Honnefelder</i>	
Ethics, Politics and Research	49
<i>Jérôme Vignon</i>	
Towards Common Values of the World Research Area: Autonomy, Responsibility, and the Humanistic Tradition	55
<i>Ayşe Erzan</i>	
Ethical Demands and Economic Decisions	61
<i>Brian Heap & Flavio Comim</i>	

Related Approaches

Common Values in the European Research Area: The Role of the European Union <i>Rainer Gerold</i>	79
Ethics and Politics. The Activities of UNESCO in the Area of Ethics <i>Henk ten Have</i>	87
Teaching of Ethics in Russia <i>Ruben Apressyan</i>	99

Ethical and Moral Impact: Three Cases

Biomedical Case

Research on Human Embryonic Stem Cells and Cloning for Stem Cells <i>Michel Revel</i>	111
Human Embryo research: A few Reflections on Ethical Issues <i>Andrzej Paszewski</i>	127
Comments on Human Embryo Research <i>Hans Galjaard</i>	133

Case of Migration

Bridges Between Research and Policy? The Case of Post-war Immigration and Integration Policies in The Netherlands <i>Rinus Penninx</i>	139
Migration to Europe and the Question of Common Values <i>Hans-Rudolf Wicker</i>	159

Case of Environment

Scientific Advice on Environment and National Politics 173
Jan H. Koeman & Jan D. Schiereck

Sustainability and International Solidarity 189
Oleg Suša

Epilogue

On the Wilderness ALLEA Must Help to Cultivate 201
Beat Sitter-Liver

List of Contributors 221

Foreword

*Frits van Oostrom**

Ladies and gentlemen, dear colleagues,

It is both an honour and a pleasure to welcome you here in the Trippenhuis in Amsterdam, home of the Royal Netherlands Academy of Arts and Sciences, and to open your conference.

The pleasure is firstly a personal one. Having only taken the office of president two weeks ago, and already being able to welcome you all here, is almost like hitting the jackpot at a first try. I'm only sorry that my schedule doesn't allow me to get to know all of you better at present, since there are many new matters that I need to attend to these days. On top of this, I'm also desperately trying to complete an extensive book this summer. But I promise you that next year I will try to be an as full and active participant in ALLEA's activities as the rest of you.

Much more important than my personal pleasure, is of course the institutional one. As you all know, the Dutch academy has been a strong ALLEA supporter since the start – and this is mainly thanks to the personal engagement and vision of the then president, my predecessor at this Academy, Pieter Drenth. I thank and salute him for all he and his staff have once again done for this conference and for ALLEA over the years. I truly feel that it has been worth all the trouble, and that it is indeed of the foremost importance that we as European Academies collaborate. In this respect, it may seem as if we are only following the paths set by politics and economics, and chronologically this is strictly speaking so. But ideologically, this is certainly not so – in fact, I think that the field of science and scholarship is in the forefront of the European movement.

The field of science and scholarship can really bridge national boundaries to an extent found almost nowhere else. It has done so ever since universities were created in Europe in the Middle Ages, and students and scholars travelled from Budapest to Coimbra to Edinburgh,

* President of the Royal Netherlands Academy of Arts and Sciences

involved in an endless exchange of ideas. We as academics are all so familiar with this culture of exchange, that we take it for granted, but it is in fact a wonderful and even miraculous thing: wherever we visit universities throughout the world, even for the first time, we feel right at home, among colleagues, and can engage in a mutual undertaking in such a natural way that it is unlikely that any other profession could do likewise.

In this respect, I think it is of great importance that the sciences lead the way in reaching out and crossing boundaries, and counteracting narrow local and national sentiments. This is all the more important since we as academics are, through our members, involved in what is probably the most important task for the future: educating the next generation of European elite, now our students, and soon to be executives themselves.

But all this only works if it is more than just a symbolic engagement. ALLEA should not be restricted to form, but be filled with actual and valuable content. In this respect, I want to compliment you on the choice of this year's conference theme, which is a very timely one. From a Dutch context, it has not been that long, if I understand correctly, that the values and ethics of science and scholarship have been a matter of serious and collaborative consideration. Of course, there have always been ethical matters, but they have mostly been settled ad hoc, individually and discretely – which doesn't necessarily mean incorrectly, but without much collective awareness, let alone discussion.

In fact, I think I've seen it increase during the three decades that I've participated in academic life: early and strongly in medicine and law, thereafter spreading to many fields that I should think that currently practically every field of scientific study is in some way or other concerned with issues regarding values and ethics. On reading the *Chronicle of Higher Education*, which reports on some ethical matters at one or more American universities in every weekly issue, I expect this theme to become of increasing importance in Europe during the next years too. We as Academies are the institutions at which people, inside and outside the academic profession, will be looking to take a stand and help to face these issues. Of all intellectual institutions we - more so than universities that are always heavily involved in their self-interests - are the ones people will be looking at for an impartial and

wise view on these matters. In our countries, we are all somewhat the conscience of science – and this being so, ethical concerns should be at the heart of our concerns, as academies, and as ALLEA.

One final remark, if I may. Ethics in science is usually primarily associated with matters of commandments and limits: what one can do, and shouldn't do, where lines are crossed and what one should be obliged to do and refrain from doing. These are, of course, very important matters, and deserve thorough consideration. But besides this almost restrictive side of scholarly ethics, there is also, I think, a vast idealistic dimension to ethics: awareness of the responsibility of science in society, and of the contribution that science can make to a better world. I was very happy to see that these matters are also addressed in your programme, and I hope that your conference will pay equal attention to both the high-minded and the restrictive side of ethics in science. I think that from experience you will agree with me that scientists are not particularly better or more noble people than anybody else, but that science as such is one of the most truly noble endeavours of mankind, and deserves a matching *noblesse oblige*.

Thank you very much for being here: the Royal Netherlands Academy is proud to be your host, and I wish you an illuminating and inspiring conference.

Preface

On 19-20 May 2005, a conference on science and ethics was held at the premises of the Royal Netherlands Academy of Arts and Sciences in Amsterdam under the title *Common Values in the European Research Area: European Scientists and Scholars Meeting their Responsibility*. The conference, nicknamed Amsterdam +8, was the follow-up to a similar 1997 conference on the subject *European Science and Scientists between Freedom and Responsibility** at the same venue. Predictably, the 2005 conference reached consensus on certain issues, which allowed some conclusions to be formulated, although even more questions remained unanswered and even more problems unsolved.

One of the more pertinent issues in respect of the latter is the multiplicity of moral convictions and ethical positions in Europe regarding a variety of key socio-political problems with which we are faced, and in which regard scientists and scholars are asked for advice and help. The European Union (its Council, Parliament and Commission) is confronted with a plethora of competing moral positions with respect to many of these problems, thus hardly having any chance of achieving a consentaneous set of values and normative rules that would provide a way of addressing these problems. Many of these normative controversies are related to, or even created by, scientific achievements and discoveries, or by the technological advances resulting from their application. Given the present topicality of this discussion, a further reflection on and discussion of this important issue seem useful and beneficial.

Since the issue at hand matters greatly to academies and societies of sciences and the humanities, it was a logical step to organize a conference on behalf of the European Federation of National Academies of Sciences and Humanities, *i.e.*, ALLEA | ALL European Academies, together with *Academia Europaea* and *EuroScience*, two European societies of individual scientists, scholars and engineers. The small scientific organizing committee (Beat Sitter-Liver, Ludger Honnefelder, Mario Losano, Johannes Schroots, and Pieter Drenth) invited a number of well-known experts to clarify some of these topics as well as a high-level audience to participate in a constructive debate.

* Drenth, P.J.D., Fenstad, J.E. & Schiereck, J.D. (Eds.)(1999). *European science and scientists between freedom and responsibility*. Luxembourg: Office for Official Publications of the European Communities.

Scientists and scholars from 53 Academies in 40 European countries with a special interest in science and ethics were present. We thank the European Commission for its financial assistance with a number of Central and Eastern European participants' travel and other expenses, as well as the Royal Netherlands Academy of Arts and Sciences, in particular ALLEA's Secretary Maarten Langemeijer, for their assistance, support and the facilities provided. The four editors of this conference's proceedings, published as Report 4 in ALLEA's Report Series, accept final responsibility for collecting and editing the papers and for the Report's composition.

*Pieter Drenth
Ludger Honnefelder
Johannes Schroots
Beat Sitter-Liver*

Introduction: Basic Questions

Autonomy and Independence; Key Concerns for an Academy of Sciences and Humanities

Pieter J.D.Drenth*

Introduction

The first Academy of Sciences was created by Plato in the 4th century before Christ. The location was actually a grove outside Athens where the hero Akademos was honoured, and where sport and exercise were practiced as an essential part of young men's education. When Plato chose that piece of ground he was not primarily interested in continuing physical training of this kind, but in providing a school for the practice of philosophy, which he considered essential for a properly functioning political and governmental system.

There is more symbolism in this onset of Academia: The grove from which academies take their name was situated just outside Athens, outside the center of public life. A walk in that area afforded excellent scope for philosophical reflection, inspired not by a wish for isolation, but by the desire for independent research and reflection. Both now and at that time, this independence is and was a matter of immense significance, not only concerning scientific analyses and evaluations, but also concerning the Academy's advisory activities in particular. The emperor Justinian did not realise that he was curtailing a vital source of political life when he closed Plato's *Akademeia* a millennium after its founding, because its views were not in line with his own, and therefore considered injurious to his ruling.

In the following, I hope to demonstrate that this independence and autonomous position of an Academy are of crucial importance in respect of its contribution to the advancement of science as well as to the welfare of society and humankind.

* President h.c. of ALLEA | All European Academies (*i.e.*, European Federation of National Academies of Sciences and Humanities).

Science and policy-making: Two different worlds

The clear distinctiveness of science and policy-making should not be questioned. In the former, the principal norm is verity and the motivating force, the search for the truth. Policy-makers are led by political calculations, utility, moral attitudes and value preferences. They may listen to scientists and may use their findings, but the ultimate criterion is political feasibility and attainability and not veracity.

I do like to emphasize that the distinction is not to be regarded as that between certainty (of knowing) and uncertainty. It would be a misunderstanding if scientific input were to be mistaken for certitude and definite knowledge. There is, of course, solid and experimentally validated knowledge. But more often the scientist's knowledge is less solid, uncertain and incomplete. And in particular with respect to many sensitive and pressing questions in society, this knowledge is certainly of a probabilistic or contingent nature, due to either ontic (really existing in the outer world) or epistemic (insufficiently measured or known) uncertainties. Needless to say, feckless claims and unjustified solidness with respect to this probabilistic and uncertain knowledge are harmful indeed.

It is important to keep this distinction in orientation between scientists and policy-makers in mind when the advisory role of science is at stake, and in particular when scientists are asked to give their opinion on sensitive and weighty political issues. They can offer proper and careful analyses of the problems at hand, they can point to the (high or very low) probabilities regarding certain outcomes and risks involved, they can denounce stereotypes and prejudices, they can show that certain anxieties have no statistical justification, or that great optimism is not warranted given the available evidence, but they should not take over the responsibility from the actual decision makers. It is not up to the physicist to establish whether or not nuclear energy should be exploited. It is not up to the ecological biologist to decide on the maximally permissible level of automobile exhaust gases. It is not up to the psychologist to decide whether deeply depressed, incurable patients should be allowed euthanasian termination of life. Then we would require too much responsibility from scientists. As Wolpert (1989) once said, it would give power to a group that is neither trained nor competent to exert it.

Breaking the rules

The distinction, as defined above, should be acknowledged by both parties - the scientist and the policy-maker that seeks advice from the scientist. Confusion of the two spheres leads to disordered argumentation, to a false impression of things and to obscure decision-making.

Sometimes it is the policy- and decision-maker who breaks the rules separating these two spheres. He starts arguing against scientific facts, or about scientific interpretations. Sometimes he engages other scientists who are willing to argue against unwelcome research findings. Examples are medical researchers' subversive activities in the service of the tobacco industry *vis-à-vis* the research on passive smoking's effects, or the Bush Administration's scientific advisors attacking the Kyoto Treaty's scientific assumptions.

But for our purpose it is more interesting to have a look at those scientists who seem to be breaking these rules. Does it occur, and if so, in what form? We can distinguish three types of 'trespassing' that differ in the extent to which they violate science's independence criterion.

(1) A first category is constituted by researchers' tendency to focus too emphatically on the policy and practical implementations of their research. The operative word here is the adverb "too". I am not suggesting that scientists should refrain from contemplating the useful application of their findings. On the contrary, I have time and again repeated that scientists' responsibility for what happens with their results goes beyond their laboratory doors. But the line between scientifically substantiated conclusions for policy and personal preferences and opinions is thin. Mixing the two makes the debate on *scientific* input's added value confusing.

(2) A second danger is caused by scientists who give their opinion on political and social issues without speaking as (applying) scientists. They give their opinion (often in the popular media) on issues for which no empirical evidence is available, or at their disposal (for instance, because it is not their field of expertise). Nevertheless, when speaking as scientists, this creates an illusion that such evidence is available. The words of esteemed scientists (Nobel laureates are often abused for this purpose) will have a particularly strong impact. Of course, scientists have a right to express their opinion on political and social issues like every other citizen, but the misapprehension that their opinion is more valid than that of other citizens should be dispelled.

(3) A third, and the most serious, violation of science's independence is the attempt to reach conclusions that are welcomed by and favourable to the policy- or decision-maker. This can take the form of straight-forward *fraud*, including the fabrication, falsification, or trimming and selective use of data. It can also take the form of what can be called *deceit*, an attempt to lead the reader up the garden path by, for instance, deliberately violating the rules of data analysis and processing, by gross negligence in sampling, or by incorrectly suggesting that conclusions are based upon empirical data (see also Drenth, 1999).

As indicated, the most serious violation of science's independence is caused by the third category in which science's integrity is gravely endangered. Of course, this can be rooted in personal factors, such as dysfunctional ambition, vanity, desire for recognition, or personal gain. But in line with our argument, we would rather focus on the external pressures brought to bear by influential policy-makers that give rise to such infringements of independence.

Causal factors

The following two categories of external influences can be distinguished:

(a) The first is the pressure from powerful institutions or persons who oppose an honest analysis and reporting of the research. And this is not just a reference to history with such well-known examples as Galileo, More or Lysenko. Also today, and perhaps notably so, there are examples of the political intimidation of scientists. Hard data are difficult to find regarding how widespread this phenomenon is, particularly since the pressure can be rather subtle and unobtrusive, and since the 'victims' are not always prepared to bring it to light. But sometimes the latter do make their grievances public, and cases in point are published either in the scientific or in the popular media.

A few years ago, the *New England Journal of Medicine* described how the pharmaceutical industry lobby applied undue pressure on researchers who intended to publish data that it found unwelcome (Deyo et al., 1997). Recently we could read about the complaints of the American Union of Concerned Scientists (UCS) regarding the manipulation of the process through which science enters political decisions (*The Economist*, 10-4-04). Although President Bush's science advisor

John Marburger has tried to rebut these claims (*Nature*, 428, 8-4-04, *Science*, 305, 30-7-04), many of them still prevail, one of the notorious cases being the eminent cell biologist Elizabeth Blackburn's (University of California, San Francisco) dismissal from her position on the President's Council on Bioethics, because, she claims, of her outspoken support for research on human embryonic stem cells. I am sure all countries have their own and well known cases. In my own country, for instance, we recently had the experience of the geophysicist Berkhout, the chairman of a scientific committee that was to advise the Minister of Transport on Schiphol Airport's new noise criteria. Berkhout declared that after having been put under pressure, after having been quoted incorrectly, and after having to endure personal attacks in the media, he had decided to resign from the committee (*NRC-Handelsblad*, 2-12-03). A few years earlier Köbben and Tromp (1999) had published a number of such cases in their book titled *The Unwelcome Message*.

Sometimes the pressure on researchers is not aimed at distortion of research results towards certain desired outcomes, but at the decision not to deal with certain subjects in the first place, so as not to run the risk of attaining certain unwelcome insights. Again, each country has its own striking examples. A ban imposed by a 'politically correct' university council in the 70s to prevent a criminologist (Buikhuizen) from doing research on criminal behaviour's possible biological determinants, and the societal pressure on brain researchers to stop further research into the differences in the hypothalamus between homosexual male subjects and a non-homosexual control group (Swaab & Hofman, 1990), are cases in point in my own country. The issue has become of topical interest at present, since the threat of terrorism and national security have an effect on the freedom of universities in various countries. In the US, university officials fear that regulations controlling research, and particularly the involvement of and communication with foreign scientists and students will be further curtailed (*Science*, 304, 23-4-04).

A special case is the restriction on research results' publication. In principle all research carried out by publicly funded institutions (universities, research institutes) ought to be made accessible to the wider public. A clear and acceptable exception could be national security or defence interests. It is clear, however, that the extent to which these criteria are interpreted may lead to strong differences of opinion

between governments and scientists, of which the present ongoing debate in the US is a good example.

Sometimes the sponsor of the research expresses a requirement or desire to keep the research results secret, at least until a possible patent application can be submitted. Since this is a special aspect of a larger problematic concerning contract research, which will be dealt with later, we will not discuss this here in greater detail.

(b) In the second place there are economic and financial motives and interests. Economic interest in research into, for instance, new medicine and pharmacology, into nano-technological developments, and into other innovative or patent-directed research can be substantial and can exert unwarranted pressure. Here, too, recent history offers a series of striking examples, varying from the thalidomide tragedy to the Chernobyl disaster and the exploded NASA explorer. Sometimes the influences are subtle and wholly unknown. The *Times Higher* of 27-04-01 revealed that at least 19 review articles published by the highly esteemed *New England Journal of Medicine* had been written by researchers who had secret financial links to the pharmaceutical companies that had brought the examined medicines on the market. In a recent book on the perils of commercialisation, the former President of Harvard University Derek Bok (2003) expressed his belief that the intrusion of the marketplace into the university is eroding fundamental academic values.

At this point it is appropriate to formulate a word of warning in respect of contract research at universities and research institutes that are subsidised by the government. Until a few decades ago, these institutions could almost always rely on public funding for most of their activities. Nowadays, however, they increasingly have to look for assistance from private, external funds. In principle this need not be wrong. It is quite possible for contract research to be independent and unbiased, and to be executed strictly according to the scientific rules of the game. Contract research, therefore, does not necessarily imply an encroachment on research's freedom and autonomy, but the latter can be in jeopardy if a growing proportion of a department, or institute's structural financing has to be obtained externally. After all, results that can be used to the sponsor's benefit are more likely to lead to follow-up research and new contracts than results that are disappointing. Obviously, the overriding temptation is to avoid biting the hand that feeds you.

Maybe a distinction between two different kinds of contract-research is helpful in this respect. The first has the finding of new knowledge as an objective. Of course, the sponsor does hope that this will lead to useful applications, technological innovations, or patents. But the basic objective is augmentation of knowledge. This type of contract research suits the objectives and conditions of academic research at universities or research institutes well. The only debatable point is the wish to keep the research outcomes secret so as to submit an eventual patent application. There is room for negotiation here. The basic objective of university research should be to contribute to public knowledge, therefore the research results should eventually be published, but some delay in publication can be permitted to allow for such a patent application.

Secondly, there is contract research that is prompted to legitimise a political preference or decision. In such cases, sponsors are not so much interested in the objective truth, but rather in arguments that support their view, attract votes, or can be used to oppose difficult opponents, or to answer tricky questions from stockholders. In principle there is nothing wrong with scientists who offer their service to industry, political parties, or a country's administrators, and some of this will sometimes be one-sided or biased, although such services can also be defended as mostly being the best, rendered by honest and unbiased research. Anyway, the kind of legitimising research just described certainly does not belong at universities or research institutes where the search for *the whole truth* should prevail.

Conclusion

In this presentation we have advocated autonomy and independence of science and scholarship as important conditions for a real and valuable contribution to policy making. We have also seen that there are major threats and dangers to this independence in modern times. Resistance against such encroachments will remain an important challenge for scientists and their Academies.

References

- Bok, D. (2003). *Universities in the marketplace: The commercialisation of higher education*. Princeton: Princeton University Press.
- Deyo, R.A., Psaty, B.M., Simon, G., Wagner, E.H. & Omenn, G.S. (1997). The messenger under attack - intimidation of researchers by special-interest groups. *New England Journal of Medicine*, 336, 1176-1179.
- Drenth, P.J.D., (1999), Scientists at fault: Causes and consequences of misconduct in science (pp. 41-52). In: P.J.D. Drenth, J.E. Fenstad & J.D. Schiereck (Eds.), *European science and scientists between freedom and responsibility*. Luxembourg: Office for Official Publications of the European Communities.
- Köbben, A.J.F. & H. Tromp (1999). *De onwelkome boodschap, of hoe de vrijheid van wetenschap bedreigd wordt* (The unwelcome message, or how the freedom of science is threatened). Amsterdam: Jan Mets.
- Wolpert, L. (1989). The social responsibility of scientists: Moonshine and morals. *British Medical Journal*, 298, 941-943.

Credibility in Science and Scholarship

*Jürgen Mittelstrass**

Credibility is at the root of acceptance of scientific results and advice both within scientific practice and in society. Where there is no credibility, there is no cooperation in science and in scholarship, and there is no confidence in counselling. Europe and its institutions need this kind of counselling by science and scholarship. In science policy credible counselling is essential. Are science and scholarship credible and reliable in their counselling function, multivoiced and in sympathy with politics? No doubt, when taking up the role of advisors and counsellors, science and scholarship move into ethical territory, for they are not only confronting scientific judgment but also ethical or moral judgment. Credibility in science and scholarship is part of this judgment, part of an ethics of science or, better, ethics in science - a hot topic today both in the academic world and outside.

Let me start with a few remarks on where ethical or moral problems in science arise, and what kind of ethical problems we are dealing with, which I will follow with some remarks on the academic or scientific ethos that forms the basis of scientific and academic credibility. These are philosophical thoughts, but in dealing with the issue of common values in science and science policy and of the responsibility of the scientist and scholar both in science and society, they are also very practical ones.

There are, first of all, ethical problems that arise when scientific results are applied in the non-scientific world. One example, which was intensively discussed in the 60th and 70th of the last century, is nuclear research and the atom bomb. Here, nuclear research, in its scientific character as basic research, leads to products, the manufacture and use of which create serious ethical problems. Can science and the academic world be held responsible for them? Secondly, there are ethical problems arising within research itself, when investigating the nature of things, particularly when this investigation includes experimental techniques. Stem cell research and reproductive medicine are of this kind. They create ethical problems in the course of research itself, not only when results are being applied. Thirdly, as in other areas of human

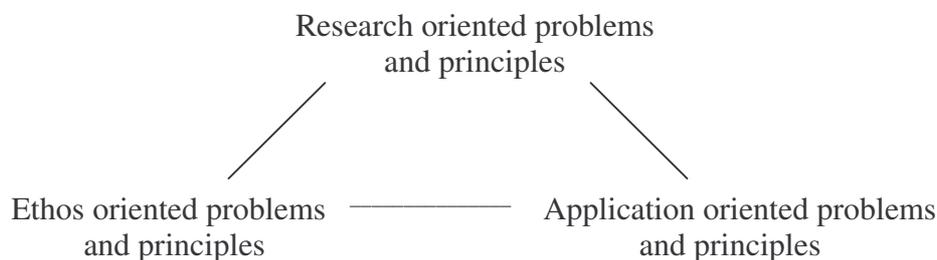
* President of Academia Europaea.

practice, falsehood and deceit also has its place in science. There are many examples, in the history of science and today, of how methods and results are manipulated, plagiarized, and publications are tampered with. If there is an ethos of the scientist and the scientific system, it is sometimes corrupted.

With respect to these kinds of ethical problems, the ethics of science, or the ethics in science, has to deal with principles governing the relation between research and its applications, with principles of the internal ethical essence of research, and with principles which constitute an ethos in science and its institutions, nowadays often expressed in so-called codes of conduct.

These principles and the problems they are applied to are often interrelated, as there is no such a thing as an ethics of science which is a special ethics for scientists. Ethics is always an ethics of the citizen, it cannot be divided along social lines, that is to say into a scientific ethics which is the ethics of the scientist, and into a non-scientific ethics which is the standard ethics of society as a whole. And the same holds for morals in the common sense. There are, strictly speaking, no closed ethical or moral worlds, in each of which a single ethics or set of morals holds sway.

We could also say that the problems an ethics of science or in science is dealing with, and the principles which guide this ethics, form a triangle, a triangle of ethics or morals. Its corners are application oriented problems and principles, research related problems and principles, and ethos related problems and principles.



Ethical problems within science or related to science are always problems which can be seen as problems moving within this triangle - with different and variable distances to its corners. And this triangle, indeed, opens a wide field for ethical problems of any kind in science, and for establishing ethical principles dealing with these problems.

When we talk about credibility in science and scholarship, we are mainly dealing with ethos oriented problems and principles, with the ethos of the scientist. First of all, a scientist has a special responsibility which derives from the essential uncontrollability of scientific knowledge by extra-scientific knowledge, as well as to the dependence of modern society on the special competence of the scientific understanding. However, such special responsibility does not translate into a special ethics. What is needed is rather a special ethos - similar to that which is exemplified in the professional ethos of physicians. All rules, all norms which might be prescribed for the practice of science in order to strengthen the responsibility of science and of scientific rationality, are superfluous once there exists an ethos of the scientist - insofar as it is in fact observed. That such an ethos is often not observed does not mean that an ethics of science has failed, or that it must be improved. Instead, it means only that the norms of general, civic ethics were violated, and the ethos of the scientist was violated by base personal motives. There is little more that can be said about the ethics of science, except perhaps that the attention of science as an institution towards the observance of the scientist's ethos should be more strongly enforced in the future.

As an example of this sort of institutional attention we might take a so-called 'code of conduct' published in 1998 by the German Physical Society (DPG). According to this code, 'Every member is also a member of the community of scientists, and shares in their special responsibility toward coming generations. The members support the development of science. At the same time, they acknowledge and respect the fundamental principle that holds for all science in all countries, namely that of honesty towards oneself and others. The DPG condemns scientific misconduct and disapproves both of fraud in science and of the deliberate misuse of science.'¹ Clearly enough, notions deriving from a general civic ethics are being translated into science and applied to the special circumstances of scientific practice. Thus these rules do not constitute an ethics of science in a distinct sense.

Rules such as these, which science imposes on itself in order to tie its freedom to some ethical measure, sound like rules of reparation. They hint dimly at some forgotten scientific ethos that once conceived

¹ 'Verhaltenskodex für DPG-Mitglieder', *Physikalische Blätter* 54 (1998), No. 5, p. 398.

of science as an ideal and a form of life. Indeed, the ethos of science has today lost much of its effectiveness, and thus also its individuals. However, to the extent this has occurred, the scientific ethos has also lost sight of society and its relation to science. The crisis of confidence that has become manifest in science is also an ethical crisis, a crisis of the scientific ethos. Thus it is of utmost importance to overcome this crisis for which science is itself responsible.

In this connection, it is useful to draw attention to three factors that explain the crisis of confidence both with and within the sciences and that point to some of the issues that must be kept in mind in the future.² Among the causes of the crisis of confidence is first of all an increasing 'scientific incompetence' on the part of society, of which science is of course a part. 'Incompetence' here refers to the inability to understand the production of scientific knowledge and has also been called the problem of the public understanding of science or scientific literacy. A second cause is the 'desymbolization' of science, which has not led to 'emancipatory progress,' but rather to a loss or 'ethical self-consciousness.' Third, there has been increased competitive pressure, that is to say an uncritical importation of the market model into the practice of science. Here it is largely a question of reversing this trend whenever possible by appeal to the forms of (social) interaction that are specific to the sciences, and which speak against using an economic paradigm, or indeed using a 'professional code' of 'institutional procedures.'

These are essential factors involved with the issues of confidence and ethics, and yet, in the final analysis what is most needed is to recover a scientific ethos in scientific consciousness. By ethos here I mean an orientation towards largely implicit, and implicitly observed rules, which are conceived as holding self-evidently both for individual and social actions. Whether we conceive of these rules as the simple rules of conduct to which one usually holds (rules of etiquette), or whether they are rules to be evaluated morally or ethically, such as maxims - in either case it is a matter of implicit knowledge. And this knowledge demands being followed practically rather than being theoretically mastered.

The connection between ethos, morals, and ethics is thus as follows. Ethics is a critical theory of morals, which is above all concerned with

² C. F. Gethmann, "Die Krise des Wissenschaftsethos: Wissenschaftsethische Überlegungen", in: *Ethos der Forschung / Ethics of Research (Ringberg-Symposium Oktober 1999)*, Munich 2000, pp. 38f.

regulating institutional morals that are often in conflict with one another. Ethics assesses socially implanted systems of rules of action and goals by evaluating them and deciding among them by developing the arguments that permit decisions. These arguments must in consequence be generally valid, and so the corresponding ethics must itself be universal. This means in turn that it makes universal claims of validity, and that it must be in a position to ground these claims. The ethics of Immanuel Kant provides one example of such a universal ethics. By contrast, an ethos is part of morality, and thus of a universal morality, when the latter is founded on a universal ethics. An ethos relates to a universal conception of ethics, that is to say it 'represents' the ethical claims to validity, or it realizes them.

Such is the case with science. Science is the expression of universal claims to validity, and this both in the sense of being a special form of knowledge formation, that is to say of the scientific production of knowledge, as well as in the sense of being a scientific ethos, which is also the moral form of science. The orientation toward truth typical of the one of these follows the orientation toward truthfulness of the second. This is to say, quite simply, that truth determines the scientific form of knowledge, whereas truthfulness determines the moral form of science, which as a result belongs to the form of life of the scientist, to his ethos.

Our task for the future is therefore to make these connections explicit in the practice of science, and to ensure that we act in accordance with that knowledge. If this cannot be achieved, then the crisis of confidence into which science has fallen - whether deservedly or undeservedly - will continue. This will in turn threaten not only the foundations of science, but also the foundations of rational cultures in general, that is to say of modern society. The question concerning the ethics and the ethos of science, according to our ethical triangle, is therefore not merely a question concerning the future of science, but also one concerning the future of contemporary society.

The Limitations of Science-based Political Advice

*Jean-Patrick Connerade**

It is an open question whether there are common values in the European Research Area today, what these values are, and what they should be in the future. Somehow, Europeans agree more about their own diversity than about any other subject. When faced with the need to define themselves, they hide behind a rather vague statement about sharing 'common values' as the very essence of what being 'European' should mean. However, these common values are usually left unstated.

Nowhere is this paradox more apparent than in the area of scientific advice given to or received by politicians, and the different uses they may put it to. Indeed, the responsibilities of government are not quite the same within all the countries of the union, and so the process of giving or receiving advice occurs quite differently in the different Member States. Furthermore, attitudes towards science vary widely, not only from country to country, but also across the political spectrum within a country. As a result, there can be no generalisations. The tensions are very strong and the difficulties acute. One has only to consider the arguments for and against stem cell research, an area in which experimentation can be illegal in one country and acceptable in another just a few miles away to realise that the European Research Area is very far from sharing any common approach to ethical issues.

The history of advice given to governments about scientific issues of public importance has also been remarkably patchy. At the one end of the spectrum, there are governments which like to set national policy and define a 'grand plan' for their country. Usually, this approach is reliant on a scientifically educated Civil Service, who feel comfortable with science, and are (often unwisely) confident in their understanding of it. In such cases, the advice received is largely internal to the government machine, because the competence is felt to be sufficient to deal with any major issue without calling in outside experts. This has largely been the situation in France, where ministries feel able to advise the public, almost invariably on the basis of somewhat paternalistic reassurances. The most famous or infamous example of this approach

* President of EuroScience.

was the response to the Tchernobyl accident, where it was not felt necessary to inform the public of what was really going on, and an attempt was made, with the connivance of government scientists, to propagate a convenient myth, namely that the radioactive cloud had stopped at the French border and that the situation was 'under control'. Governments are only beginning to learn that the European public of today is sometimes highly sophisticated, and highly suspicious of 'reassurances'.

Of course, the consequences of misrepresentations of reality are very serious. The question subsequently becomes: who is responsible for them? Did the government take a wrong turning, or did the scientists give bad advice? Since politicians communicate much more with the public, and since scientists appear sometimes remote, blaming the scientists was the traditional way out, and most politicians will still try it first. When such a story erupts just after other science-related errors such as the scandal surrounding blood transfusions and AIDS contamination in France, the public naturally comes to suspect scientists in general of having given bad advice, and the distinction between career civil servants with a training in science who influence government from the inside and more independent (university-based) scientists, who often try unsuccessfully to ring alarm bells, tends to get lost in the argument.

At the opposite end of the spectrum, one has the so-called 'free-market' system, in which government is supposed to apply a light touch, and national plans about anything are frowned upon as 'interference', *i.e.* doomed to failure. Although this policy is in direct contrast to the previous one, it usually does not lead to a better situation concerning scientific advice. For a start, the culture in societies which favour a free market tends to be a business culture, in which Civil Servants are trained in economics or in humanities. The best example is the UK, in which very few indeed (if any) of the Permanent Undersecretaries of State (the top echelon in the Civil Service) have even a slight competence in science and engineering.

In this environment, the government mostly turns to outside experts in order to obtain scientific advice. Usually, a committee is formed and consulted, reports are written, which are mostly confidential, and which are then absorbed within the internal machinery of a ministry before the actual decision is taken. The procedure by which this is done can never be transparent, for two reasons. The first is that the politician wishes to

take credit for the decision if it was correct. He cannot do this if it turns out that he merely implemented word for word advice received from an expert. It would then become the decision of the expert rather than his own. If on the other hand there is some kind of problem and the public becomes alarmed, then it is useful to have some experts who can be blamed by 'leaking' selected information on what advice was received. Therefore, secrecy becomes one of the main levers in dealing with risk.

One has only to think of the events surrounding the safety of food to see how sensitive the issues are. In a commercial environment, further pressures are created by powerful retailing lobbies, some of which have a dual role because they also fund 'their own' research. Thus, the free market itself begins to generate public distrust of a new kind. Can one trust any research supported by a tobacco company or one involved in marketing GM foods?

In short, the two most extreme and opposite models of government within European Society today have produced essentially the same result, namely public distrust in scientific advice, in how it is collected and how it is used. The governments whose opinions lie in between may have differences of procedure, but essentially observers all over Europe are reporting a similar outcome. Perhaps the best indicator of the trend is the decline in numbers of young people coming forward to study science, the sole exception being forensic science at this point in time.

The underlying reason for the public's suspicions seems to be that the scientists have either been spontaneously involved in some secretive consultation, or else have been induced by government into a conspiracy, the purpose of which was to avoid a full public debate and present journalists at the end of an internal settlement behind closed doors with a single, coherent view, the 'opinion of the scientists'. Understandably, the public hates this. In fact, most scientists should hate it too, because it hides away the very essence of good science, which is in the confrontation of diverse opinions and the presentation of hard evidence and facts. To hide this process from the public is tantamount to turning science into an official kind of black magic.

There should, therefore, be a 'third way' more rooted in local democracy, and more consistent with diversity in European traditions. This third way is to involve the public not only in the scientific debate, but in the process of extracting decisions from scientific evidence. Such experiments in 'co-decision' are being attempted, most notably in the

Scandinavian countries. Wherever this is tried, it is warmly received, and may do a lot to generate a more positive attitude to both science and scientists. The public needs to experience for itself that science is a microcosm, within which similar debates are raging to those in society at large, the only difference being that they are differently informed. In this context, the concept of a 'scientific establishment' which is close to government and knows all the answers, is itself being challenged: it may no longer be the best image for science to project on society today. Indeed, it may generate more fear than reassurance, because an establishment is always perceived as being influenced by power, by money, by ambition or by lobbies of different kinds. Any establishment also has the characteristic of presenting a united front, which is the very thing the public today finds most disturbing about science.

One solution which has been proposed, and which may have a very bright future if it is properly used, is the *International Centre of Risk* in Geneva, created by Professor Jose-Mariano Gago. The concept here is to create a kind of international forum in which governments and scientists can exchange information about the risks facing societies today, and develop strategies or policies to deal with them. The reason I believe such an institution might have a bright future is that it could be used to restore confidence in the honesty of all the parties involved. On the one hand, we now have some scientists who no longer wish to come forward with any advice to governments, because they are afraid of being blamed in the future, or misrepresented. This has the consequence that potentially useful advice is lost. On the other, we have governments who are afraid that, if they consult outside, they may be blamed for having chosen the wrong advice, or an expert may deny the advice he gave and blame the politicians. So, an institution like the Centre in Geneva can become an important independent and international keeper of records, as well as a clearing house for the best advice.

At the end of the day, it is not only the confidence of the public in the quality of advice which needs to be restored. It is also the confidence of scientists and politicians in each other, because the givers and receivers of advice must necessarily be able to work together.

When one examines the issue from this point of view, it becomes clear that the European public as a whole does in fact share a number of common preoccupations. From these worries, common values do emerge, which are or should become the common values of a future

European Research Area. It is through the sharing of informed judgement, through public debate and by instituting a new transparency in decision-making that these common values may help us to build the new Europe.

Fundamental Ethical Issues

Common Moral Standards in Europe

*Ludger Honnefelder**

The necessity of common moral standards

The necessity of finding common moral standards is felt most urgently when new areas of human action are developed, satisfying three major conditions: First, they display some moral relevance or ambiguity, or they even show examples of obvious abuse and misconduct. Second, because of their unprecedented character they cannot be sufficiently dealt with by reference to existing moral principles. Third, they require common regulations because of their wide-spread impact and consequences – for instance, on a European level.

All three conditions are fulfilled with respect to modern research, especially within the life sciences, but also, to a certain degree, in the fields of engineering and technology. Thus, in my talk I will immediately refer to this field of action, that is: to research. This focus will correspond to the subject that our conference is devoted to anyway. But it will also enable me to highlight the general aspects of finding common moral standards in Europe, as research is one of the best examples for this endeavour.

The need for common moral standards denotes an ethical, but also a legal challenge that research implies. I will sketch this challenge with the help of two quite different examples: nuclear research and genetic research. This will help us to understand both the essential core and the broad scope of the moral implications of research activities. However, in clarifying the specifics of a European development of moral standards as opposed to corresponding attempts in the Anglo-American tradition, I will focus on biomedical research. For this focus will make the distinctive features of both approaches most visible.

* Guardini-Professor in the Philosophy of Religion and Roman Catholic World View at the Humboldt-Universität in Berlin, Germany, and member (since 2006: Chair) of ALLEA's Standing Committee of Science & Ethics.

The challenges of scientific research and technology

To an unexpected extent, research has become an ethico-legal challenge. The reasons are complex, and it is both difficult and urgently necessary to try to find an effective response to this challenge. Two questions need to be addressed here: what are the most important reasons for this development and where can the starting-points for an effective response be found?

For a long time after the birth of the 'new science' in around 1600,¹ people could look forward to advances in the scientific knowledge of nature and in its technological application and could welcome such advances as virtually unlimited progress for the better in the development of the human race. But this situation changed with the emergence of modern science and technology. The reason for this lies in the development of science itself: the deeper insights into nature that became possible from the middle of the 20th century onwards were followed by an unexpected rise in the number of ways of interfering with the natural course of events. However, this increase in the depth of knowledge and interference was accompanied by greater ambivalence with regard to the consequences, because the more ways there were of bringing about changes, the wider the scope for both beneficial and detrimental use.²

Two scientific discoveries in the modern age can be regarded as paradigmatic of this development, and both have changed the relationship between science and ethics: the discovery of the atomic structure of matter and the discovery by modern molecular geneticists of the molecular structure of genetic material in living organisms.

These two scientific developments are paradigmatic because they give scientists the opportunity for the first time to modify causal processes rather than simply dealing with their effects or symptoms. In both cases, this results in the possibility of interfering with nature by tackling the causes instead of merely focusing on the effects. Both

¹ As a milestone in this connection Francis Bacon's *The New Organon or True Directions Concerning the Interpretation of Nature* (1620) is usually referred to.

² Cf. Christian Byk: "Progrès Scientifique et Droits de l'Homme: La Rupture?" in (2003) 14 *Revue Trimestrielle des Droits de l'Homme* 54, Numéro spécial (Progrès scientifiques ou techniques et droits de l'homme), 363; Ludger Honnefelder: "Wissenschaft und Ethik. Der Menschenrechtsgedanke als Grundlage eines europäischen Konsenses", in Deutscher Hochschulverband (ed.): *Almanach. Ein Lesebuch*, Vol. X, Bonn 1997, 97-109; Lydie Koch-Miramond and Gérard Toulouse (eds.): *Les scientifiques et les droits de l'Homme* (Paris 2003).

discoveries, however, lead to consequences that cannot be subjected to a simple assessment since they involve irreversible processes or long-term effects the extent of which is so great – and in some cases not yet known – that they cannot be tackled with the means currently available.

Moreover, a change can also be perceived in the type of research being carried out, which characteristically increases the challenge posed by science and technology: basic research is no longer conducted in pursuit of knowledge for its own sake; knowledge is acquired by irreversibly interfering with an object. This has resulted in a change in the perception of pure scientific research as an unbiased and morally justified activity, with any moral and legal issues appearing only when new knowledge is actually applied. As it involves interference with nature, pure research itself must now be legitimised.

However, the ethico-legal challenge posed by science and technology has assumed a special character not only as a result of structural changes but in the context in which they are located. Never before has erudition in the form of scientific knowledge been so international. Networks, based on economic considerations, are increasingly connecting the different branches of science and production. In many cases, research is carried out within multi-centred, cross-border networks, with researchers able to communicate with one another worldwide within a very short time and in a single language, *i.e.* the language of scientific and technical convenience. Research also requires immense human and financial resources and has major social, employment and economic consequences wherever it is located.

Difficulties of the ethico-legal response to the challenge posed by scientific research and technology

The aforementioned examples of the challenge have prompted different responses, in addition to hopes and visions to cure diseases that have been difficult to treat up to now and the occasional reference to the possibility of optimising human nature. The main response, nevertheless, is characterised by fear and concern about the possible abuse of the new knowledge and its consequences individually and collectively, and is the expression of fundamental moral intuitions. Such intuitions are very important and, in accordance with the 'heuristics of fear' (Hans

Jonas),³ should be heeded. All the same, like so-called 'slippery slope' arguments,⁴ they are no substitute for a thorough examination and judgement based on moral and legal principles.

Legal and ethical discussions need to overcome certain difficulties, however, the first of which concerns the newness of the procedures to be judged. To take one example, is a somatic gene therapy to be considered an immunisation, transplantation, medication or something entirely different?⁵ As long as ethics and law refer to actions, it is essential for these actions to be identified and described accurately and on the basis of a general consensus.

Once this is achieved, a second problem arises, namely the difficulty of applying our moral and legal standards and principles. These refer – at least at the level of concrete norms – to procedures that have been known to us for some time and with which we have been able to gain a certain amount of experience. But what if the new procedures cannot be put into any known classes? Will our experiences then be inapplicable?

There is also the fact that an effective response can only be made if we can agree on common, international rules and regulations for dealing with the new fields of action. One aspect of legal and moral codes that may represent a problem is their plurality, the many versions that have been shaped by history and culture. In addition, the development of the modern age has led to a marked distinction between morals and law and to a plurality of morals within a moral code that has limited the area of shared moral convictions to a narrow set of principles.

The plurality of legal cultures and moral codes is doubtless an asset that reflects the historical progress of mankind but it is also, under the conditions of free development, a prerequisite for strong and meaningful forms of human self-realisation to evolve. But in areas where the scope for action and its consequences make it necessary to enact general provisions, this leads to difficulties that have to be resolved without adversely affecting the richness of national legal cultures and established moral codes.

³ Hans Jonas: "The Heuristics of Fear" in Melvin Kranzberg (ed.): *Ethics in an Age of Pervasive Technology* (Boulder 1980).

⁴ Cf. Wibren van der Burg: "Slippery Slope Arguments" in Ruth Chadwick (ed.): *Encyclopedia of Applied Ethics*, Vol. 4 (San Diego and London 1998) 129.

⁵ Ludger Honnefelder: "Zur ethischen Beurteilung der somatischen Genterapie" in (1996) 37 *Internist* 382.

The Anglo-American way: Common law and shared maxims

In reacting to the challenges outlined, distinctive features of European approaches as opposed to Anglo-American perspectives become apparent, especially when we focus on regulations in the field of biotechnological research. These differences do not necessarily consist in deviating standards concerning the *material content* of norms applied or generated. Generally, the background of ancient Greek philosophy and of the Judeo-Christian traditions provide a normative network that does not differ more deeply between Europe and the UK or the US than within Europe itself. Additionally, many essential historical experiences that provide important sources of moral convictions are also part of the European and the Anglo-American heritages. The differences between the two traditions rather concern the *formal way* to find fixed points for common moral assessments. Thus, they predominantly go back to different political traditions of generating and incorporating legal regulations. However, these formal differences may have material consequences, too, as they give rise to different types of regulations – different, for instance, in their scope, in their binding status and in their basic character as compromises or as agreements

The challenges that medical ethics had to face, resulting from changes within modern medicine, were first taken up in the USA. At the end of the 1960s, questions about the allocation of the new scarce dialysis places, about discontinuation of treatment in conjunction with new possibilities of intensive care and about the criteria for medical research involving human beings led to the demand to replace traditional medical ethics. This traditional ethics was 'Hippocratic': It was based on the individual doctor-patient dyad, it was paternalistic in its decision structure and founded on the accepted canons of professional ethics. The new challenges led to its replacement with a new medical ethic that tied decisions to a reflected ethical judgement, supplemented the doctor-patient dyad with an ethics committee that examines all the options and subjected medical research in human beings to examination by a multi-disciplinary body. This meant, however, that medical ethics would no longer only have to be seen as part of a doctor's professional ethics but also as a central component in a new interdisciplinary research area.

In the pursuit of ethical principles, the new approach subscribed to the common law procedure of falling back on ethical principles if there

were no precedents. This is what the Nuremberg Court did in 1947 when passing judgement on crimes against humanity committed during the Nazi era by drawing up the *Nuremberg Code for Human Experimentation*. The *National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research* also referred to this document in 1978 when it, by way of complement to the National Research Act of 1974, laid out in the *Belmont Report* the main principles for the protection of human beings in medical research and listed in first place the principles *respect for persons* (autonomy), *nonmaleficence* and *justice*.

The most effective theoretical approach developed in this connection was the concept of *B.L. Beauchamp* and *J. Childress*, linked to the Kennedy Institute at Georgetown University, that conceived bioethics as *practical ethics* based on four primary sets of principles: respect for a person's autonomy, nonmaleficence, beneficence and justice, introducing a number of secondary criteria in the shape of contextual, role-specific and procedural rules that were supplemented by professional *ethics of virtue*. The four sets of principles are seen as the result of the attempt to view the core of socially accepted morals as a coherent pattern. They are valid in the form of *prima facie obligations* (D. Ross), that is: as principles that apply absolutely to the extent that they are not set against a principle of the same kind. The question to be asked of every ethics of principles – the question how general action-guiding norms can be derived from such general criteria and how decisions are to be taken in cases of conflict – is answered through a reference to a practical consideration which can mean both continuation of the existing norm (specification) as well as a weighing up of conflicting norms (balancing).

The European basis: Human rights and professional standards

In Europe, the starting-point for establishing rules that transcend the plurality of moral codes and legal cultures was seen to be a complex of more general value convictions and basic principles that is capable of meeting with general approval. The basis of such a complex is the conviction that human dignity and the fundamental rights and freedoms relating to it are paramount. Its ability to meet with general approval is shown not least by its having become the basis of fundamental legal

rules, such as those enshrined in the human rights codifications recognised worldwide and to be found in many national constitutions.

With its roots mainly in ancient philosophy, the Jewish and Christian religions and the European Enlightenment, the human rights idea has developed in such a way as to go far beyond the context from which it emerged and can claim to have worldwide transcultural validity. Here it is necessary to distinguish between (a) the diversity of socio-cultural life-forms in which this idea is embedded and the many different philosophical and religious contexts in which it finds its deeper justifications and (b) the validity that the core of this idea is entitled to enjoy – particularly in view of worldwide experience of suffering and injustice, above all in the modern age – beyond the multiplicity of contexts in which it is firmly established or expounded.

One difficulty here is that this idea is generally expressed in the form of bans or defensive negative rights and lays down limits on actions that are taken to deleteriously affect human dignity (entitlements and participatory rights were added later on). In view of the universal validity of the established ethico-legal core provisions, this calls for a narrow interpretation and requires the human rights idea to be regarded more as the laying down of limits rather than as an all-embracing source of moral principles and law.

What gives the human rights idea the ability to serve as a starting-point for delineating the ethico-legal borderline that is being sought with regard to the application of modern science and technology – especially medicine and biotechnology – is the idea of humanity on which it is based.⁶ Humanity is understood here as an entity that is naturally endowed with reason and willpower and is thus capable of moral behaviour. Here, it is understood that being human and being a subject constitutes an indissoluble unit. The dignity characteristic of the human being as a subject capable of moral behaviour is thus independent of any specific attribute or accomplishment. It is an innate quality of the individual simply because he or she is human.

This conception of the human being is also reflected in the catalogue of fundamental rights, which legally safeguard the conditions that have to obtain if the individual is to be a subject and to live according to his

⁶ Ludger Honnefelder: “Biomedizinische Ethik und Globalisierung. Zur Problematik völkerrechtlicher Grenzziehung am Beispiel der Menschenrechtskonvention zur Biomedizin des Europarates” in Albin Eser (ed.): *Biomedizin und Menschenrechte. Die Menschenrechtskonvention des Europarates zur Biomedizin. Dokumentation und Kommentare* (Frankfurt a.M. 1999) 38.

or her dignity. This includes not only self-determination and personality rights but also the protection of life and limb as fundamental rights. Individual national constitutions have taken further account of this aspect in sections devoted to basic rights by making specific reference to health care and the protection of the environment. With regard to the challenge posed by medicine and biotechnology, it is clear from the nature of the above-mentioned basic rights that no interference can be considered justified unless it takes account of the requirement to protect life and limb and the person concerned has given her consent after having been informed about what it entails.

A paradigm for updating the codification of human rights: The Council of Europe's Convention on Human Rights and Biomedicine

However, the reference to the limits imposed by human dignity and human rights in their codified form is only a partial response to the challenge posed by modern science and its technical application, for the fields of action opened up by the modern sciences are still too new and too specific to be sufficiently covered by the standards laid down in the existing human rights codifications. This is why human rights conventions have been supplemented worldwide by additional conventions and declarations that attempt to ward off the dangers resulting from science and technology and to define the general standards that apply.

The attempt by the Council of Europe to go beyond the European Convention on Human Rights (ECHR) of 1950 by drawing up the Convention on Human Rights and Biomedicine can be described as a typical step in this direction. This convention resolutely takes up the challenge posed by modern developments in the life sciences and points out both the danger to human dignity resulting from the possible abuse of biology and medicine and the benefits deriving from progress in these fields. At the same time, it refers to the ECHR and calls for a public discussion on the issues arising from the application of biology and medicine.

The Convention itself, the intention of which is to outline rules for the legislation of member states, not only 'updates' the standards of the ECHR with regard to the fields of action of biomedicine but in order to be able to respond to the specific challenges, refers to a second set of

standards contained in the codes of professional obligations and behavioural norms that have gained worldwide acceptance with regard to regulating action in the health-care field.⁷ This set of standards is based on the objectives of medical action and feeds on the value convictions and value attitudes that determine the doctor-patient relationship.

However, codified human rights, even in conjunction with globally accepted professional obligations and standards, do not establish limits and norms of sufficient substance to be able effectively and convincingly to meet the modern challenges posed by medicine and biotechnology.

The Convention on Human Rights and Biomedicine corresponds in different ways to the desideratum which is evident here.⁸ Firstly, it presupposes that the 'updating' of human rights cannot only consist in the application of existing standards but, since new fields of action are involved, must contain elements of the draft norm or the norm generation. An 'update' intended to express the conception of humanity that we wish to use as a basis for dealing with the new fields of action that involve interfering with human nature cannot – especially under the conditions laid down by the constitution of a democratic state – take place without a broad public debate. The Convention on Human Rights and Biomedicine is therefore rightly seen as an invitation to conduct such a debate, which will also accompany any future revisions. Secondly, it calls for additional protocols in which the basic norms set out are defined in greater detail with regard to specific fields of action in the areas of medicine and biotechnology, such as organ transplants, medical research on human beings or the application of human genetics. Finally, the norms and principles laid down are to be regarded as minimum requirements that not only do not rule out more far-reaching protective measures under national legislation but also presuppose them as substantial sources of the transnational normative debate.

⁷ Two examples are the Declaration of Helsinki of the World Medical Association on “Ethical Principles for Medical Research Involving Human Beings” (last update: October 2000), and the “International Ethical Guidelines for Biomedical Research Involving Human Subjects” issued by the Council for International Organizations of Medical Sciences (CIOMS) (last update: August 2002).

⁸ Ludger Honnefelder: “Das Menschenrechtsübereinkommen zur Biomedizin des Europarats. Zur zweiten und endgültigen Fassung des Dokuments” in (1997) *2 Jahrbuch für Wissenschaft und Ethik* 305.

Common values regarding scientific research and its application in documents of the European Union

The *Convention on Human Rights and Biomedicine* of the Council of Europe is a particularly impressive example of how to identify common values on the basis of a shared European tradition, that are of special relevance for the ethical and legal ties between science and research in Europe. But it is not the only codification which possesses relevance of this nature. The Council of Europe has itself now submitted a *Protocol on Biomedical Research* for signing and ratification by its Member States containing rules for biomedical research based on these very values.

In 2000 the European Union – in the run-up to the drawing of a common constitution – adopted a *Charter of Fundamental Rights* laying down specific norms of importance for science and research that are based on the same values as those used by the Council of Europe in its *Convention on Human Rights and Biomedicine*. Article 3, which addresses the *Right to integrity of the person*, lists in paragraph (2) four fundamental values to be respected in the field of medicine and biology:

- the free and informed consent of the person concerned
- the prohibition of eugenic practices
- the prohibition of making the human body...as such a source of financial gain
- the prohibition of reproductive cloning

Directives of the European Parliament like the *Directive on the legal protection of biotechnological inventions* from 1998 also refer to these norms.

Besides the codifications of European institutions like the Council of Europe and the European Union and in the context of the common values of importance to science and research in Europe, we should not forget the initiatives taken by the scientific institutions themselves which have been taken over into rules of professional ethics and law. By way of example I would like to mention the codification of rules of scientific practice that has been done on the level of ALLEA and ESF. This codification, in turn, is based on codes established by scientific organisations on the national level in many European countries. This identification of common values is of importance because it is driven by the goals which science has committed itself to achieving. It also

encompasses ethical rules in addition to the *lex artis*, rules in which the special responsibility of scientists is expressed as a kind of voluntary undertaking. As the *Convention on Human Rights and Biomedicine*, mentioned above, demonstrates in its reference to Article 4 “The professional obligations and standards”, a voluntary professional ethics undertaking is an autonomous and absolutely essential source of values.

Conclusion: Common moral standards for research in Europe

Thus, only a double reference to human rights and to medical teleology can suffice to develop more concrete norms for the applications of biomedicine. This has immediate relevance for the questions of research in this area, but it is also instructive for research ethics in general. Particularly, the three main aspects of research ethics can clearly be assigned to these two fundamental ethical starting points.

First, the complex of *good scientific practice* – that is, the avoidance of academic misconduct such as plagiarism and forgery – can be based on professional standards of scientific honesty which are, in their moral character, quite parallel to the standards of medical treatment and care. They concern the development and persistence of a professional ethos that is not only an important framework, but eventually a defining characteristics of the practice in question, research. And besides all external control measures they must eventually be based in the individual scientist’s conscience to be effective.

Second, the *protection of human subjects* during the research procedure rests mainly on the idea of human rights. Even special standards of avoiding undue influence or of guaranteeing justice in the selection of volunteers will be based on this conception which can provide both normative aspects that are central to the protection of research subjects: the protection from physical or mental harm and the protection from instrumentalisation.

Third, the ethical evaluation of the *consequences of research* will eventually refer to both focal points. Obviously, this evaluation will amount to the avoidance of considerable dangers to the public and to the respecting of fundamental claims to well-being that both refer to the rights of people. However, when we ask for a more precise assessment of the consequences of research we will have to consider the societal practices that it will bring about in its various fields of application. In

the case of biomedical research this will, first and foremost, be the medical sector, and so the teleology of medicine will come into play again when we try to find out which biomedical research activities we actually endorse as desirable – even when this research is not carried out by doctors themselves.

To sum up: The focal points of human rights and of professional teleology are both fundamental for developing common moral standards that are apt to guide our research activities. Both of them will require a good deal of concretion in order to transform them into applicable norms. This concretion has to take place in the various fields of application, and it denotes a process that has to be constantly performed in the shape of a well-informed public debate. This talk was meant to demonstrate the essential focal points and the fundamental structure that this process has already followed - and should continue to follow in the future.

Ethics, Politics and Research

Jérôme Vignon*

It is fair to say that I very much hesitated before venturing in addressing you on the proposed topic as it stands now on the agenda, "Ethics, politics and Research". Not least because I do not really belong to any of those three fields: the world of Ethics, Politics, and Research. I just stood constantly on the borders of those worlds. But also because there are good reasons of feeling frightened by the depth and breadth of the subject.

Nevertheless, I decided to take that challenge, mainly because I have much sympathy for the framework document proposed for that conference, as it reflects much of my personal experience. My contribution at the borders between ethics, politics and research will consist in offering a personal, experience-based account upon *why* ethics, or more precisely an ethical debate about values and the anthropological roots of humanity has surfaced both in politics and research. From which I shall try to very briefly draw some practical conclusions on *where* and *how* the scientists and scholar communities should feed into the questions raised by this ethical debate.

My personal background

This contribution takes place in the European context of the conference because my experience is preferably influenced by the past 20 years of accelerated European political and socio-economic integration. The European dimension per se raises the issue at the heart of the conference, which is also the question at stake in the on-going process of ratification of the Constitutional Treaty for the EU, namely: "Is it feasible that we subordinate our common European policies (agriculture, competition, monetary, energy, social, foreign, development,...) to a sort of commonly agreed list of fundamental rights and principles, whilst at the same time fully acknowledging the diversity of our national cultures?" Therefore I should first explain in which circumstances,

* Director, Social Protection and Integration, DG Employment, Social Affairs and Equal Opportunity, European Commission.

the simultaneity of ethics, politics and research came upon me, in the course of my professional duties.

From 1989, in a positive context of the EU integration process, Jacques Delors, who was at that time the president of the European Commission, created the *Forward Studies Unit* (FSU): not so much for looking into the future, than in order to better investigate, analyse, (with the help of social sciences) which trends or changes were actually developing within European societies, upon which the Commission could base the political integration process, instead of simply continuing to impose the initial premises of post-war commitments for which the new generations were not accountable. The concept of a 'European Social Model' was one of our favourites at that time.

In this context of the FSU, Delors himself turned to our team a fascinating question. He wanted to better understand why, in the process of elaborating common legislation to framing the European internal market, the Commission was more and more confronted – notably in the areas of protection of the environment, bio-chemicals and patenting, access to and protection of individual information – with a lack of guidance from the available existing good practice within Member states. Our answer at that time was quite confused. But it was clear at least on one point:

Not by chance was the EU confronted with the shortcoming of wisdom. But as it was the most recent political place for formulating the normative conditions for extending free provision of goods, products and services, it was confronted with unprecedented changes beyond the existing pool of available normative wisdom. On this basis, considering the shortcoming of our answers, Delors decided later on to initiate three different fora in which European politics would be confronted with open views on meanings, orientations or values.

- One was the extension of consultation to informal consultation with religious and humanistic beliefs, designed in the form of a program 'A soul for Europe';
- A second was the 'Carrefours des sciences et de la culture', which specifically opened discussion across representatives of the various fields of culture, hard and soft sciences, also reflecting the diversity of national approaches within the EU and beyond;
- The third was the European Group of Ethics initially coordinated by Noëlle Lenoir. The scope of it was later on extended by President Jacques Santer, the successor of Delors, from bio-ethics

to the entire field of EU policies, including development and information.

Why do *Ethics* and the ethical debates emerge at national and European level, both in the fields of politics and research?

The further work in the FSU, especially work around the issue of 'new European governance' helped us to further investigate what were those 'unprecedented changes' in the socio-political context of EU integration which were questioning the shortcomings of the implicit ethical consensus surrounding policy making across the European Union.

The experience of the FSU pointed out that the tremendous developments of science and scientific innovation themselves (as if science had over passed its agreed boundaries with the society) were alone causing this new question. We should also consider that due to changes of values in the society, changes also in the scope of international global interdependences – altogether *politics and research* were taken in a move bringing, us (politicians, but also various actors concerned by the cohesiveness of our society) to open our eyes upon the real foundations of the common being or common belonging. For that reason, there was a need to consider the ethical dimension and to search common values.

Let me sum up briefly the main lessons from the work done in the FSU, drawing from 'A soul for Europe', the 'Carrefours on science and culture' and the 'European group of Ethics'.

Politics and ethics are caught up since some decades in a deep change, which is about the transmission, the dissemination and constitution of knowledge. This was brought to us notably by the research *Centre for the Philosophy of Rights* in Louvain-la-Neuve. Knowledge could no longer be seen as the exclusive property of those 'who know' and are responsible for its transmission. It became also the outcome of a social construction, based upon the sharing of everyone's experience and entitlement to participate in generating both the analysis of the problems to be solved and their possible solutions. Therefore, not only the question of "which values do we share?" matters, but also the question of "how do we rely on those values", in order to organise common life; Habermas, Popper indeed played an important role in unveiling those issues of a 'communicative action' or 'falsifiability'. But

also the civil society, notably the movements insisting on equality of rights and dignity, gender equality.

Research and science, in this context, were losing their privileged position of being fully autonomous and independent, somewhere above the society. As pointed out by Prigogine and Stenger, they discovered at the same time two disturbing news:

- The bad news was that science or research should no longer pretend of equating progress for the mankind because they were supposed to exhaust progressively any uncharted grounds of knowledge, to eradicate any obscurity. Science in the contrary was constantly unveiling the endless richness, complexity and infiniteness of mankind and the immensity of its self responsibility.
- The good news was that, by stepping down from this privileged position. Science, was becoming part of the society itself. Both hard science and social science should not fear to interfere with the political debate by offering useful *representation* of our problems, and how to face those problems collectively. By feeding those representations into the political debate, they might contribute to reinvigorating the democratic life itself.

Politics of course was not immune in the face of that cultural change about the content or the construction of knowledge. This change meant that the political legitimacy of collective norms, including legislation, could not be based only on representative democracy. Representative democracy had also to face the shortcoming of its representation of the problems. Only participative process could complement the knowledge of the decision makers, where of course the responsibility of political choices has to remain solely in the hands of elected governments.

So why does *ethics* matter now again both for sciences and politics? The cultural change which I have tried to picture as a typical common feature of recent change across the various European societies is not necessarily conducive to a deepening of knowledge or to an improvement of the democratic life. Faced with a less reliable image of science and research, many citizens might fall back into fundamentalist behaviour. Similarly, not all citizens are tempted by participating in the civic life, through the channel of the 'civil society'. There is a risk of the development of an 'antidemocratic trap' consisting in mistrust against

any political parties and in 'disaffiliation' from any commitment. In those twin situations, where should the sense of responsibility, mutual commitment, and interrelated freedom come from if not from ethical influence? This is why ethics matters today more than ever before, at least in the European context. Drawing this in the optimistic direction, I would even say, that ethical behaviour, both from scientists or political leaders should be more rewarding in attracting the interest of public opinion than before.

When and how should science and research activities, scientists and fellow researchers, feed into the global quest toward Commission values?

I fully support, as I said before, the overall framework proposed by the conference. In particular, I agree with the project of deepening the two already identified processes (which are full part of the European agenda on science and society), consisting in:

- First, within the scientific community, complying with rules of mutual openness, accountability, availability for being criticised by external opinion on ethical consistency (see on that point the message for this conference from my colleague Rainer Gerold);
- Second, accepting that the so-called neutrality of science does not prevent it to be responsive to the need of our societies to better formulate and also represent their main challenges, which by no doubt also questions the extent to which research work should be led mainly by business and market power.

But I also wish to stress a specific challenge to the task of building up, in a democratically and pluralistic context, like the European public arena, a process towards acknowledging common values underpinning common action.

Our societies have become more aware of their complexity, richness as a gathering of human beings with equal rights and dignity. Therefore they question the authoritarian way of generating normative rules. At the same time, there is much reluctance for addressing the challenge of interdependency which goes in hand with a collective responsibility. Let me just list some of the most obvious aspects of interdependency:

- Global interdependency across the world, especially in economic and social areas;
- Interdependency across generations with the sustainable development issue;
- Interdependency within the family. The fact that the family results more than before from freedom of choice does not alleviate, in the contrary, the mutual interdependency on care for the young and the elderly.

The reluctance to turn interdependency into responsibility, or to translate acknowledgement of mutual dignity into solidarity is a key challenge in the process of getting to common values. In the context of globalisation, the easiest route towards common values is the route of utilitarianism. Because instead of focusing on long standing common goals, it provides a common understanding upon immediate achievements; instead of focusing upon the right and the good, it diverts attention on 'added' value for the individual well-being

I am convinced that science and research, because of their non utilitarian dimension, their connection with the search for sense and meaning, their basic requirement for consistency, might offer further food for a convincing role of ethics in our societies.

Towards Common Values of the World Research Area: Autonomy, Responsibility, and the Humanistic Tradition

Ayşe Erzan *

Autonomy and ethical behaviour

The discussion about autonomy and ethical behaviour is based on the assumption that the scientist as an individual is capable of ethical thought and action. It should not be forgotten that only a very small privileged minority of scientists, independent researchers, university staff or leaders of research outfits actually have the autonomy enjoyed by members of the liberal professions and are called upon to make decisions regarding the choice of topic, or methods to be used in research. The vast majority of scientists especially in the highly knowledge based industrial countries, who perform contractual research or are employed by industry (including commercial research institutes in the social sciences), have been reduced to workers in the huge scientific-industrial machine, coupled inextricably to the military-industrial machine. To the lot of the 'rank and file scientist' falls 'professional ethics', something of a misnomer, as what is meant is really a kind of detailed code of professional conduct.

There is an ironical aspect to the question of the disenfranchisement of the great majority of scientists from being able to exercise their ethical choices, employed as they are in the scientific - military-industrial sector. The enormous power of science and scientists today are due, in large measure, to the very existence of this sector, about whose ethical implications we are, for the most part, shamefacedly silent. Moreover it is us, who have trained these scientists and set them upon their scientific careers. So we are doubly responsible, and the onus is upon us, to speak up also on their behalf, regarding, e.g., the moral issues around the militarisation of science and technology, the corporate exploitation of the environment, or the profit motive within the life sciences.

* Member of the Turkish Academy of Sciences and of ALLEA's Standing Committee on Science & Ethics. This contribution has been written *à titre personnel* and does not necessarily reflect the view of the Turkish Academy of Sciences.

Codes of conduct versus professional ethics

It should be recalled that the turn of the last century - the end of the nineteenth and the beginning of the twentieth centuries - saw a big explosion in the services offered to the society by the engineering professions. From the need to regulate this highly technical activity and to assure a certain degree of quality control, which could only be provided by the corresponding professional organisations themselves, arose the demand for them to adopt various codes of conduct. Today we are facing another such explosion, especially in the life sciences, the environmental sciences and also in the applied social sciences, with a plethora of new areas being opened to scientific and technological research, as well as an unprecedented increase in the rate of growth of these new industries, with huge numbers of newly trained personnel. Understandably, therefore, there is a great and growing demand for the regulation of the quality of the services and goods produced. The urgent calls for the promulgation of 'professional ethics' in the newly created areas of research owe quite a bit to this, besides, of course the glaring new problems they pose which relate directly to the most basic ontological issues.

In the course of this meeting a distinction was made - primarily by Jürgen Mittelstrass, but also by others - between ethical behaviour as understood to emanate from a highly codified 'professional ethics' on the one hand, and considered action on the basis of a basic etiquette, or civic ethos, on the other. I believe that one important contribution that the Academies could make is to stress that the ethos - self evident, irreducible, implicit rules - from which we scientists, autonomously, deduce our professional as well as civic and personal behaviour, should constitute the principal component of what is understood under the term 'professional ethics' in general and ethical training, in particular.¹ Otherwise there is no way to keep up with the new challenges which will be inevitably posed at the frontiers of scientific research at an accelerating rate, nor satisfactorily address any of the deeper issues involved.

I am decidedly, and I believe, advisedly, an optimist regarding the possibility of reaching a so called 'cross-cultural' consensus over such a broader interpretation. There are compelling reasons to believe that the

¹ See also: Evers, K. (2004). *Codes of Conduct - Standards for ethics in research*. Brussels: European Communities.

term 'culture' is too often used in an essentialist sense, to imply immutable attributes homogeneously possessed by different societies (usually in the sense of national or ethnic groups), while in reality academic, political, corporate 'cultures' within one society may be much less mutually permeable, and also much more a product of intensely political local, global and historical processes, than such an essentialist approach is prepared to accommodate. Moreover, there is the disturbing tendency to reduce 'culture,' 'identity,' etc. to religion or religious affiliation, where in many cases religion is but one component of the complex identities which people construct for themselves. Such one-dimensional schematisations have very little explanatory power, besides erecting prohibitive barriers to understanding and empathy.

Autonomy and advocacy

Although the framework of this conference was 'Autonomy and advice,' which I understand as the autonomy of the scientist as a necessary condition for her/him to be able to render useful advice, another component of the scientist's activity very often involves what could be called 'advocacy'.

Reference was often made to the fact that the scientist's involvement with decision making processes posed no problem, i.e., was purely technical and had no complicating 'political' consequences, in those cases where there was complete consensus within the agency (or loosely speaking the public represented by such agencies) seeking advice. I think that in this context it would be more precise to speak of the 'normative' rather than 'political' aspects, where the difficulty lies.

I think the scheme which Dagfinn Follesdal proposed is useful in this regard and has helped us think more clearly about the involvement of the scientist in various decision making processes. According to this scheme, once all the consequences, together with their respective probabilities, of different alternatives have been understood, their 'values,' in terms of utility, equity, justice, etc. have to be determined. Then, arguments can be made for or against the various alternatives, based on the values of their probable consequences. Furthermore, these arguments can be ranked, within the given context, as carrying more or less weight, depending on their cogency. There might be many situations in which the expertise of scientists might be crucial for the

demonstration of the desirability of some course of action, in the sense that it will, with the greatest probability, yield the desired outcome. The intervention of the scientist might also be crucial for the better elaboration, articulation or eventually the diffusion, of an argument. All of these activities of course graze narrowly the borderline between expertise and advocacy, which is not to say that advocacy should not be undertaken.

Follesdal's scheme is a valiant attempt to reduce as much of the decision making process as is possible to a series of positivistic (in a sense, technical), rather than normative, activities. However, attaching different values to the possible consequences and the prioritisation of the values involved, is the juncture which is fraught with all the difficulties of the normative area. This seems to be precisely the normative aspect of the decision making process which cannot be avoided.

I would like to propose that the distinction between objectively verifiable (laying aside for the moment the philosophical caveats which might be posed to the applicability of this term) statements and normative claims is a useful one for guiding the nature of the scientist's intervention in a particular issue. Academies are often put in the position of taking various stands on issues which have normative, and therefore also political, implications. Even in those cases where, within a given community, the value of a particular outcome could seem self-evident, scientists, as well as scholarly organizations or science academies should perhaps assume a certain degree of humility in making pronouncements of a normative character, remembering that in this, they have no greater competence than the lay person, although they may be better informed about some of the issues.

Academies and the humanistic tradition

Engaging in the explicitly normative activity of defining codes of conduct for their own members as well as members of the related professions, and grounding them in basic ethical stands, brings to fore the time honored mission, fulfilled to lesser or greater degree, of Academies within the cultural milieu. Academies are not just another institute of excellence. They are expected to be the bearers of the humanistic tradition, which is predicated upon the uniqueness, the genius, the intrinsic worth of each and every human being. This is the

reason why considerations of human dignity loom large in all of our discussions relating to professional ethics in the life sciences.

Environmental issues, which bear directly upon the perpetuation of humankind upon this planet, or issues touching upon the very nature of our being, such as human cloning and stem cell research, inevitably figure in the functions which the Academies take upon themselves. So do the myriad aspects of the phenomenon of immigration-emigration, which tends to leave only faceless (read: homeless) masses in the place of individual human beings, each at the center of their own universe. Perhaps this is why human rights do not travel well across boundaries.

An important contribution that Academies could make to the thorny problem of immigration/emigration could be to put the issue in historical and geographical perspective, and to help bring into focus the humanitarian aspects of the problem.

A historical perspective is needed to remind us that human beings have been on the move ever since they started to walk. But more to the point, since the 19th century the world has seen perhaps the greatest mass dislocations ever witnessed up to that time. Turkey, which was mentioned as becoming a net receiver of economic migration, has been, since the middle of the 19th century, a country of immigration, receiving millions of refugees from former Ottoman territories. Since this time, the whole of the Middle East, the Caucasus and the Balkans have witnessed wrenchingly painful histories of forced migration and ethnical cleansing. Most of this suffering remains unrecognized, not even accorded the posthumous solace of being part of human memory.² Are we ready to face up to the right of each and every human being, regardless of nationality or creed, to a place on this earth? The alternative is frightening. The Armenian massacre. The Holocaust. Bosnia.

A geographical perspective would also facilitate public debate, in that it could lay bare how countries of origin have to grapple with very much the same kinds of problems as the host countries, with ethnic and cultural divides, the urban/rural divide, or the secular/religious divide.

² This, in spite of the fact that already in 1795 Kant was able to declare “Since the narrower or wider community of the peoples of the earth has developed so far that a violation of rights in one place is felt throughout the world, the idea of a law of world citizenship is no high-flown or exaggerated notion..” I. Kant, “Perpetual Peace: a philosophical sketch”
<http://www.mtholyoke.edu/acad/intrel/kant/kant1.htm>

In the final analysis, Turkey or Israel have to cope, to the best of their ability, with very similar problems as The Netherlands. Maybe these countries have quite a bit to learn from each other. It is heartening that both UNESCO and private research institutes are calling for cooperation between the researchers and civic or government agencies of countries of origin and host countries, in coming to terms with this multi-layered human drama.

An important determinant of the current norms regarding how minorities, or vulnerable groups in general, are regarded, is of course primary and secondary education. Autonomous scientists - and Academies - could play a very constructive role in offering a critical assessment of school curricula and textbooks. It takes a particular kind of humanistic conviction to insist that human and economic resources can be committed to education in order to transform the perception and experience of social diversity from being a threat to social cohesion, into a social asset.

An aspect of environmental conservation is the preservation of historical monuments, and of the tangible and intangible cultural heritage in general. It is only in reference to the testimony they bear to the unique genius of human beings, that they are indeed worthy of preservation. The Academies can play a salutary role in those instances where historical landmarks become hostage, instead, to nationalistic territorial claims.

I would like to suggest that social gendering, and in particular, the achievement of gender balance in the scientific and technological area, should also come within the domain of Academies, since it has to do with basic equity and justice in the practice of scientific research and development.

The universalism and the promise of science

The humanistic tradition is complemented by the universalism of science, an ideal born with the Enlightenment. In spite of the doubts, the caveats, the much more tentative nature that the philosophical foundations of science have assumed in the post-modern era, it is still true that the sub-culture of scientists worldwide provides one of the few privileged global channels of convergence and communication. It is an ideal which we could bring nearer by working towards the Common Values of the *World Research Area*.

Ethical Demands and Economic Decisions

*Brian Heap and Flavio Comim**

Introduction

Onora O'Neill's BBC Reith Lectures of 2002 on *A Question of Trust* highlighted the extent to which newspaper editors and journalists are not held accountable so that outstanding reporting and writing mingle with editing and reporting that 'smears, sneers, and jeers, names, shames and blames'. In her book 'Autonomy and Trust in Bioethics' (2002) she enlarges on the issue of public trust and public policy and argues that 'unlike politicians and civil servants, and those who work in the (mainly) public sector institutions that practice and regulate medicine, science and biotechnology, the print media are subject to almost no regulation or audit (beyond financial audit), and TV journalists to rather little.' Yet serious ethical issues have emerged and the ensuing debate, though polarised by the media, has exerted a significant influence on the application of scientific and technological advances and hence their economic significance. Three brief case histories serve to illustrate the different ways this has evolved albeit not always for the greater good.

Krimsky's (1985) account of the social history of the recombinant DNA controversy in the 1970s revealed the concern of scientists about the safety of transferring genes into other bacteria or animal cells. This led to a self-imposed temporary moratorium in spite of philosophical arguments about the inalienable right to pursue scientific exploration. Nobel Laureate David Baltimore (1980) said at the time 'if another issue appears on the horizon similar to the recombinant DNA controversy I would hope that those who recognized the problem would not be afraid to speak out. I also hope that the general public will be inclined to trust the activities of scientists rather than doubting their motives and their honesty'.

Bovine somatotrophin (BST), a protein hormone produced in the pituitary gland of lactating dairy cows, was manufactured by biotechnology companies, licensed in the United States in 1994, and

* Capability and Sustainability Centre, St Edmund's College, Cambridge, UK.

used by farmers to boost natural milk yields by 3 to 6 litres per day. The USA licensing authorities were satisfied that the product posed no risk to consumers or to the dairy cattle themselves. Even so, the authorities in the European Commission placed a five-year moratorium on the licensing of BST in December 1994 and this has remained in place. The ban derived from concerns about safety to animals, the unnaturalness of the procedure, and a perceived lack of need in a continent swimming in milk.

The adoption of GM crops into contemporary agriculture has also led to severe restrictions in Europe imposed by the Commission in Brussels primarily on the grounds of unsubstantiated environmental safety, the unnaturalness of the product, an absence of perceived benefit to consumers in contrast to anticipated profits for multinational companies, and the lack of need in a continent seen as the breadbasket of the West.

Clearly, ethical questions raised by such developments in science and technology are centrally motivated by normative considerations related to the state of appropriateness, fairness and goodness of certain situations. The questions are not new with their focus on safety, fairness, naturalness, need, accountability, transparency and ownership. By now recombinant technologies are widely used, the initial concerns having been largely addressed by appropriate regulation, reminiscent of the member of the Australian judiciary who said that the law was destined to remain behind medicine, bringing up the rear and limping a little. Ethical demands regarding BST and GM crops have had a largely negative effect in economic terms in Europe but not in the technophilic USA. Embryonic stem cells currently pose a different dilemma with prohibitions in certain European countries, openness within others, and ambiguity in the USA reinforced by the latest UN Declaration establishing a non-binding ban on all forms of cloning, both therapeutic and reproductive.

Therefore the first point in this paper is that seeking common values in the European Research Area (ERA) presents a challenging task and complementary viewpoints may have to be considered equally normative. Following the examples discussed above our discussion is directed towards some issues related to aspirations, technology and consumption. Aldridge (2003) has argued that 'consumption is a value-loaded concept' and that 'patterns of consumption are an integral part of conceptions of the good society and its opposite'. In this respect con-

sumption can be analysed as a way of examining the role of different ethical demands on economic decisions.

Ethical framework

Different ethical demands might reflect a wide range of normative considerations. In economics, Utilitarianism has been the dominant paradigm. When 'utility' is used as the unique informational base for evaluative judgments (namely 'welfarism'), the state of affairs are judged without attention to rights, duties, etc. Utilitarianism is also characterised by 'consequentialism', that is, by a requirement of assessing choices and actions only by their consequences (results) that they produce. As Sen (1999) has observed 'this focus on the consequent state of affairs denies particularly the tendency of some normative theories to regard some principles to be right irrespective of their results'. Utilitarianism produces ethical demands based on the principle of 'sum-ranking', that is, the requirement that different states of affairs are analysed by simply summing together the utilities of individuals, independently of how they are distributed among them. It is important to note, as Sen (1987, 1992, 1999) and Nussbaum (2000, 2001) argue, that limitations of some ethical demands can be due to the constraints imposed by the use of utility as the unique informational space in normative assessments. Other competing ethical theories might motivate different ethical demands, related to rights (Libertarianism) or 'priority of liberties' (Rawlsianism).

Other ethical insights in the ERA come from numerous sources that include Judeo-Christianity (Ricoeur, 2000), Islam, the Enlightenment and Romanticism. They help us to explain how we judge and evaluate social states and affairs, such as the quality of life of ourselves and our children, our relationship with each other and with nature, in particular in terms of justice and equity. In 1999 the *European Value Studies* which is conducted every 10 years showed that there was an increase in the number of people who described themselves as religious and with a belief in the afterlife especially among the young. Yet attendance at religious ceremonies continues to drop, so that Europe has been described as 'believing but not belonging' and as a continent of people who search for the good, the beautiful and the true. The European Values Study also identified 'individualism' as perhaps the key

characteristic of the modern European. These invaluable qualities of individualism and independence which seem to characterise the community of scholars and scientists of the ERA should be cherished and not forfeited in the pursuit of homogeneity. Therefore diversity of ethical demands should be respected within Europe and democratic deliberative mechanisms are essential for organising and processing these demands.

Undoubtedly one common focus that will persist is relative economic performance and consumerism. Achieving economic growth is already the political and cultural mantra of the day and Europe offers a classical model of secularisation typified by the growth of cities and the advance of modern medicine and industry. Economic growth is coherent with Enlightenment values of liberalism and political freedom. It also conveys a sense of economic freedom and respect for consumers' preferences. Within this context, economic growth might represent ethical notions of positive and negative freedoms (Berlin, 1956, 2002). The individual dimension of the drive for growth is exemplified by the energy giant, Royal Dutch/Shell which posted a record net profit for 2004 of £9,300m, not far behind Exxon Mobil at £13,270m. Similarly, the retailers, Tesco plc, recently announced strong growth and record sales over last year's Christmas and New Year period with increases of up to 13% in the seven weeks to 8 January 2005. Their UK turnover last year was £24,000m, up 16 % on the previous year and 47% on 2000. A profit of about £2,000m is expected or about £1 in every £8 spent by the country's shoppers. Here, positive economic performance appears to be embedded within utilitarian ethics (market-based logic).

Paavola and Bromley (2002) criticise the utilitarian foundations of economic decisions, referring to 'the different moral character of different policy problems'. More specifically, they criticise the welfarist nature of much of environmental economics with a strong focus on allocative efficiency that cannot address distributive considerations. It was the late Pope John Paul II, in his encyclical *Fides et Ratio* (1998), who wrote of the positivistic mentality of the scientific community which not only abandoned the Christian vision of the world but more especially rejected every appeal to a metaphysical or moral vision. 'It follows' he said 'that certain scientists, lacking any ethical point of reference, are in danger of putting at the centre of their concerns something other than the human person and the entirety of the person's life. Further still, some of these, sensing the opportunities of technolo-

gical progress, seem to succumb not only to a market-based logic, but also to the temptation of a quasi-divine power over nature and even over the human being'.

Notwithstanding the force of this critique, and the application of scientific discovery to technical advance and industrial prosperity, numerous Christians in science alongside those of no faith would formulate the following questions which form the second point of this paper - with increasingly persuasive evidence of anthropogenic influences on global climate will this sharpen ethical demands for policy change regarding economic decisions directed at the growth fetish? Is this where the ERA could make a difference? Raising these questions involves sharing a different ethical paradigm not exclusively based on Utilitarianism.

Aspirations: ethics and quality of life

In evolutionary terms the desire on the part of the consumer to acquire is one of the innate drives that increased the survival prospects of our early human ancestors. It differs today only in the extent to which rational analysis plays a part in human choices. It presents a special challenge because it is not just immediate and inbuilt, it is insatiable. 'How much is enough?' asks Burnham and Phelan (2000); 'when it comes from our genes, the answer is as much as possible'. Consumer sovereignty has become a sacrosanct icon but does this form of economic progress make people happy, the ultimate aim in life according to some (Ng, 1997)?

Ethical standards are intrinsically related to ways in which individuals assess their quality of life. Within Utilitarianism, assessments based on individuals' preferences and the degrees of self-satisfaction derived provide more closely a picture of the impact of economic growth on their quality of life. These assessments are also less paternalistic and less demanding in terms of informational requirements. Subjective happiness can be measured in many ways and substantial comparability has been claimed through physiological and neurobiological indicators, observed social and nonverbal behaviour, and person surveys. The personal sphere in which people feel most satisfied consists of family, companionship, job, leisure, health or consumption. People's material standard of living is regularly men-

tioned by a majority of respondents in surveys as being one of the most important elements of well-being. Hence, annual surveys of more than 20,000 students entering colleges in the USA showed an increasing percentage saying that it is very important to be very well off and a declining number saying that it is very important to develop a meaningful philosophy in life. However, studies of nations with a GNP per capita of more than \$10,000 reveal only a weak positive correlation with happiness indicators, though people in rich countries are generally happier than those in poor countries (see Myers, 2002). Very rich people are only marginally happier than the slightly less well off in the USA whereas in Switzerland they are marginally less happy (Frey & Stutzer, 2002).

A main reason why higher income does not simply translate into higher happiness is that people compare themselves with significant others and income relative to that of relevant others is what becomes important. In addition, happiness research shows that increasing per capita income does not raise individual well-being in the long run because aspiration levels adjust to the rise in income - people get used to the higher income level which then produces less happiness for them than they would enjoy if no such adjustment had taken place. As Diener and Seligman (2004) observe, money is 'an inexact surrogate for well-being' and 'economic measures have seriously failed to provide a full account of quality-of-life'. It is interesting to observe that income becomes an imperfect indicator of well-being due to dynamic temporal adjustments of expectations. Diener and Seligman (2004) put it in the following way, 'rising expectations and desires to some degree cancel the psychological benefits of greater income'.

Reasons to avoid using resources (income) as indicators of well-being can be justified not only statistically (in terms of a weak correlation between GDP per capital and self-reported happiness) but also conceptually, based on Aristotelian ethics. The argument is that resources are imperfect indicators of well-being because individuals who transform resources into valuable beings and doings are different. Sen (1999) refers to five sources of diversities and heterogeneities among individuals, namely, (i) personal heterogeneities, (ii) environmental diversities, (iii) variations in social climate, (iv) differences in relational perspectives and (v) distribution within the family, to justify how different sources of variation affect the conversion of incomes into

beings and doings. Therefore, it should not be assumed that there is a monotonic relation between resources and well-being.

Clearly, if happiness is one of the most important objectives of life (together with 'individual autonomy', and 'sense of purpose in life', see Klingemann, 2003), then the third point of this paper is to ask if we could follow an alternative strategy regarding consumption as it relates to the use of the earth's resources. If happiness and per capita income across countries is only weakly correlated, at least for those above a certain income level, it may not be politically risky after all for the ERA to consider policies that promote sustainable consumption to secure our future and that of the next generations.

What is the basis of this alternative strategy?

Two prominent science academies, the Royal Society in the UK and the National Academy of Sciences in the USA, published a statement in 1996 entitled *Towards sustainable consumption* (see Heap & Kent, 2000). They drew attention to the fact that consumption, the human transformation of materials and energy, is of concern to the extent that it makes the transformed materials or energy less available for future use, or negatively impacts biophysical systems in such a way as to threaten human health, welfare or other things people value. The technological dimension of consumption cannot be denied, and yet, there are important ethical issues that are also relevant for economic decisions that affect our lives.

A current definition of an alternative strategy, sustainable consumption, could read - 'creating new opportunities to improve the responsible use of services; products and processes that promote a better quality of life and well-being to people in less and more developed nations; improved efficiency of consumption of natural resources and toxic materials; reduced emissions of waste components and pollutants over their life cycle; and enhanced endowments for the needs and freedoms of future generations'. A working definition could have fewer elements: 'economic decisions, influenced by ethical demands, promoting better quality of life and environmental sustainability'. In any case, it is interesting to note the difficulty in avoiding a compromise between the technological and ethical dimensions of economic decisions in

formulating a definition of sustainable consumption that is able to carry enough consensus for practical purposes.

For the avoidance of misunderstanding, sustainable consumption is not about maintaining an unlimited increase in consumption. It is not necessarily about diminishing people's life styles. It is not about depriving less developed countries of their right to improve their economies and their quality of life. Yet, as Amartya Sen (personal communication) has pointed out, if we fail to address the fundamental strategy of sustainable consumption the prospects for the future success of the concept of sustainable development are diminished.

Why is sustainable consumption needed?

A number of factual statements need to be reiterated. First, over the second half of the last century overall economic activity has quintupled. It has been associated with world population that has more than doubled, food production measured as grain production has almost tripled, and energy use has more than quadrupled. One consequence has been that over the last decade pre-consumer industrial toxic waste has increased progressively to some 400-500m tonnes per year. Much of the waste-sink capacity in rich industrialized nations has been used up. Waste is now distanced from end consumers by being transported around the globe to less developed countries where it contributes to the local economy but at serious environmental cost.

Second, business-as-usual scenarios suggest a slowing of these growth rates over the next 50 years but they predict consumption rates increasing at well beyond the rates of population increase, and in the case of energy by five-fold over the next 100 years.

Third, economic growth and rising consumption have positive features in that they have helped more of the world to meet basic needs. The number of new consumers increases daily (Myers & Kent, 2004). Nowadays, more than 25% of individuals worldwide live a lifestyle once limited to rich nations, an entirely legitimate achievement of sustainable development. Hence, the average Chinese and Indian consumes much less than the average North American or European but they can now boast a combined consumer class larger than that in all of the European Research Area. At least one-fifth of rising car ownership is attributable to the 'new consumers'. It is notable that the first China

Forum on Sustainable Consumption and Production has been held in Changsha. This denotes that China at least recognizes the need and potential to quadruple its economic growth over the next decade in a new and sustainable way (adopting the so-called 'circular economy' of growth, re-use and recycling) through adopting measures that lead towards more sustainable ways to produce and consume goods and services.

Exponential growth functions are unsustainable for technological and ethical reasons. Technologically, these functions can lead to the exhaustion of natural capital. Ethically, they tend to ignore the aspirations and possibilities of future generations. The fourth point of this paper is that a strategy of sustainable consumption has an attraction and is needed because it suggests that consumption could be less threatening if only we could move closer towards an equilibrium between use and renewal.

Seeds of optimism

Some signs of encouragement have emerged from the ingenuity of scientists, engineers and technologists though they have been rarely formulated in terms of sustainable consumption. The use of natural resources shows a natural trend towards dematerialisation as depicted in the usage of industrial minerals, metals and forestry products in the USA. The S-shaped pattern of growth per capita in the last century reflects improved efficiencies in production and use, and the influence of competition. An office building needing 100,000 tons of steel 30 years ago can now be built with one third as much because of better steel and smarter design. Overall, steel consumption per capita has remained constant or more usually has decreased as the income of each person has increased.

Energy diversification and conservation schemes aim to contain CO₂ levels in the atmosphere at 500-550ppm by 2100 by a mix of devices; they consist of the use of natural gas, clean coal technologies, hybrid cars, renewables, nuclear energy, smart grids for electricity distribution, coal gasification, biomass and efficient buildings. The aim is to improve the sustainability of energy demands having in mind that supplies are substantial even in the face of prospective energy demands. In 2000 the world's coal consumption amounted to 0.5% of known

reserves, natural gas 1.6%, oil 3%, and nuclear electricity generation 2% of uranium reserves.

Innovative housing schemes, such as the Beddington Zero Energy Development of competitively-priced housing, have been designed to utilize a combined heat and power unit based on gasified wood technology. Wood from sustainable tree management in local streets and parks is used to raise electricity for 82 new homes. Shared cars, low allergy building materials to minimise respiratory problems of residents, and recycling techniques to reduce waste by 80% have contributed to a carbon neutral project with a total saving in a reduced CO₂ footprint of 41%. The long term objective is a zero-squared project consisting of zero waste and zero carbon emissions which would be a classic exemplar of dematerialization.

Genetically modified (GM) crops, though controversial, could be used to diminish the chemical burden on the environment, the amount of waste and pollution, and the risks of health hazards from chemicals. All these examples would be in line with dematerialization - consuming less to achieve more efficient production, or providing healthy foods in new ways. Yet the search for common values in the use of GM crops in the ERA has failed spectacularly partly because the misrepresentations by certain special interest groups, NGOs and media have led to the conclusion among the general public that multinational companies have placed profit above consumer well-being or concern for the disadvantaged which is only part of the picture. Interestingly, the same arguments that have been levelled against GM crops in Europe have rarely emerged against automobiles and SUVs with gross levels of fuel consumption, mammoth TV sets with high energy demands or many other 'celebrity-promoted' luxury products, examples of rampant consumerism.

The fifth point is that science and technology have a proven track-record in offering new opportunities for the production and consumption arms of sustainability; greater efficiencies, better materials and processes, reduced waste, and enhanced quality of life through improved health and well-being. However, science and technology cannot be used as the sole contributor to a framework that addresses the problem of overconsumption or issues of intergenerational justice. Different ethical demands should be treated within a wider informational space, as suggested by Sen (1999), including the

greater use of procedures for organising deliberative democratic procedures and consideration of ethical diversity

Could ERA consumers adopt a strategy of sustainable consumption ?

We have observed how ethical demands can, and in certain instances should modulate the transfer of a scientific advance into practice. The use of technology should be influenced by the particular ethics that underlie economic (consumption) decisions. Could the reverse occur so that the ERA becomes the leader of economic decisions based on the ethical demands of sustainable consumption and the preservation and conservation of the continent's resources?

It can be argued that human nature is ill-constructed for change to sustainable consumption. Richard Dawkins, the arch-genocentrist, was saying little new when he warned that changing human behaviour towards sustainability will get little help from our genes because they are selfish and have made us what we are. Twenty centuries earlier, the apostle Paul explored the same problem of selfishness when he wrote - 'I do not understand what I do; for I don't do what I would like to do, but instead I do what I hate' (Romans 7:15). Paul, however, had a life-changing experience, in his case through the challenging life and teaching of Jesus Christ.

People do change and concern for stewardship of the planet was shown by the story of chlorofluorocarbon usage - a clear example of ethical demands driving economic decisions. Pressure from scientists and non-governmental organizations about the CFC-induced erosion of the ozone layer particularly over Antarctica led ultimately to the Montreal Agreement in 1987 and the London Agreement in 1990 aimed at phasing out the production of CFCs by 2000. Political will was galvanized on an international scale though the response time was about 26 years from scientific discovery to full implementation of the ban and 'it will take more than a century for the chlorine to be cleansed from the stratosphere'. Prohibition of the use of CFCs as propellants in spray cans in the USA was expected by experts to put a lot of people out of work according to Mario Molina who shared the Nobel Prize in 1995 with Crutzen and Rowland. It did not because effective alternatives were found.

Further evidence that an inordinate focus on economic growth as a sign of progress does not have universal appeal in terms of happiness indicators comes from numerous sources (see Frey & Stutzer, 2002). Economist Clive Hamilton of the Australia Institute has vigorously attacked an ideology and its social structures driven by growth fetish marketing (Hamilton, 2003a,b). Hamilton's research showed that during the last decade 25% of British adults aged 30-59 have chosen to downshift in their lifestyles (rising to 30% if those stopping work to look after a baby or set up their own businesses are included). Downshifting was slightly more common among women than men, it was not for the purpose of living closer to nature, it was spread evenly across age groups and social grades, and the average reduction in income was 40%. The main reason for this behaviour was because the excessive pursuit of money and materialism came at a substantial cost to people's lives and those of their families.

Another potentially far-reaching concern relates to traditional measures of economic progress. Indicators such as GNP fail to recognise the net value of changes in externalities such as the environment-resource base. As a result citizens are denied the true costs of goods and services because policy makers persist with this flawed measure. Dasgupta (1998, 2001) has proposed that we should use the term net national product (NNP) since it represents a more realistic assessment of sustainable development by taking account of environmental costs. The Yale Center for Environmental Law and Policy team has designed an Environmental Sustainability Index (ESI 2005) that measures the overall progress towards sustainability in individual countries. For 146 countries environmental sustainability was assessed in terms of natural resource endowments, past and present pollution levels, environmental management efforts, contributions to protection of the global commons, and a society's capacity to improve its environmental performance over time. The top five countries were Finland, Norway, Uruguay, Sweden and Iceland; the five lowest ranking were North Korea, Iraq, Taiwan, Turkmenistan and Uzbekistan. The USA was ranked 45, Armenia 44 and the UK 46. No country could be said to be on a sustainable environmental path but the index focusses attention on the environmental costs of modern lifestyles and helps to make environmental decision-making more empirical and analytically rigorous, a key step towards internalising the costs of environmental externalities.

Research is needed to understand more deeply the drivers of consumption and their environmental impacts, and the use of mathematical modelling techniques in industrial and public settings has increased (Jalas, 2005; Munksgard, Wier, Lenzen & Dey, 2005; Takase, Kondo & Wasizu, 2005; Carlsson-Kanyama, Engström & Kok, 2005). Consumption and time-use are highly correlated because consumption activities require time, and time stimulates some form of consumption. Consumption and environmental impacts are also strongly correlated because the provision of products and services causes environmental impact (Hofstetter & Madjar, 2004).

The sixth and final point in this paper presents the question - could sustainable consumption become a value of common pursuit for the peoples of the ERA? What additional research in modelling would help elucidate the complex interactions between consumption, First World lifestyles and sustainability as an aid towards policy decision-making?

Comment

With the publication of the detailed codebook of human genes one thing has become clear - scientists cannot be left just to get on and decide how this knowledge should shape our future, nor should scientists be left out of the process of formulating rules and regulations. On the other hand, ethical demands should not remain outwith independent scrutiny of their technological feasibility. Dr Robert Edwards, world-renowned for his pioneering work on in vitro fertilization and the production of the first test-tube baby, Louise Brown, exemplified the problem when he was reported recently as saying - 'soon it will be a sin for parents to have a child that carries the heavy burden of genetic disease. We are entering a world where we have to consider the quality of our children'. Here we have a clear example of the urgency that attaches to the exploration and resolution of such issues, not least the ethical framework that is needed to underlie economic and quality of life decisions.

ALLEA is to be congratulated on providing a forum where these matters are debated because we are faced with a host of questions about priorities in the ERA - in research councils, how should we decide which research should be done? In medicine, should everyone benefit or just those who can afford expensive therapies? In genetics, should

we be allowed to interfere with the genetic make-up of our children so that dangerous genes are not passed on to the next generation? Who should know about an individual's likelihood to develop certain afflictions? In policy, how could we respond to common ethical demands that drive economic decisions to ensure our common future? In today's world scientific and technological advances and ethics demand to be brought together by a framework of participation, scrutiny and public reasoning.

References

- Aldridge, A. (2003). *Consumption*. Cambridge: Polity Press.
- Baltimore D. (1980). The Berg Letter: Certainly necessary, possibly good. *The Hastings Center Report*, 10,15.
- Berlin, I. (1956)(2002). Two essays on liberty. In: H. Hardy (Ed.), *Liberty*. Oxford: Oxford University Press.
- Burnham T. & Phelan J. (2000). *Mean genes: From sex to money to food - taming our primal instincts*. Cambridge, Massachusetts: Perseus.
- Carlsson-Kanyama A., Engström R., & Kok R. (2005). Indirect and direct energy requirements of city households in Sweden: Options for reduction, lessons from modeling. *Journal of Industrial Ecology*, 9, 221-236.
- Dasgupta P. (1998). The economics of food. In: J.C. Waterlow, D.G. Armstrong, L. Fowden & R. Riley (Eds.), *Feeding a world population of more than eight billion people* (pp.19-38). New York: Oxford University Press.
- Dasgupta P. (2001). *Human well-being and the natural environment*. Oxford: Oxford University Press.
- Diener E. & Seligman M. E. P. (2004). Beyond money. *Psychological Science in the Public Interest* 5, 1-31.
- ESI (Environmental Sustainability Index) (2005). *Benchmarking national environmental stewardship*. www.yale.edu/esi.
- Frey, B. S. & Stutzer, A. (2002). *Happiness and economics*. Princeton: Princeton University Press.
- Hamilton, C. (2003). *Downshifting in Britain. A sea-change in the pursuit of happiness* (Discussion Paper Number 58). Canberra: The Australia Institute.

- Hamilton, C. (2003). *Growth fetish*. Crows Nest NSW: Allen & Unwin.
- Hofstetter, P. & Ozawa, T. (2003). *CO₂ emissions per unit of happiness*. Tokyo: 2nd International Workshop on Sustainable Consumption.
- Heap, R. B. & Kent, J. (Eds.)(2000). *Towards sustainable consumption: A European perspective*. London: The Royal Society.
- Jalas, M. (2005). The everyday life context of increasing energy demands: Time use survey data in a decomposition analysis. *Journal of Industrial Ecology*, 9, 129-146.
- John Paul II (1998). *Fides et ratio*. Boston: Pauline books and Media.
- Krimsky, S. (1985). *Genetic alchemy*. Cambridge Massachusetts: MIT Press.
- Munksgaard, J., Wier, M., Lenzen, M., & Dey, C. (2005). Using input-output analysis to measure the environmental pressure of consumption at different spatial levels. *Journal of Industrial Ecology*, 9, 169-186.
- Myers, D.G. (2002). *Social psychology*. New York: McGraw Hill.
- Myers, N. & Kent, J. (2004). *The new consumers*. Washington: Island Press.
- Nussbaum, M. (2000). *Women and human development*. Cambridge: Cambridge University Press.
- Nussbaum, M. (2001). *Upheavals of thought: The intelligence of emotions*. Cambridge: Cambridge University Press.
- Ng, Y.-K. (1997). A case for happiness, cardinalism, and interpersonal comparability. *Economic Journal*, 107, 1848-1858.
- O'Neill, O. (2002). *Autonomy and trust in bioethics*. Cambridge: Cambridge University Press.
- O'Neill, O. (2002). *A question of trust*. Cambridge: Cambridge University Press.
- Paavola, J. & Bromley, D. (2002). Contested choices In: D. Bromley & J. Paavola, (Eds.), *Economics, ethics, and environmental policy: Contested choices* (pp.3-14). Oxford: Blackwell Publishers.
- Ricoeur, P. (2000). *The just*. Chicago: The University of Chicago Press.
- Sen, A. (1987). *On ethics and economics*. Oxford: Blackwell Publishers.
- Sen, A. (1992). *Inequality re-examined*. Oxford: Clarendon Press.
- Sen, A (1999) *Development as freedom*. Oxford: Oxford University Press.

Takase, K., Kondo, Y., & Washizu, A. (2005). An analysis of sustainable consumption by the waste input-output model. *Journal of Industrial Ecology*, 9, 201-220.

Related Approaches

Common Values in the European Research Area: The Role of the European Union

*Rainer Gerold**

When the ALLEA chair informed me of this meeting, I spontaneously offered to report on the Eurobarometer's results on cultural values and science. Due to delays, the report will unfortunately only be published in June; I am therefore not in a position to give you any details at the moment.

European society is a rich cultural tapestry made up of heterogeneous ethical, religious, historical and philosophical backgrounds. Although this is sometimes regarded as a weakness, the ability to discuss, challenge and take account of traditional values and systems is one of Europe's great strengths. These underlying cultural values do, however, sometimes lead to divergent positions on the ethics of certain advances in science. New developments in science and technology such as the cloning of human embryos, transgenic animals, genetically modified food and genetic testing or therapy have highlighted these differences.

Traditionally, as far as ethics is concerned, the lead initiative is taken globally by UNESCO through the International Bioethics Committee (IBC). In Europe it has been taken by the Council of Europe, which has many notable achievements, including significant treaties, conventions and protocols covering many different areas of activity. In the field of science, this includes the 1997 Convention on Human Rights and Biomedicine and the 1991 Convention for the Protection of Vertebrate Animals used for Experimental and other Scientific Purposes.

At the Council of Europe Warsaw summit earlier this week, (16-17 May 2005), questions were raised about the Council of Europe's role in an enlarged and further enlarging EU. It was recognised that it was vital for Europe's unprecedented unity to be based on the fundamental values embodied in the Statute of the Council of Europe, but that a more intensive co-operation with other institutions - particularly the EU - was needed. However, because of the important changes taking place in Europe, in particular the building of a truly internal market with free

* Former Director Science & Society of the Research Directorate General (DG XII) of the European Commission.

movement of people, goods, services, labour and capital, the EU itself must also address ethical issues.

The most fundamental initiative at the EU level is the adoption of the Charter of Fundamental Rights and its incorporation into the European Constitution. The Charter contains a number of specific articles addressing ethical issues, including the freedom of science. It is also more specific on bioethics issues than many national constitutions. In addition, there is a practical need to address ethical issues in many areas of EU activity. For example, the regulatory field, migration, environment, health, energy, data protection, patenting and clinical trials all have ethical aspects. Likewise, when promoting science and technology research, decisions have to be made about what research will or will not be funded or permitted.

The EU Framework Programme is a major tool for fostering the development of cutting-edge science and technology as well as its application, which give rise to many areas of research where values and ethical judgements are becoming more important. What has the European Commission done to address these challenges?

European Group on Ethics

Firstly, the European Group on Ethics (EGE) was set up more than 12 years ago to provide the EU with opinions on difficult ethical issues in relation to science. This has been a very successful initiative, producing about 20 opinions and the EGE's mandate, which recently expired, will shortly be renewed. Following the establishment of the EGE, similar bodies have been established to advise national governments in many of the Member States.

Embedding Ethics into EU Research

Secondly, in 2001 the Commission established a Science and Society Action Plan covering governance, communication, education, women and science that also included a strong ethics component in putting responsible science at the heart of policy-making. This action plan was subsequently incorporated into the 6th Framework Programme (FP6) and has resulted in a number of important activities. These include:

Promoting research on ethics

This has provided some €5m per year for research to specifically address ethical aspects of science and technology research. For example:

- BITE: Analysis of the ethical and legal issues associated with use of biometrics;
- BeSHa: investigating developing countries' benefit sharing of the profits from intellectual property resulting from research on natural indigenous resources;
- COB: exploring the interrelation between socio-cultural conditions and medical research and practice's ethical and legal arguments;
- ETHICBOTS: an analysis of the techno-ethical issues associated with the integration of human beings with artificial entities (artificial intelligence and robots).

Ethical review

A limited ethical review was a feature of previous Framework Programmes but was largely limited to biomedical research. However, with the introduction of FP6, an ethical review was systematically implemented for all research funded under the Framework Programmes. The responsibility for implementing this review rests with a unit not related to the promotion of research in bio and other technologies.

Research proposals require an EU-level ethical review if they raise sensitive ethical issues such as, for example, the use of human embryos, human embryonic stem cells, foetal tissue, research involving children or others unable to consent, use of sensitive personal data, and research on non-human primates or novel transgenic animals. Most difficulties arise where the proposers have failed to say how they will deal with ethical issues in their research, or indeed failed to recognise that there may be ethical issues.

These systematic ethical reviews of transnational research are unique. They are carried out at the Commission by independent, multidisciplinary panels that not only include ethicists, philosophers, psychologists, social scientists and animal welfare specialists, but also lawyers, medics and experts in the science under discussion. Following the ethical review, the panel would normally have certain requirements that must be included in the research contract in order for the project to comply with the Framework Programme's ethical rules and therefore to be eligible for funding. If the panel is particularly unhappy with a

project, they may ask for a meeting with the consortium to ensure that they understand and will comply with the ethical issues.

This EU-level ethical review in no way replaces ethical approval at the national or local level. Researchers must make sure that they also obtain any required national approval in order to have their research funded by the Commission. Apart from helping to ensure that the Commission does not fund research that is ethically unsound, the ethical review, through its feedback and interaction with researchers, is an important contribution to raising awareness and discussion of the research's ethical aspects. It also promotes the convergence of European views on ethical issues in research.

Key activities and actions

Let me mention some further initiatives in the Science and Society portfolio:

Codes of Conduct

In 2004, we published 'Codes of Conduct', a survey and directory of national and international codes of conduct and other ethical standards for science in the geographical area of the European Union and other countries associated with the Framework Programme.

Genetic Testing

In May 2004, the European Commission hosted a European citizens and stakeholders' conference to discuss the ethical, social and legal aspects of human genetic testing in research and healthcare applications. The conference was based on 25 recommendations on human medical genetic testing by a high-level, independent Expert Group from academia, industry and patient groups set up by the Commission to examine this issue.

NEC Forum

The Commission promotes a forum for EU national ethics committees where ethical issues emerging from research and new technologies can be discussed. These fora are held twice a year and are hosted by the current Presidency of the EU. They also have an important role in fostering the convergence of views. On 24 May 2005, we will hold the 5th Forum meeting in Luxembourg.

REC Conference

Member States' local research ethics committees often have particularly heavy workloads. They consequently often function in isolation from other such committees, nationally and, even more so, internationally. In January 2005, the Commission therefore hosted a conference for member states' local research ethics committees in Brussels. This unique event proved extremely popular and provided an excellent opportunity for networking and the exchange of ideas amongst people who otherwise meet rarely, if at all. We have had many requests to repeat this event. We are currently considering an initiative for the ongoing networking of RECs.

Infrastructures

Easy access to reliable and up to date information on ethical issues is essential. The Commission has an initiative in progress to establish an information and documentation resource to help track and analyse the development of ethical issues in science at a national and international level. Last year we also published a series of booklets for all the new Member States and Candidate Countries in which details are provided of national regulations on ethics in research. These booklets, published in both English and the mother tongue of the relevant country, have proved extremely popular with researchers.

Capacity Building in Developing Countries

A number of the Commission's activities focus on developing capacity in ethics in developing countries. In recognition of the need for increased co-operation at a global level, many of these activities are carried out in close collaboration with other major international organisations such as the Global Forum on Bioethics in Research. This is an informal partnership established by a number of major national and international funding organisations and others that have a shared interest in the ethics of conducting research in developing countries involving human beings. The Forum meets annually and the last meeting in Malawi in March this year discussed the question "What happens once the research is over?", which considered the ethics of ongoing support for local participants in developing countries.

Eurobarometer

Let me now, after all, say a few words on the not yet finalised Eurobarometer report on values. We are all aware that the divergence of attitudes towards values can cause controversy in research. This can clearly be observed in the vigorous discussions on the use of human embryonic stem cells that monopolised the debate over and almost blocked the EU's 6th Framework Programme. A better understanding of Europe's underlying cultural values is therefore essential if we are to develop both a dynamic and acceptable research agenda.

In 2002, the Commission set up an expert group to consider how such ethical values might be better identified. A key output of this expert group was a Eurobarometer (EB) questionnaire on Social Values, Science and Technology that was run at the beginning of 2005. This Eurobarometer first examines European citizens' values and ethical principles, including:

- their overall satisfaction with life
- their religious and spiritual beliefs
- attitudes towards politics
- the environment
- gender equality
- children's upbringing.

It then moves on to consider European citizens' general attitudes towards science and technology, including:

- S&T's contribution to the European quality of life
- the role of different stakeholders (scientists, media, consumer organisations, industry and public opinion).

Thereafter, a range of basic societal values are examined, such as:

- participation in decision-making processes
- protection of privacy
- freedom of information
- equality and integration in society
- environmental protection.

Finally, people are asked what they think of specific applications' impacts regarding a wide range of new and possible future technologies (solar energy, computers and IT, biomedicine, cloning, genetic engi-

neering for food and health, space exploration, nanotechnology, mobile phones, new energy sources for cars, air transport etc.).

This 'Values EB' was carried out in respect of all 25 Member States, plus the candidate countries (Romania, Bulgaria, Croatia and Turkey) and also Iceland, Norway and Switzerland. It was run at the same time as the latest of an ongoing Eurobarometer series on Europeans' attitudes towards Science and Technology. The two Eurobarometers strongly complement each other and will provide many opportunities for further analysis. The report should be made public in June¹. The early results already seem extremely interesting.

The aim of the European Commission is to promote science and research that acknowledges cultural diversity and respects fundamental ethical principles. This is achieved through a process of discussion, debate, mutual respect and understanding and the identification of shared values. The results of the Values EB promises to be a very useful source of information to aid this process. I would like to encourage ALLEA to use this material in its deliberations.

In conclusion

The proposal for the 7th Research Framework Programme (FP7) has been launched by the Commission and is currently being discussed and finalised. As in the 6th Framework Programme, shared European values have been recognised as a cross-cutting issue for all research funded by the EU. In the new Framework Programme, we should aim at an increased focus on the embedding of scientific and societal issues in all projects and a greater bridging of the gap between the natural sciences and the humanities. In recognition of the importance of science and societal issues, the Commission proposes an almost four-fold increase in the funding of 'Science in Society' under FP7 when compared to the funding under FP6.

However, I must of course emphasise that the final decisions in respect of the FP7 will be taken by the Council of Ministers and the European Parliament. It is therefore very important that science speaks up to ensure that there will always be sufficient funds for research, a

¹ The two Eurobarometers can be found on the Commission's website at the following addresses:
Values http://europa.eu.int/comm/public_opinion/archives/ebs/ebs_225_report_en.pdf
Attitudes to S&T
http://europa.eu.int/comm/public_opinion/archives/ebs/ebs_224_report_en.pdf

continuation of the embedding process and a willingness amongst researchers to participate in and further develop the ethical review process.

I would like to invite all ALLEA participants to take an active role in ensuring their involvement in both the development and activities of FP7. I would also be very pleased to hear your comments and suggestions about the initiatives and activities that I have described, or indeed about how to take into account some of the ethical concerns arising from new and emerging technologies such as the potential for dual use, the creation of human/animal chimera embryos, challenges to personal privacy and identity, the use of animals in new areas of research, and human enhancement.

Ethics and Politics: The Activities of UNESCO in the Area of Ethics

Henk ten Have*

Introduction

The United Nations Educational, Scientific and Cultural Organization (UNESCO) is the only UN agency with specific responsibilities for scientific research. This implies promoting scientific collaboration among the peoples of the world in order to advance the objectives of international peace and of the common welfare of humankind. It also implies making sure that the advances of science and technology will take place within the framework of “universal respect for justice, for the rule of law and for the human rights and fundamental freedoms”, as expressed in Article 1 of UNESCO’s Constitution. The ethical aspects of scientific research need therefore to be considered. The Recommendation on the Status of Scientific Researchers, adopted in 1974, underlines the importance of freedom of research but at the same time articulates that scientific and technological knowledge should be used for the enhancement of the cultural and material well-being of citizens (UNESCO, 1974).

In the 1980s, UNESCO focused activities on the human genome project and its ethical implications. The General Conference invited the Director-General of UNESCO in 1989 to introduce a permanent system of consultation for the exchange of information and experience on the ethical implications of contemporary science and technology (UNESCO, 1989). The purpose is to make UNESCO into a clearing-house for information and documentation on the ethics of science and technology within the United Nations system in order to produce ‘forward-looking reflection’. Since then, UNESCO has been involved in organizing and sponsoring international activities in bioethics (see, for example, Sass, 1991). In 1993, the member states requested the Organization to consider the possibilities for establishing an international legal framework for the protection of the human genome. The underlying reason for this request not only is to have due regard for the

* UNESCO, Division of Ethics of Science and Technology, Paris, France.

freedom, dignity and identity of the human person, but also the need to ensure the participation of all in the advances of the biomedical and life sciences and in the resultant benefits (UNESCO, 1993). In the same session, the member states decided to establish the UNESCO International Bioethics Committee. This has been the start of an explicit program in the ethics of science and technology, in particular bioethics. In 2002 ethics has been earmarked as one of the five principal priorities of UNESCO.

The current revolution in science and technology has led to the concern that unbridled scientific progress is not always ethically acceptable, and at least necessitates careful ethical reflection. The need to establish common values and benchmarks for all countries alike, and to promote ethical principles and standards to guide scientific progress and technological development, is becoming increasingly acute, especially in developing countries that do not equally enjoy the benefits of scientific and technological advances. UNESCO's work in ethics of science and technology reflects these global concerns. It examines such progress in light of ethical considerations rooted in the cultural, legal, philosophical and religious heritage of the various human communities. This is another characteristic of ethics: it is not only related to science and scientific developments, but it has also an essentially cultural and educational dimension. Finally, the priority of ethics in UNESCO reflects the fact that ethics is more and more considered a responsibility of the world's political community (Lenoir, 1997a).

Linking science and policy: IBC, IGBC and COMEST

As a permanent Committee, the International Bioethics Committee (IBC) has the function to promote reflection on the ethical and legal issues raised by research in the life sciences and their applications, as well as to encourage the exchange of ideas and information, particularly through education. The Committee must also inspire action to heighten awareness among the general public, specialized groups and public and private decision-makers involved in bioethics. Finally, it must cooperate with the international governmental and non-governmental organizations concerned by the issues raised in the field of bioethics as well as with the national and regional bioethics committees and similar bodies. The IBC is the only ethics committee

within the UN system and is without counterpart at the international level (Lenoir, 1997b). The Committee is multidisciplinary and multicultural. It has 36 members, designated by the Director-General of UNESCO for a term of four years on the basis of equitable geographical representation. The members serve in a personal capacity; they are fully independent and do not represent their countries. They are recognized experts in, for example, the life sciences, medicine, social and human sciences, law, philosophy and ethics. The Director-General convenes the IBC at least once a year. The Committee has produced a long series of opinions and recommendations, adopted by consensus and widely disseminated. Examples are the reports *Genetic Screening and Testing* (1994), *Ethics and Neurosciences* (1995), *Food, Plant Technology and Ethics* (1996), *The Use of Embryonic Stem Cells in Therapeutic Research* (2001), and *Pre-implantation Genetic Diagnosis and Germ-line Intervention* (2003) (see UNESCO website: www.unesco.org/shs/bioethics).

In order to make sure that the recommendations and activities of the scientific experts in IBC are linked to the activities of governmental experts and policy-makers, the Member States established the Intergovernmental Bioethics Committee (IGBC) in 1998. The IGBC examines the advices and recommendations of the IBC, submitting its opinions to the Director-General for transmission to the Member States. The IGBC is composed of 36 representatives of the Member States, elected by UNESCO's General Conference. This Committee therefore consists of a different type of experts than IBC: members of IGBC, even if they are, for example experts in bioethics, are representing the views of their governments; members of IBC are representing themselves as experts in a particular scientific discipline. In bringing together two bodies of scientific and political experts, respectively, UNESCO also demonstrates that bioethics itself has evolved from academic discipline to field of policy-making and public debate. Policy-development and political decision-making regarding bioethics need to be informed by expert scientific advice, while bioethical expertise if it wishes to be translated into policies and legislation needs to be associated with politics.

In 1998, the UNESCO ethics program was expanded beyond the domain of bioethics, with the establishment of the World Commission on the Ethics of Scientific Knowledge and Technology (COMEST). This Commission is composed of 18 prominent and independent

scientists and other experts from different regions of the world and from various scientific disciplines (education, engineering, history, law, mathematics, philosophy, politics, sociology). It is advising the Organization on issues concerning ethics of science and technology. The Secretariat for COMEST as well as IBC is located within the Division of Ethics of Science and Technology. COMEST is specifically mandated to be an international advisory body and an intellectual forum for exchanging ideas and experience, and encouraging the scientific community to examine fundamental ethical questions – and to detect the early signs of risk situations. It formulates ethical principles that can shed light on the various choices and impacts brought about by new discoveries. It advises decision makers on policy issues and promotes dialogue between the international scientific community, government and the public at large concerning sensitive areas such as sustainable development; freshwater use and management; energy production, distribution and use; outer space exploration and technology; as well as issues of rights, regulations and equity related to the rapid growth of the information society. The Commission executes its mandate through bringing together experts who study specific problems and disseminate the results of their analysis through publications. Areas such as ethics and space technology, ethics and energy, and ethical issues in relation to water use have been examined in the past, and have led to widely disseminated publications (for example, Pompidou, 2000; COMEST, 2004). The most recent publication concerns the Precautionary Principle; because this principle is controversial in an international perspective, a group of experts analyzed the concept and its applications in diverse settings, in order to clarify possible misunderstandings (COMEST, 2005a). COMEST organizes a public session every two years, bringing together scientists, ethicists, lawyers, and policy-makers to discuss salient ethical questions in science and technology. Such well-attended conferences are organized in different regions of the world, not only to provide a platform for global concerns but also to stimulate the ethical debate and the creation of networks of experts in these regions. Recent conferences took place in Rio de Janeiro (COMEST, 2003a) and Bangkok (COMEST, 2005b) and the forthcoming meeting will be in Africa in 2007.

In order to coordinate the increasing international activities in the area of bioethics, the Director-General of UNESCO took the initiative in 2003 to establish the United Nations Inter-Agency Committee on

Bioethics. The Committee involves inter-governmental organizations within and outside the United Nations system, such as the World Health Organization (WHO), Food and Agriculture Organization (FAO), International Labor Organization (ILO), United Nations High Commissioner for Human Rights (UNHCHR) and World Intellectual Property Organization (WIPO) but also the Council of Europe, the European Commission, the Organization for Economic Cooperation and Development (OECD) and the Arab League Educational, Cultural and Scientific Organization (ALECSO). The Committee provides a forum for debate and exchange of information, promotes coordination of activities, facilitates collaboration, and engages in concerted action (for example, examining the ethical issues in regard to intellectual property rights). The Committee meets at least once a year; it reports to the Secretary-General of the United Nations and to the executive heads of the participating organizations.

UNESCO's activities in ethics of science and technology take many forms and cover much ground. They include, for example, drawing up recommendations for decision makers and drafting and developing ethical guidelines, standards and legal instruments. UNESCO also helps to develop regional networks, to build and expand national capacities, to promote ethics in science education and to provide educational materials. Further, it performs an essential 'ethical watch' function and plays an important role as a catalyst and think tank, informing public opinion on the human rights implications of scientific and technological progress.

Standard setting

Following the global dissemination of science and technology, bioethics has also become increasingly international. Medical research is increasingly multi-center and international, with more and more research subjects recruited in developing countries. Also healthcare practices are global but guidelines and legal contexts differ and are sometimes absent. Rules for transplantation and procedures for organ donation, for example, are varying among countries and these different approaches have led to abuses such as organ trafficking and commodification of transplantation practices. Furthermore, the burdens and benefits of scientific and technological advancements are not equally

distributed. Poorer countries risk to be excluded from the benefits of biomedical progress. There also is a risk that double or at least different moral standards are applied in different regions of the world.

Many countries, however, only have a limited infrastructure in bioethics, lacking expertise, educational programs, bioethics committees and legal frameworks. The global nature of science and technology implies the need for a global approach to bioethics. Member States have mandated UNESCO to set universal ethical benchmarks covering issues raised within the field of bioethics. They want to work together towards identifying basic principles and shared values regarding science, technology and health care. Standard-setting action in the field of bioethics has become a necessity that is felt throughout the world, often expressed by scientists and practitioners themselves, as well as by legislators, policy-makers and citizens.

It was in this context that in October 2003, based on preliminary feasibility studies of IBC, UNESCO was mandated by its Member States to draw up a declaration setting out fundamental principles in the field of bioethics. After two years of intense work, these same Members States adopted, unanimously and by acclamation on 19 October 2005, the *Universal Declaration on Bioethics and Human Rights*, thus solemnly affirming the commitment of the international community to respect a certain number of universal principles for humanity in the development and application of biomedical science and technology. With this new Declaration, UNESCO strives to respond in particular to the needs of developing countries, indigenous communities and vulnerable groups or persons. The Declaration reminds the international community of its duty of solidarity towards all countries. Apart from the already well-established principles in the scientific community such as informed consent, the principle of autonomy and individual responsibility, respect for privacy and confidentiality (also articulated in two previous Declarations adopted by UNESCO), the *Universal Declaration on Bioethics and Human Rights* raises the issues of access to quality health care and essential medicines, nutrition and provision of clean water, to the improvement of living conditions and the environment and the reduction of poverty. The Universal Declaration thus opens perspectives for action that reach further than just medical ethics and reiterates the need to place bioethics within the context of reflection open to the political and social world. Today, bioethics goes far beyond the code of ethics of the various professional

practices concerned. It implicates reflection on the evolution of society, indeed world stability, induced by scientific and technological developments. The Universal Declaration paves the way for a new agenda of bioethics at the international level (Faunce, 2005).

Building national capacities and international cooperation

The objective of the UNESCO program is to identify ethical issues that are relevant to the various regions of the world in an effort to determine and implement appropriate strategies for encouraging ethical reflection at regional and sub-regional levels, and for strengthening national capacities and international cooperation in bioethics. For these efforts to be successful, it is essential to take into account the legal, cultural and religious traditions in the member states. However, standard-setting activity is only the first step to achieve the objective of the program. The Declarations adopted will remain paperwork if their provisions are not taken into account by and in the member states.

However, the bioethics infrastructure in member states is very heterogeneous, - varying from countries with many bioethics experts, teaching programs, legislation, ethics committees, to countries with hardly any of these. This heterogeneity also means that the input to the bioethical debate is often coming from wealthy developed countries. For instance, the contribution from researchers in developing countries to the scientific bioethical literature is rather low (Borry, Schotsmans, and Dierickx, 2005). UNESCO is undertaking major efforts to assist member states in building and reinforcing their bioethical infrastructure. In particular three main activities are aimed at (a) providing factual information, (b) promoting ethics teaching, and (c) establishing bioethics committees.

Global Ethics Observatory

In order to provide Member States with proper tools for reflection and appropriate means for coping with emerging ethical challenges in science and technology, the Global Ethics Observatory (GEObs) has been launched in December 2005 (www.unesco.org/shs/ethics/geobs). GEObs is constituted at the moment by three databases. The first database (*Who's who in ethics?*) presents data on experts in various areas of ethics. The database allows searching for different types of

experts, according to country, area of expertise, experience and keywords. The second database includes data of institutions such as ethics committees (at different levels: local, national, regional, international), departments and centers in the area of ethics, and associations and societies in ethics. This database, as the others, will cover all areas of applied ethics: bioethics, nursing ethics, law and ethics, social sciences and ethics, science ethics, environmental ethics, engineering ethics etc. It will also in due course present all data in the six official languages of the Organization. The third database presents descriptions of ethics teaching programs developed in the Ethics Education Program, described below. Since the launch of GEOBs, the number of data entered is gradually increasing, allowing better assessment of available expertise in various member states.

Ethics education

The Framework for Action of the World Conference on Science (Budapest, 1999) states that ethics and the responsibility of science should be an integral part of the education and training of all scientists and that they should be encouraged to respect and adhere to basic ethical principles and responsibilities of science. In 2002, the Division of Ethics of Science and Technology and COMEST organized a Working Group on the Teaching of Ethics that has provided advice on how to integrate ethics and responsibility in scientific training. This Working Group has produced a report on the teaching of ethics, which includes a survey of existing programs, an analysis of their structure and contents, and detailed curriculum advice on how to integrate ethics, history, philosophy and the cultural impact of science, into scientific education (COMEST, 2003b). This report has been the basis for the Ethics Education Program launched in 2004.

Assisting Bioethics Committees

The 'Universal Declaration on Bioethics and Human Rights' advocates the establishment of independent, multidisciplinary and pluralist ethics committees at national, regional, local or institutional levels. The purpose of these committees is to foster the exchange of ideas and information, support decision-making, develop tools for standard setting, and strengthen coordination and contacts among experts and institutions (*e.g.* through databases). They reinforce the role of UNESCO as an international clearing house for ethical issues. Ethics committees

will furthermore be one of the most important intermediary bodies for the implementation of the normative instruments adopted by the member states. In many countries, experiences exist with bioethics committees at various levels of government. However, in the majority of member states, such committees do not exist at the moment. UNESCO has initiated a program to support the establishment and operations of bioethics committees.

Raising awareness

UNESCO strives to create a better understanding of the major ethical issues raised by science and technology, and supports analysis and discussion of those issues internationally, regionally and nationally. An essential part of this work is raising public awareness and stimulating public debate. This is important for two reasons. First, ethics is of interest to policy-makers because of public concerns. Because there is public concern and debate on issues such as cloning, research with human beings, transplantation, nuclear energy or environmental pollution and global warming, ethics has been set on the national and international agendas. Ethics no longer is the sole concern of scientists, engineers or health care professionals. It has therefore transcended the exclusive domain of experts, showing that science is first of all a public enterprise, a social activity and cultural good. Second, scientific developments often affect all people. This is clear in medical research; this is increasingly dependent on the cooperation of large numbers of patients and healthy volunteers, often in international trials. This implies that the interests of science and research should be balanced with the interests of participating people, exactly because human rights and freedoms can be at stake. Public debate and awareness raising are therefore important to make clear that science and technology are advancing within an ethical framework of respect for human dignity and human rights. They also show that scientists have responsibilities towards society and do take into account the possible effects of their work on society, for example as regards protection of the environment, promotion of justice, and prevention of biohazards and bio-events.

That is why the Division of Ethics of Science and Technology is organizing 'Ethics around the world', a series of thematic rotating conferences to disseminate information and promote interaction and

networking among national and international experts. The objective is to stimulate debate at national and regional levels to build participation of civil society in the debate. These conferences, which are organized jointly with national UNESCO commissions, UNESCO field offices, and academic or research centers, usually feature one or two keynote speakers (often members of IBC or COMEST). Analysis and debate will then focus on specific topics relevant to the country. During the last two years, 'Ethics around the world' conferences were held in The Netherlands, the Islamic Republic of Iran, Lithuania, Mexico, Argentine, the Russian Federation, Portugal, Turkey, the Republic of Korea, Indonesia, China, Estonia and the Philippines. During 2006, 'Ethics around the world' conferences will take place in New Zealand, Peru, Togo, Uruguay and the Dominican Republic.

Awareness raising will also be stimulated by producing and disseminating publications. An explanatory brochure has been made on ethics and human cloning; this publication has been produced in the six official languages of UNESCO (English, French, Spanish, Arabic, Russian and Chinese)(UNESCO, 2005). A similar brochure focusing on ethics and nanotechnology is in production.

Conclusion

Although ethics of science and technology has always had an international dimension, nowadays many international organizations have programs and activities in this area. This illustrates that ethics, and bioethics in particular, has evolved from academic discipline into field of public debate and global policy making. The member states of UNESCO have decided that ethics is one of the five priorities of the Organization. The activities have focused on three categories of activities: (1) standard setting, *i.e.* developing internationally agreed normative frameworks to guide policy-making in member states, (2) capacity building, *i.e.* enhancing the ethics infrastructure in member states so that they will be able to better cope with the ethical issues emerging from the application and development of science and technology, and (3) awareness raising, *i.e.* supporting public debate on ethical issues and promoting that many stakeholders will have a better understanding of the moral choices at stake in a globalised world.

References

- Borry, P., Schotsmans, P., & Dierickx, K. (2005). Developing countries and bioethical research. *New England Journal of Medicine*, 353, 852-853.
- COMEST (2003a). *Proceedings third session* (1-4 December 2003, Rio de Janeiro, Brazil). Paris: UNESCO.
- COMEST (2003b). *The teaching of ethics*. Paris: UNESCO.
- COMEST (2004). *Best ethical practice in water use*. Paris: UNESCO.
- COMEST (2005a). *The precautionary principle*. Paris: UNESCO.
- COMEST (2005b). *Proceedings fourth session* (23-25 March 2005, Bangkok, Thailand). Paris: UNESCO.
- Faunce, T., (2005). Will international human rights subsume medical ethics? Intersections in the UNESCO Universal Bioethics Declaration. *Journal of Medical Ethics*, 31, 173-178.
- Lenoir, N. (1997a). Are attitudes towards bioethics entering a new era? *Journal of Medical Ethics*, 23, 69-70.
- Lenoir, N. (1997b). UNESCO: Genetics and human rights. *Kennedy Institute of Ethics Journal*, 7, 31-42.
- Pompidou, A. (2000). *The ethics of space policy*. Paris: UNESCO.
- Sass, H.-M. (1991). UNESCO conference on human rights and bioethics. *Kennedy Institute of Ethics Journal*, 1, 253-256.
- UNESCO (1974). *Recommendation on the status of scientific researchers* (Adopted at the 18th session of the General Conference). Paris: UNESCO.
- UNESCO (1989). *25 C/Resolution 5.2*. (This is a decision of the 25th session of the General Conference of UNESCO regarding 'Philosophy, ethics and the life sciences').
- UNESCO. (1993). *27 C/Resolution 5.15*. (This is a decision of the 27th session of the General Conference of UNESCO regarding 'Preparation of an international instrument for the protection of the human genome').
- UNESCO. (2005c). *Human cloning. Ethical issues*. Paris: UNESCO.

Ethical Issues and the Role of Academies

*Ruben Апресян**

If one were to take the double meaning of the word 'academy' into account as (a) a school, or, specifically, an institution for higher education and (b) a society, or organization to promote sciences and scholarship, one would understand academies' various roles with regard to ethical issues. Academies, irrespective of their formal status, have different tasks with regard to ethics: they promote both the dissemination of knowledge and skills as well as providing research, expertise, and consultancy in the cognitive fields of morality and ethics.

There are indeed experts in the history of moral philosophy and ethical knowledge, but it is questionable whether those who know a lot about ethical theories, discussions and problems can be experts in and consultants on practical moral issues and moral dilemmas that are raised in specific professional and practical spheres such as science. In practice, moral issues are normative and value issues that deal with that which is correct and incorrect, right and wrong, just and unjust, as well as good and bad decision making. Crucial decisions are often made in critical and unique situations in which only the decision-maker, as the actor, can be considered the true expert. Even where external expertise is available, it should be the competent actor who makes decisions. Professional ethicists may often not be the experts in the continuously expanding spheres of ethically concerned practice. It would thus be more efficient if professionals - researchers, engineers or technicians - were to master the skills and modes of value thinking and normative evaluations than for ethicists to understand a specific field of practical activity's peculiarities in order to engage in moral reasoning about it. Consequently, ethicists' contribution to research, or to a technological or other professional discourse should not only be defined by their initiating or joining such a discourse, but by their 'tuning' of future researchers or professionals - and certainly today's students - to such discourses. An important methodological question is: how can this 'tuning' be done?

* Director of the Institute of Philosophy, Russian Academy of Sciences, Moscow, Russia.

The role of education, and particularly education in ethics, cannot be over-estimated in the development and maintenance of high ethical standards in public and professional life. But what do professors or teachers teach when teaching ethics? This issue was critical even in classical antiquity, as we know from Plato. In the *Meno*, one of Plato's dialogues, this issue is suggested for discussion by Meno when he directs a question concerning the possibility of learning (and teaching) virtue to Socrates. Socrates' does not answer Meno directly: virtue is not acquired by teaching, practice, or by nature, as "virtue comes to the virtuous by the gift of God" (Plato, 1949). Hence, since virtue is given by God or is the result of divine grace, there is no room for secular attempts to promote ethics. According to Socrates, it is quite plausible that in the *Meno* dialogue we have a Socratic intellectual exercise. Socrates was probably teasing Meno, a devoted disciple of Gorgias, with whom he certainly did not sympathize. In one of the turns in the conversation, Socrates mentions that when speaking about virtue, one should follow the accepted premise strictly: if one presumes that virtue is a kind of knowledge, it could be learned and taught. In the *Meno*, Socrates leads his collocutor to the conclusion that virtue is neither knowledge nor opinion. In one of his arguments, he points to the fact that while there are teachers in particular fields of knowledge and practice, there are no teachers in virtue, or in political ruling, which seemed almost the same at that time. Socrates presents virtue as divine inspiration and as such it cannot have teachers and students. But in another dialogue, the *Protagoras*, Socrates comes to a different conclusion by following another premise. In the final discourse he insists that if virtue is knowledge "then I cannot but suppose that virtue is capable of being taught" (Plato, 1999). Could Socrates, who devoted his whole life to the pursuit of virtue and the ultimate good, and whom humankind remembers as one of the most eminent teachers of a virtuous life, really think differently?

Aristotle further developed Socrates' solution to the question posed in the *Protagoras*. In the *Nicomachean Ethics*, he stated the following about happiness: "whether happiness is to be acquired by learning or by habituation or some other sort of training, or comes in virtue of some divine providence or again by chance". He declares that: "all who are not maimed as regards their potentiality for virtue may win it by a certain kind of study and assiduousness." (Aristotle, 1998).

Unlike in ancient times, teaching ethics today is not exactly the same as teaching virtue or happiness or, in modern terms, (professional) integrity, which it was for Socrates. But even for Aristotle, ethics was something more than teaching virtues, although he believed that teaching and learning ethics could be an important factor in developing a good character. Today a teacher of ethics can only hope that her/his lectures will strengthen students' moral awareness. Practical or normative and value education should, in fact, be part of the ethics curriculum in higher education, because ethics is not just about 'norms and values'. It is also about different understandings of the phenomenon of morality, its nature and function, rules and reasoning, evaluation criteria, as well as its main moral concepts with their additional normative and applied implications. This is the traditional approach to teaching ethics to university students majoring in philosophy. In secondary and high schools, teaching ethics is usually reduced to teaching values and how to make practical decisions. Ethics as a university discipline has, however, altered considerably during the last four or five decades. It has ceased to be an exclusive philosophical discipline and part of a humanities education. At present, a popular approach is to present ethics as applied ethics, usually in one of its various versions: bioethics, business ethics, or any other 'minor' version of professional ethics. In its applied versions, ethics has increasingly become an integral component of a professional education. The question is therefore: should ethics be part of a humanities education, or a part of a professional education?

Teaching a version of applied or professional ethics does not necessarily mean making ethics part of a professional education. Popular versions of applied ethics are, in fact, presented to students as part of their general or humanities education. A course on biomedical ethics, taught, for example, at a law school or Business Administration department would have nothing or very little to do with the students' professional education, but could contribute towards general social sciences or humanities' educational goals.

On examining Russian academic practice, one observes that with respect to ethics, the situation is ambiguous in at least two ways. The first ambiguity is with regard to textbooks. There are approximately between 5 and 7 textbooks, with one Moscow publisher, for example, having sold over 1,000 copies per month of a standard textbook on ethics since the end of the 1990s. This is certainly a convincing figure.

A significant number of these books, however, goes to neighbouring countries, mainly Byelorussia, Ukraine and even the Central Asian countries of the former Soviet Union. An analysis of the various textbooks as well as the ethics curricula in the various higher education institutions reveals that a disproportionate number of substantial curriculum changes have been introduced. Most of these books and curricula follow the division into trivial meta-ethical, normative and applied issues. Inertia is evident from the topics selected and their interpretations. They do not at all reflect the changes that have occurred in ethical studies and moral practice over the last 30-40 years.

A few textbooks on specific fields of applied ethics have been translated from English, German and French. Russian textbooks have recently been published on biomedical and business ethics, but none on research ethics, science ethics, or engineering ethics. Last year saw the publication of a general textbook on applied ethics by Russian authors, while another is pending. But taking into account what has been mentioned above regarding the teaching of ethics as part of a professional education, the educational effect of the textbooks on general applied ethics will be negligible.

Medical schools are the only positive exception. Almost all Russian medical schools present lectures on ethics, usually biomedical ethics (*i.e.* not medical deontology) based on advanced curricula that are adequate considering this field's present state of the art. Generally speaking, the situation with respect to biomedical ethics is thus rather successful when compared to other fields of applied ethics. Foreign pharmaceutical companies about to start their research in Russia initiated the first ethical committees at the beginning of the 1990s. Between 1993 and 1998, the Russian Academy of Sciences established five national biomedical committees. These committees promoted legislative initiatives in respect of laws to regulate clinical research. The *Law on Pharmaceuticals*, accepted in 1998 and developed on the basis of international normative practice, governs the main principles of clinical research. The growing incorporation of Russian medical centres into international biomedical research systems has become a critical factor in Russian normative documents' gradual congruency with international ones. The Strategic Initiative for Developing Capacity in Ethical Review (2000) has also supported this process. The normative regulation in medical research and practice is therefore a positive

exception when compared to other research and experimentation fields.

The second ambiguity concerns the teaching of ethics. According to the Russian Ministry of Education, slightly more than 100 higher education institutions present various courses on ethics. Since Russia has almost 3,000 institutions of higher education, this means that ethics is taught in only every thirtieth institution. Even if we reduce the total number of institutions by one third to the 600 that were there before 1991 and considering this as a more or less reliable indication of the number of higher education institutions, 100 institutions teaching ethics would still be critically insufficient.

A case in point is the oldest and the best-known Russian university, Lomonosov Moscow State University, where ethics is only taught to students of philosophy and sociology. Professional ethics is taught at the Faculty of Journalism. That is all. There are no courses on ethics for students of mathematics and natural sciences. It is also worth mentioning that the 'flagship' of Russian higher education has no Code of Ethics or Mission Statement, although a general ethical approach is certainly indicated in the University Charter.

Russia's disregard of ethics as a required component of higher education is part of a general tendency towards the diminution of teaching humanities to students majoring in sciences, technology and engineering. There are indeed enough studies on applied ethics by authors who present it as a type of theory with regard to professions and/or practices, and although this theory is usually developed as a type of 'medium-level theory', it is too abstract and notional to be applied. Actual professional and practical experiences should therefore be investigated with respect to their conflicts and moral dilemmas to respond adequately to the task of transforming the presentation of ethics in higher education and its orientation regarding the needs of a professional education (Munro, 1996). Such a re-orientation of the teaching of ethics as an inherent component of a professional education would require the mastering of new teaching methods that would be relevant to the needs and challenges of today's professional practices (UNESCO, 2003).

Ethics in its contemporary form has been shaped according to the rationalization and normative interpretation of post-modern societies' fundamental changes in moral practice and requirements. The essence of the post-modern moral shift can be summarised as follows: Post-

modern societies have a complicated and intricate structure and function and, hence, require the growing influence of formal, inner-corporate, and inner-professional means of regulating public and private behaviour. Why? Although morality currently still appeals to an individual, her/his sense of personal dignity, sense of freedom and conscience, it does, in fact, have to take complex societies' radically transformed institutions and practices, such as the family, parenting, and education, into account. Modernity ultimately manifested itself in the ethics of the categorical imperative. It was required to wrench an individual from the tenets of the family, church, local community to be given an education, particular fashion etc. and thus to individualize him or her. This was the sublime, though sometimes hidden, pathos of modernity, because it was clear that an individual was still appertained to a family, church, local community, given education, particular fashion etc., even if not enlaced by all that. Post-modern society is, on the other hand, a society of plural standards, different types of families, varied confessions and denominations, amorphous communities, loose education, licentious fashion etc. Such a society needs a different type of social discipline, or social ethics. Modern ethics was content with an atomised individual – the individual given to him- or herself. Although Kant was speaking about duties to oneself and to others, there were no personalized others in the ethics of the categorical imperative. At the beginning of the 18th century, Lord Shaftesbury was one of the first to make the dialogue the subject of philosophical consideration, although it was, in fact, a soliloquy, *i.e.* a dialogue with oneself. Classical modern moral philosophy was concerned with the *Self*, although it seldom knew the *Self* in its attitude and relation towards the personalized *Other*; it presented virtues, duties and happiness as external to the context of communication.

The term 'discourse ethics', introduced by Jürgen Habermas and Otto Appel just a few decades ago, is relatively new. According to this type of ethics, sometimes also called 'communicative ethics', discourse is society's most significant function, as it concretises and justifies abstract norms and principles. This means that only those norms discussed by all individuals who could potentially be affected by their acceptance should be recognized as legitimate and valid. Unlike contractarian and universalistic models of justification, discourse ethics gives everybody in a community an opportunity to intervene in communication that introduces and promotes their interests and beliefs.

According to discourse ethics, individuals are only allowed to feel, express themselves and act constructively as partners (sometimes, only potential ones) in a discourse. This understanding of society and morality is significant for understanding multicultural communities.

This shift from the Kantian categorical imperative's ethics to the ethics of discourse reflected the changes in social practice and moral sentience requiring special means of normative regulation, institutionalisation and sanctioning. They also called for additional means of ethical regulation in various kinds of professional activity, which was provided by the various kinds of professional ethics.

Two approaches to professional ethics are possible in terms of such a regulation: one relies on professionals' integrity and dignity, and the other on formal rules and institutionally managed procedures. With the denudation of those traditional institutions of modern society that seemed to be natural and worked almost invisibly, the need for new forms of 'soft' (as opposed to 'hard', *i.e.* based on law and tradition) conduct regulations became imperative. The increasing variety of practical ethics systems reflects this social demand. The purpose of all these different codes is to adapt individual behaviour to legitimate forms of activity, particularly within the spheres of public or professional activities and to make this equally advantageous for all parties and stakeholders involved.

This paper therefore proposes that ethics should be regarded as part of a professional education. Ethics as such should certainly be a practical course based on an analysis of specific cases and experiences. Nevertheless, the emphasis on the need for the professionally oriented teaching of ethics should not ignore the traditional approach to teaching ethics: an (integral or dispersed) part of teaching humanities, aimed not only at building professional skills and providing civil education, but also at students' personal development as future researchers, teachers, scientists, engineers, in short, as professionals.

References

Aristotle. (1998). *The Nicomachean ethics* (1,10,1). (Translated by W.D. Ross). Oxford / New York: Oxford University Press.

- Munro, H. (Ed.)(1996). *Teaching ethics for research, scholarship, & practice. Greed is not good! Teaching ethics to professionals*. Sydney: The Federation Press. See also: <http://www.research.umn.edu/ethics/>
- Plato. (1949). *Meno* (100b) (Translated by Benjamin Jowett). Indianapolis: The Bobbs-Merrill Company.
- Plato (1999). *Protagoras* (361b). *Philebus, and Gorgias* (Translated by B. Jowett). Prometheus Books.
- UNESCO World Commission on the Ethics of Scientific Knowledge and Technology (2003). *The Teaching of Ethics*. Paris: UNESCO.

Ethical and Moral Impact: Three Cases

Biomedical Case

Research on Human Embryonic Stem Cells and Cloning for Stem Cells

*Michel Revel**

Scientific and medical aspects

Within five days, the human fertilized egg (oocyte) develops into blastocysts, a stage which is reached before the embryo implants into the maternal womb. An increasing number of in vitro fertilization (IVF) treatments are being performed to assist infertile couples in achieving pregnancy, and the resulting embryos are often cultured to the 5-day blastocyst stage because it increases the chances for successful implantation. In natural human reproduction, no more than half of the blastocysts succeed to implant and initiate pregnancy. In IVF treatments the rate of successful implantation is lower (35-40 percent) and hence excess embryos are produced in order to spare the mother the need for repeated hormonal stimulation and egg collection. Such supernumerary embryos are kept stored frozen at liquid air temperature, and if not required for further reproductive goals their only alternative is indefinite frozen storage or destruction. It is estimated that there are 400,000 surplus embryos stored frozen in fertility clinics in the USA alone.

In their inner cell mass, blastocysts contain the pluripotent Embryo Stem cells (ES cells), which will give rise to all the tissues in the human body. The ES cells can be expanded in laboratory cultures and made to develop into specialized tissues such as insulin-producing pancreatic islet cells, heart muscle cells, various types of nerve cells or of glial cells producing the myelin cover of nerves. ES cells had been studied in mouse for decades and their transplantation has been tested in several animal models of diseases, and shown to have therapeutic potential.

In 1998, the group of J.A. Thomson from Madison University in collaboration with J. Itskovitz-Eldor from the Technion's Rambam Hospital described the derivation of ES cell lines from supernumerary

* Chairman of the Israel National Council for Bioethics and Professor of Molecular Genetics at the Weizmann Institute of Science, Rehovot, Israel.

IVF human embryos (Thomson, 1998, p. 1145-1147). Such super-numerary IVF embryos, donated with informed consent of the parents, have been the source of the about 70 lines of human ES cells that are part of the world Registry compiled in 2001 by the U.S. National Institutes of Health (NIH)¹. An International Stem Cell Forum of 15 nations, founded in 2003 and chaired by the UK Medical Research Council, has undertaken to compare 75 human ES cell lines and standardize their properties in term of self-renewal and differentiation potential (The International Stem Cell Initiative, 2005, p. 795-797). Many studies indicate that transplantation of cells and tissues obtained by in vitro differentiation of human ES cells have the potential to replace the damaged tissues of various organs, such as insulin-producing pancreatic cells in diabetic patients, cardiomyocytes in victims of heart infarctions, neural cells in sufferers of neurological diseases such as Parkinson's disease or in victims of spinal cord traumas (Keller, 2005, p. 1129-1155). Such applications of the human ES cells technology, some of which have already been tested in animal models (Kehat et al, 2004, p. 1282-1289), could become the basis of a regenerative medicine but are still far away from actual clinical applications. Much research remains to be done in order to develop safe methodologies for the production of clinical grade human ES cell lines and their use for tissue transplantation in patients.

A major problem in organ and tissue transplantation is the immunological barrier, which can cause rejections of the graft or graft-versus-host disease, unless the tissues are matched to the donor. The hope to be able to derive the ES cells from blastocysts that have been obtained through oocyte fertilization by the transfer of a nucleus from a patient in need of a transplant ('cloned' blastocysts) would allow producing tissues that are compatible (quasi-autologous) to this patient. This 'non-reproductive cloning' consists in the fertilization of an oocyte by the nuclear transfer technology and in vitro culture to the blastocyst stage without implantation in a uterus. It is an area of research aimed at allowing major therapeutic advances that may save the lives and alleviate the suffering of patients with severe diseases, hence its usual denomination as 'therapeutic cloning'. The feasibility of producing patient-specific ES cell lines by this technology is uncertain at the

¹ The registry can be found at <http://escr.nih.gov/>

present time². If at all possible, the technique may require too many oocytes to be practically applicable and much more basic research on reprogramming of adult DNA for embryonic development is needed. In any event, the use of human oocytes for obtaining cloned ES cells will always entail ethical questions. Many countries have already ethical guidelines for altruistic donation of oocytes for assisted reproduction and such guidelines could be extended to include donations for producing cloned ES cells for regenerative medicine applications.

One should also keep in mind that research on fertilization of oocytes by nuclear transfer has other important medical applications. For example, elucidating the reprogramming of adult chromosomal DNA which is an essential step in the initiation of early embryo development, has importance for research on aging, on cancer and on cell differentiation.

Ethical issues related to human embryo stem cells

Pluralism of moral views on the pre-implantation embryo

Ethical debates have surrounded the development of human ES cell research. The ethical position of individual societies and countries on deriving stem cells from supernumerary embryos, thereby ending their capacity to develop, derives from considerations on the moral status of pre-implantation embryos, a status which is itself contingent on cultural, religious or philosophical considerations on the beginning of human life.

Human Rights include the right to life as set in the Universal Declaration of Human Rights by the United Nations (1948): "Article 1. All human beings are born free and equal in dignity and rights.[..] Article 3. Everyone has the right to life, liberty and security of person". However, there are differences of views on when during prenatal life the embryo becomes a person, acquires human status and human rights.

² Results published in the magazine *Science* (Hwang et al Patient-specific embryonic stem cells derived from human SCNT blastocysts. *Science*, 308, 1777-1783, 2005) had indicated that donations of 17 oocytes were needed to produce one ES cell line (11 ES cell lines from 185 oocytes). However, an inquiry has since shown that the data were a forgery (*ScienceNOW* Daily News 23 December 2005; see 'stem cell controversy' in <http://www.sciencemag.org/>). The article Hwang et al. was officially retracted.

The *magister* of the Catholic Church is that the personal status of a human being is acquired at the moment of fertilization of the oocyte. In consequence, the Holy See does not authorize IVF, among other because it would necessarily create embryos that could not fulfill their potential to become human beings (Pontificia Pro Vitae, 2000). A fortiori, it condemns ES cell production from blastocysts, or research on such cells derived by third parties, and of course cloning for ES cell research.

That a pluralism of opinions exists on the moral status of the embryo is shown by the facts that many countries in the Christian sphere of influence authorize IVF because of its therapeutic value in treatment of infertility. It must be realized that accepting IVF has implied accepting research for improving the IVF reproductive technique, for example the *in vitro* culture of embryos for about a week in order to select the embryos with the highest chances for implantation, discarding some that are unsuitable. Other research on pre-implantation embryos led to new medical procedures, such as ICSI (sperm injection into oocytes to treat male infertility) or PGD (preimplantation diagnostic to help carriers of severe genetic diseases select embryos not affected by the disease and discard the affected ones). In their essence, certain moral questions on the status of the pre-implantation embryo posed by IVF and PGD procedures are not different from those raised by the derivation ES cell from embryos created for IVF but no more destined to implantation, cells which can be used for medical therapeutic aims that could be life-saving in some diseases. Let us briefly consider three frequently heard lines of argumentations for and against use of human ES cells.

Potentiality of human preimplantation embryo

1. Potentiality is a continuum: every human being was once an embryo, passing through the blastocyst stage before implanting in the uterus, and therefore the blastocyst has human status.
2. However, it is equally true that not every blastocyst has the potential to become a human being because:
 - a. In natural reproduction, only half of all fertilized eggs develop into blastocysts that implant in the uterus
 - b. In IVF, potentiality depends on parental decision to initiate a pregnancy. If parents have completed their reproductive plans, they may

decide that the remaining frozen embryos have no more potential (*i.e.* become supernumerary, often discarded after 5 years).

c. Moreover, not every embryo made in IVF can be implanted: this in order to select blastocysts with best chance of implanting, or in order to avoid multigemellar pregnancies

Personal status of the embryo

1. From the moment of fertilization, the embryo has full human rights and is to be respected as a person

2. However, the blastocyst (at 5 days after fertilization) can still cleave into monozygotic twins and therefore is not yet individualized as a person. The twinning process giving viable multiple offsprings can take place until days 8-13 (*i.e.* after implantation has taken place).

An independent consideration is that giving a personal status to the embryo has implication for the mother, in cases where the embryo or fetus may pose a threat to the mother's well being. For example, the Jewish tradition considers that the life of the mother always takes precedence over that of a fetus, thereby limiting the fetus personal rights until birth (see below section on ethical regulations in Israel).

Therapeutic aims of human ES cells

What weight should be given to utilitarian arguments based on the great promises of ES cell research for regenerative medicine?

1. For those who consider the preimplantation embryo as a person, it is clear that saving the life of one individual cannot morally be achieved by killing another individual.

2. However, many who do not consider the preimplantation embryo as a person still believe that it has dignity and deserves protection. Then, the expected therapeutic benefit and the duty to save patient's lives can take precedence over many moral doubts that one may have. This is for example illustrated in the Jewish view that 'fences' (*i.e.* more-than-required legal or religious interdictions), can be put aside in view of the therapeutic prospects³.

There is in various countries a pluralism of opinions on whether or not to authorize ES cell production and research. Beyond these philosophical and religious arguments, there are also differing legal

³ Rabbi Moshe Tendler, in US National Bioethics Advisory Committee report (2000). In the Jewish Law, most religious interdictions are lifted if a person's life is threatened.

situations. The protection of human life is included in the Constitution of several countries, such as Germany and several Latin American countries, and extends to protection of embryos since conception. Other constitutional legal systems emphasize Human Rights, avoiding having to define the exact limits of beginning and end of life. As a result, t

Pluralism of decisions on human ES cell production and research in various countries

The International Bioethics Committee (IBC) of Unesco issued in 2001, a report⁴ on the Use of Embryonic Stem cells in Therapeutic research (A. McCall-Smith & M. Revel, rapporteurs) which was adopted by the Intergovernmental Committee (IGBC) and by the General Conference of the 191 member States of Unesco. The report establishes that a pluralism of opinions exists, including the opinion to allow donation of supernumerary embryos.

"Every Society has the right and the duty to debate and decide upon ethical issues with which it is confronted... The IBC recognizes that human embryonic stem cell research is a subject on which it is desirable for a debate to occur at national level to identify which position on this issue is to be adopted, including abstaining from this research... Whatever form of research involving embryos is allowed, steps should be taken to ensure that such research be carried out within the framework of a State-sponsored regulatory system that would give due weight to ethical considerations and set up appropriate guidelines. When authorization of donations of supernumerary pre-implantation embryos from IVF treatments for therapeutic embryonic stem cell research is under consideration, particular attention should be given to the dignity and rights of both parental donors of embryos."

A similar pluralistic position was expressed by the European Group on Ethics in Science and New Technologies (EGE) in November 2000: "The derivation of stem cells from embryonic blastocysts raises the issue of the moral status of the human embryo (European Group on Ethics, 2000). In the context of European pluralism, it is up to each Member State to forbid or authorize embryo research. In the latter case,

⁴ Available at <http://www.unesco.org/ibc> (Reports of the International Bioethics Committee).

respect for human dignity requires regulation of embryo research and the provision of guarantees against risks of arbitrary experimentation and instrumentalisation of human embryos." Many countries have made such bioethical provisions and authorized the use of supernumerary embryos. The ethical evaluation has been particularly intense in the U.K. culminating in approval by the House of Lords⁵ (House of Lords Select Committee, 2002). The Commission of the European Communities has extensively reviewed the ethical and legal positions of different countries on the issue of human Embryonic Stem cell research⁶ (European Commission, 2003).

Table 1 lists the decisions on human ES cell technologies among various countries in the world, illustrating the pluralism of opinions. Nevertheless, a growing list of countries authorize the production and the research on human ES cells, either by Law or by National guidelines. In a number of countries, the situation is more complex and evolving.

In the USA, regulations by President Bush's administration stipulate that scientists working with federal funding (in the U.S.A. or abroad) can use the human ES cell lines from the NIH Registry produced before August 2001, but cannot produce new ES cell lines. This restriction does not apply to private companies. In November 2004, the State of California has voted to permit the derivation of new human ES cells and its public funding. On May 24, 2005, the US House of Representatives passed by a 238-194 vote, a law that would allow federal funding for research on new human ES cells. The law may still be subject to a presidential veto.

In France, the derivation of human ES cells or their import was at first forbidden, but a law passed August 6, 2004, allows for a period of 5 years research on cells derived from supernumerary IVF embryos, if there is a therapeutic aim and subject to case-by-case approval by a Biomedicine Agency.

⁵ House of Lords Select Committee. Report on Stem Cell research. February 2002
<http://www.parliament.the-stationary-office.co.uk/pa/ld200102/ldselect/ldstem/83/8301.htm>

⁶ Commission staff working paper: Report on human Embryonic Stem cell research.
http://europa.eu.int/comm/research/press/2003/pdf/sec2003-441report_en.pdf

Table 1. Pluralism of opinions on producing human ES cells*

<p>Prohibiting procurement of Embryo Stem Cells</p> <ul style="list-style-type: none">- Norway, Ireland, Austria, Poland, Argentina (and other South American States)- USA: (2001 ban if using Federal funding, may use existing cell lines in NIH registry only; 2005: House of Representatives voted to allow use of Federal funding for new ES cells)- Germany: Stem Cell Act (allows import and use of hES cells under certain conditions)- Italy (no more IVF embryo freezing by Law, confirmed by referendum in 2005) <p>Authorizing ES cell use and derivation from supernumerary embryos by law or by guidelines</p> <ul style="list-style-type: none">- UK, Belgium, Canada, Denmark, Finland, Greece, Hungary, India, Israel, Korea, China, Japan, Netherlands, Singapore, Spain, Sweden, Switzerland, Australia, Brazil,- California (state vote)- France (but only with special authorization, when no alternative, for 5years since August 04) <p>Allowing creation of human embryo for research (by in vitro fertilization)</p> <ul style="list-style-type: none">- UK, Belgium, Sweden, Singapore, China, Japan, Korea <p>Allowing therapeutic cloning (for ES cells, without implantation) by law or by guidelines</p> <ul style="list-style-type: none">- UK, Belgium, Sweden, Singapore, Japan, Korea, Israel

* Source: International Stem Cell Forum (ISCF)

Particularly interesting is the situation in Germany, where derivation of human ES cells is not permitted. Germany has an *Embryo protection Law* (1992) that aims to protect human life from the early embryo stage. Before April 2002, it would have been legally possible to import ES cells, taking advantage of the NIH Registry of 2001. However, it was considered that allowing import might incite other persons working abroad to produce ES cells and thereby destroy embryos, and that this was a criminal act under the German Law. Following intense debates, a Stem Cell Act (Import Law) was adopted in the Bundestag that prohibit the import and use of human Stem Cells, but allows some exceptions if the ES cells were derived under strict bioethical control from spare

(supernumerary) embryos and if the ES cell lines were made before 1/1/2002.

A case study: Ethical regulations on human ES cell research in Israel

The Bioethics Committee of the Israel National Academy of Sciences and Humanities⁷ has issued in August 2001 a report on *The Use of Embryonic Stem cells for Therapeutic Research*⁸, circumscribing the ethical questions in the context of Jewish law, as compared to Christian and Moslem religious views (The Bioethics Committee of the Israel National Academy of Sciences and Humanities, 2001).

Judaism places a high value on the religious obligation of treating serious illness even if it requires transgression of religious commands such as the sanctity of Sabbath. This stems from a deep respect of human life and of the human person, as has been restated by many modern Rabbinic decisors (Posekim), starting with Rabbi Moshe Feinstein and Israel Chief Rabbi Goren. The obligation of saving life cannot obviously be done at the expense of another life. However, in Judaism, the obligation of saving the life of a pregnant mother, or preventing grave damage to her health, is viewed as taking precedence over any moral status of the embryo, up to the moment of birth. With respect to the embryo prior to implantation, it is further viewed that there is no potential of the fertilized egg or the blastocyst to initiate pregnancy and develop to birth unless there is a parental decision to do so. These moral stances have been the basis for authorizing IVF and related medical procedures (ICSI, PGD), with the consent of leading Jewish religious authorities.

In the Jewish tradition and religious Law, the embryo acquires human status and human rights progressively, the Talmud stating that the embryo is not 'formed' until 40 days after pregnancy started. The Islamic tradition and Law (Shari'a) the embryonic journey to personhood is a developmental process, ensoulment taking place after three

⁷ The Bioethics Committee is pluridisciplinary and includes ethics philosophers (Prof. Asa Kasher and David Heyd), a Rabbi and physician (Dr Mordechai Halperin), jurists (Judge Shoshana Berman and Prof. Amos Shapira), geneticists/ bioethicists (Prof. Hermona Soreq, Dr Ephrat Levi-Lahad, Prof. Michel Revel, chair) and Academy officers (Prof. Alex Keynan and Dr Yossi Segal).

⁸ See: [http:// www.academy.ac.il/bioethics.html](http://www.academy.ac.il/bioethics.html)

periods of 40 days. These religious views, morally consistent with respect of human life and dignity, were taken into consideration in the report.

The specific recommendations on human ES cell research made by the report are in brief that "within the framework of IVF treatments, it will be permissible to donate supernumerary embryos that are no more destined to implantation, and this specifically for the purpose of therapeutic research". There must be regulations to insure free and informed consent for the donation, respect of human dignity, autonomy and liberty of the donors. The regulations should protect the rights of parents who find embryo research unacceptable. There should be a separation between the medical team responsible for the IVF treatment and the medical and scientific teams involved in ES cell research who receive the donation. Pre-implantation embryos should not be sold or bought; imperatives of justice and equality in the access to the modern medical technologies such as ES cell research must be upheld. Research involving the derivation of stem cells from human embryos should be scrutinized meticulously in order to avoid unethical aims, and the medical applications of human ES cell research must be restricted to well-identified therapeutic aims.

The report supports also the continuation of research into other sources of human stem cells, including so-called adult stem cells, which are often proposed as alternatives to those derived from supernumerary embryos.

Ethical views on cloning to obtain autologous ES cells

Bioethical arguments

While production and research on human ES cells does not require cloning, the technology of embryo cloning could help in producing transplantable tissues which would be compatible (autologous) to the patient in need of the transplant and not be rejected by the immune system (see above, Section on Scientific Medical Aspects). This 'therapeutic cloning' procedure consists in obtaining human oocytes, removing their nucleus and transferring the nucleus from a patient's cell in order to obtain blastocysts, and then deriving ES cells from these cloned blastocysts. The US National Academy of Sciences in its

January 2002 document on Cloning recommended that: "research on approaches that prevent immune rejection of stem cells and stem cell-derived tissues should be actively pursued."⁹ (National Academy of Sciences, 2002). These scientific efforts include the use of a number of techniques to manipulate the genetic makeup of stem cells, *including somatic cell nuclear transfer.*" The feasibility of cloning for producing custom-made ES cells for patients is uncertain (see footnote 2), but it is reasonable to assume that research on this technology will proceed. Since the procedure is done in vitro and without implantation in utero, it is important to avoid confusion with the debate on human reproductive cloning. Reproductive cloning will not be discussed here in any detail, sufficing to say that for some it is immoral as it deviates from nature, while for most it involves so many health risks and so poor efficiency in animal experimentation that its use in humans would be unethical even if there were justified medical needs. Hence, reproductive cloning is prohibited by International Declarations and by many national Laws. Since reproductive cloning is not permitted, one may say that paradoxically the ethical issues in the use of cloned blastocysts to derive ES cells may be considered less severe than for IVF supernumerary embryos: the 'cloned' blastocysts are *a priori* not destined to implantation. There would be no question of ending a potential to life, since this potential would not exist.

A more difficult question is whether it is ethically acceptable to a priori 'create' blastocysts by nuclear transfer, only with the purpose of deriving ES cells. In IVF, the embryos are created for reproductive purposes and only if they become supernumerary (*i.e.* losing their reproductive potential) they can be donated for ES cells. In some opinions, the original reproductive purpose is needed to show that the embryos were not created a priori to be destroyed, or in other words as a mean and not as end in itself. But according to others, there can be additional medical purposes that justify creating embryos, for example research on IVF technology or research on ES cells. Following this logic, several countries do authorize the creation of IVF embryos for research and therapeutic cloning (see Table 1). A yet different approach to the question is to argue that making cloned blastocysts for ES cells differs from normal IVF, since sperm and intact ova are not used. For blastocysts made by nuclear transfer the reproductive end is not a priori a possibility and using them for ES cell derivation does not imply

⁹ <http://www.nationalacademies.org/> or www.nap.edu/catalog/10285.html

altering the end for which they are produced. This would justify the decision in some countries (*e.g.* Israel) to allow cloning for ES cells while still prohibiting creating IVF embryos outside fertility treatments.

Another objection that has been raised against 'therapeutic cloning' is that if research on producing human blastocysts by nuclear transfer would be authorized, it would not be possible to control whether this research would not be a first step toward reproductive cloning. This is the major objection raised by President G.W. Bush in his February 9, 2002 address asking for a ban on all forms of cloning research. He stated: "Anything beside a total ban on human cloning would be unethical, it would not be implementable, one would not know which embryos is a clone or when such embryos are implanted." However, from the ethical point of view, the same objections may be raised against IVF and many other medical practices. It is preferable to put in place bioethical regulations that ensure transparency and responsibility of the physicians and researchers. Strict implementation of a ban that would not permit reproductive cloning should be possible while allowing the beneficial research on 'therapeutic' cloning to proceed.

In its report on human ES cells (see footnote 4) the International Bioethics Committee of Unesco concludes that "nuclear transfer should be used only for therapeutic research". It, therefore, considers that such research is not in contradiction with the Universal Declaration on the Human Genome and Human Rights and Article 11 prohibiting reproductive cloning therein. The IBC reports puts forward the argument that the benefits of the procedure [of nuclear transfer to produce embryonic stem cells] can take precedence over the fears deriving from this 'slippery slope' argument [*i.e.* that one type of scientific activity should be banned because it is close to another not authorized practice]. The role of Bioethics is to define the limits of the permissible and not to ban upfront and completely medical advances that may save lives and alleviate suffering.

National and international resolutions

Ethical debates on cloning for ES cells are still ongoing in many countries, even those authorizing human ES cell research. In Europe, most countries prohibit cloning for ES cells. At the European Union, the Group on Ethics of Science (European Group on Ethics, 2000)

"considers that, at present, the creation of embryos by somatic cell nuclear transfer for research on stem cell therapy would be premature, since there is a wide field of research to be carried out with alternative sources of human stem cells (from spare embryos, fetal tissues and adult stem cells)". Indeed, adult mesenchymal stem cells could be a source of autologous tissues if taken from the bone marrow of the patients (Wilan, 2005) but at present it is not clear if their potential will equal that of ES cells. The situation in Europe is however more diversified (see footnote 6). Belgium and UK authorize therapeutic cloning, the UK having adopted a specific law permitting the creation of human embryos by fertilization or by somatic cell nuclear transfer. In August 2004, the UK Human Fertilization and Embryology Authority (HFEA) has granted the first therapeutic cloning licence for research on diabetes at the Newcastle University Centre for Life. Worldwide, other countries allowing making cloned blastocysts for ES cells are Israel, Japan, Korea, Singapore and Sweden.

At the United Nations, a worldwide debate¹⁰ started when in December 2001 the General Assembly asked the Sixth Committee to consider the elaboration of an International Convention against the reproductive cloning of human beings. An initial proposal by France and Germany, also supported by Japan, was to ban cloning for the purposes of human reproduction. In 2003, a draft resolution was submitted by Costa Rica, supported by the USA and other countries, that would extend the international convention to ban all forms of cloning and would include a ban on research: "...States shall not permit any research, experiment, development or applications [...] of any technique aimed at human cloning". This led to a deep division because this position appeared extreme to many who consider that research on cloning may lead in the future to medical discoveries that will be beneficial not only for ES cell therapeutic applications in Regenerative Medicine but also to create models of human genetic diseases or to understand the processes of DNA reprogramming relevant to cancer and to cell differentiation. In view of these contradictory positions, the UN Sixth Committee voted in December 2003 to delay a decision. In November 2004, the General Assembly decided that instead of a legally binding treaty or convention, it would seek a non-binding political declaration that would "prohibit all forms of human cloning inasmuch as they are incompatible with human dignity and the protection of

¹⁰ See <http://www.un.org/law/cloning/>

human life". Vote in the Sixth committee on February 18, 2005 was 71 countries in favor with 35 against and 43 abstentions. Many countries that did not support the declaration cited the need to continue exploring the medical benefits of cloning, such as autologous ES cells. The General Assembly adopted the committee report by 84-34-37 on March 8, 2005. The political lack of consensus is likely to be reflected by different and changing national regulations. In the USA, the Senate is still considering whether the ban on reproductive cloning should include cloning to produce stem cells, as President Bush demands.

Case study: Regulations in Israel regarding cloning for ES cells

From the legal point of view, Israel has a Law 'Prohibition of Genetic Intervention' prohibiting germ-line gene modification and reproductive cloning in humans. The Law adopted in 1998 (5759) and renewed by the Parliament (Knesset) for another 5 years in 2004 (5764) specifies that what is prohibited is the implantation of a cloned embryo in a uterus for reproductive purposes. The Law does not rule out producing cloned blastocysts that will not be implanted. The Law requires a committee to report on developments in medical science regarding potential new therapeutical benefits or conversely dangers in the technologies.

In line with this Law, the Bioethics Committee of the Israel Academy of Sciences and Humanities in the Recommendations of its August 2001 report (see footnote 8) "considers it ethically permissible to experiment with new in vitro technologies to produce ES cells, such as reprogramming somatic cell nuclei by transfer into enucleated oocytes (so-called therapeutic cloning without reproductive purposes)." The Committee based its recommendation on ethical grounds, such as the lack of reproductive purpose and the potential life-saving benefits of the research. However, the production of cloned blastocysts for ES cell research must be strictly supervised and regulated. As in the UK, the opinion in Israel is that the respect for human life and human dignity is not violated by authorizing research that has the potential to alleviate suffering of patients, provided it is carried out under strict bioethical regulations.

The report of the Bioethics Committee also quotes rabbinical opinions (Halachic Conclusions, p. 12, paragraph 4): "The creation of

any embryo for such research purposes is prohibited. Nevertheless, the creation of in vitro pre-implantation embryos for research should be allowed if it is probable that this research will help save human life. This includes creating embryos by the cloning technology."

The Israel Academy Bioethics Committee report further defines a number of guidelines for the strict monitoring of this research. The research and therapeutic applications of nuclear transfer (cloning) to produce stem cells must be done (and can be done) with complete respect of human dignity. Most importantly, strict regulations should ensure that the numerous human oocytes needed for cloning research are obtained with respect of the bioethical regulations set up for IVF. A new Israeli Law is being prepared on oocytes donation for reproductive purposes¹¹. This proposed Law should also address the question of oocytes donations for medical applications which are not reproductive including research on cloning for ES cells. The ethical rules for organ transplants are in this sense a model: these are donations and not commodities.

Although the efficiency of cloning for ES cells is unclear today (see footnote 2), one can assume that - if research is allowed to proceed - a day will arrive when a reasonable number of oocytes will suffice for obtaining tailor-made ES cells compatible to a given patient. Altruist donation of oocytes from a single donor may then become an ethically acceptable possibility to produce the ES cells and the tissues needed to treat a patient without risk of immune reaction against the transplant. Alternatively, human oocytes could also be produced by maturing in vitro cells from ovary biopsies or producing oocytes from ES cell cultures (Hubner, 2003). In the future, there may also be other methods to obtain cytoplasts (enucleated cells) suitable for cloning to prepare ES cells, such as cytoplasts from existing ES cell lines.

In conclusion, the promises of Embryonic Stem cell technologies for a Regenerative medicine warrant pursuing this research while at the same time remaining vigilant with regards to all the Bioethical issues involved.

¹¹ Israeli Ministry of Health: National Statutory Committee for the issue of oocyte donation. http://www.health.gov.il/units/egg_cont/law.htm.

References

- Bioethics Committee of the Israel National Academy of Sciences and Humanities (2001). *The use of embryonic stem cells for therapeutic research*.
- European Group on Ethics: Opinion No.15 (2000). *Ethical aspects of human stem cell research and use*. European Union.
- House of Lords Select Committee. (2002). *Report on stem cell research*.
- Hubner K. *et al.* (2003). Derivation of oocytes from mouse embryonic stem cells. *Science*, 300, 1251-1256.
- International Stem Cell Initiative (2005). The international stem cell initiative: Towards benchmarks for human embryonic stem cell research. *Nature Biotechnology*, 23, 795-797.
- Kehat *et al* (2004). Electromechanical integration of cardiomyocytes derived from human embryonic stem cells. *Nature Biotechnology*, 22, 1282-1289.
- Keller, G., (2005). Embryonic stem cell differentiation: Emergence of a new era in biology and medicine. *Genes & Development*, 19, 1129-1155.
- National Academy of Sciences (NAS)(2002). *Scientific and medical aspects of human reproductive cloning..*
- Pontificia Academia Pro Vita (2000). *Declaration on the production and the scientific use of human embryonic stem cells*.
- Thomson, J.A. *et al.* (1998). Embryonic stem cells derived from human blastocysts. *Science*, 282, 1145-1147.
- Wilan, K.H. *et al.* (2005). Chasing a cellular fountain of youth. *Nature Biotechnology*, 23, 807-815.

Human Embryo Research: A Few Reflections on Ethical Issues

Andrzej Paszewski*

The use of human embryos for research and therapy discussed at this conference is one of the main issues in the bioethical discourse which has been going on for more than 20 years and resulted in a large body of literature. The discovery that embryonic stem cells may be effective in curing some health disorders involving tissue degeneration has given a strong impetus to efforts aimed at producing human embryos by somatic cloning for experimental and therapeutic purposes. The principles of the therapeutic use of embryonic cells and some promising results obtained in experiments with them were presented in an excellent way by Michel Revel. He has also reviewed the ethical dilemmas and controversies this procedure provokes. These are, however, not novel - they appear always when the integrity of the human embryo is endangered, particularly when it is destroyed.

Although these controversies are commonly referred to as ethical, in fact they are rather ontological (anthropological), since all parties declare a respect for human dignity and regard killing a person wrong. They differ, however, considerably in their views whether the human embryo is a subject to which these principles should apply. This was very clearly formulated by Axel Kahn in his polemic with John Harris (*Nature*, 388: 320, 1997).

"In reality, the debate is about the status of the human embryo and its rights as a human individual, and the answers to this question differ both between and within nations. In general, however, all those who would legitimise de novo creation of human embryos for research or preparation of therapeutic material base their position on their belief that the embryo is not a human individual." Of course, on the opposite side are those who believe that a human embryo is a human being or a person (terms often used interchangeably: both emphasize the special status of the individual of the *Homo sapiens* species *i.e.* a human) with due human rights, particularly the right to life.

* Professor of Genetics, Institute of Biochemistry and Biophysics, Polish Academy of Sciences, Warsaw.

Beliefs and convictions, particularly moral ones, cannot be classified as right or wrong, but since they do not have to be irrational, one can ask for their justification. The justification for ascribing personhood to the human embryo often (but not always) comes from religious beliefs and obviously could not be generally accepted. To deal with the problem on a more intersubjective ground one turns to biological argumentation. Those who believe that the embryo is not a human being claim that it lacks some characteristics, only after the emergence of which this entity may be deemed a human being or a person. There exists, however, a disagreement as to what characteristics are crucial here and consequently there is a wide range of proposals regarding the stages of development marking the onset of personhood, such as for instance, implantation, development of various organs, birth, the appearance of sentience or of attributes of rationality, and so on. It becomes a matter of choice what degree of what characteristic suffices to make one a 'person'.

What we know from biology is that during the whole existence, from the zygote to senescence, the organism remains in the same relation with the environment; it gets from it nutrients, water and oxygen. Bearing no visual resemblance to an adult human being, an early embryo has already specified (but not quite developed) capacities, the possession of which by adults is sufficient to make killing them wrong. One deals all the time with the same persistent entity that undergoes developmental changes according to its internal programme, acquiring nothing from the outside that would add anything substantial to this programme. In addition, it is worth mentioning, what we have known for about three years now, that a mammalian two-celled embryo has already an established top-bottom axis (*Nature*, 418: 14-15, 2002), so one might say it is an organism and not just a non-organized aggregate of totipotent cells as it was thought before.

Therefore, all proposals mentioned above, pretending to establish in a supposedly objective way a stage when the living entity created by fusion of human gametes commences its existence as a human being (person), appear entirely arbitrary. This is not surprising since 'person' is a philosophical and theological notion, not a biological one, and consequently *personhood* de-notes an ontological status not a biological trait. Therefore biology provides no criteria relevant to the decision as to which individuals of the species *Homo sapiens* are persons and which are not. Hubert Merkl, president of the Max-Planck Society, is

right in writing that "there is no biological reason to attribute complete personhood to a few-celled embryo simply because in interaction with a mother organism, it has the ability to become one - although its dignity should certainly be respected from its very beginning" (*Nature*, 412: 479, 2001). But, similarly, there is no biological reason to deprive the embryo of personhood. And because of this some people, while upholding a strictly secular position, refrain from utilization of human embryos. Since there are doubts regarding the status of the embryo, they prefer to stay on the safe side, especially when the embryo's life is at stake.

Because of conceptual difficulties mentioned above, the ontological aspects are often waved aside in embryo debates as an unnecessary nuisance in reaching consensus or compromise. Such approach could already be seen in the works of the Warnock committee which prepared recommendation for legislation on embryo research in the UK in the 1980's. As noted in the commentary published in *Nature*: "The committee has just side-stepped contentious questions such as abortion and replaced the question of when life (or 'personhood') begins by the ethical and legal question: how is it right to treat the human embryo?" (*Nature*, 310: 266, 1984). But when the Committee recommended that one could carry out experiments with embryos until the 14th day of development, in the context of criminal law, it took implicitly an ontological stand, namely that such an embryo is not a human being.

In this context it is worthwhile to mention another note regarding embryo research, which appeared in the same Journal 13 years later (*Nature*, 388: 11, 1997): "A statement by the French Academy of Sciences condemning the cloning of human beings as 'ethically unacceptable' has been challenged by several of its members. The academy says some members had opposed the statement or expressed reservations. They argued that it was not the role of the academy to take 'ontological positions' and that, if cloning ban was justified, it should be provisional". Who is then supposed to take ontological positions if the academicians are not?

Disregarding the ontological issues is useful for those who search for 'neutral' or 'consensus' ethics (if such a thing exists) which would not rely on any particular religion, ideology, not embody any anthropology and take no principled stand on what is right or wrong. Such ethics could be used in a pluralistic, multicultural society where no one's ethics should be imposed on others. It may also help to reach a

compromise, often necessary, in legislation achieved by democratic procedures. A compromise in legislation does not mean a compromise in moral convictions. Legislation reflects the cultural formation of the society and thus the moral convictions which prevail in it. As has been clearly indicated by M. Revel and panellists at this conference, societies do differ considerably in this respect. Common convictions, however, do not have to present logically coherent concepts and in fact they often do not. Therefore, referring to common convictions in an academic discourse is justified for description of a sociological situation but not necessarily so for supporting ethical positions.

The progress in embryo research opens new opportunities of helping people suffering from disorders for which no alternative remedy exists. Scientists who want to explore these opportunities in therapy are keen to see the law on embryo research liberalized. It is argued that it would be heartless to refuse helping people even in the face of moral objections one might have. Indeed, we will be facing dramatic situations in which only choosing a lesser evil will be possible: sacrificing an embryo's life may be a case when some people would take such a decision. But does it mean that because of the moral dilemmas with the use of human embryos, the perceiving of the human being at different stages of its development should be adjusted to the progress of knowledge and technology and be a matter of convenience, in fact a matter of choice? Such an approach seems very dangerous since there will always be good reasons for scientific or therapeutic advancement for choices of convenience and, as observed in bioethical debates, there will always be philosophers ready to rationalize such choices.

Erwin Chargaff, a nestor of world's biochemistry, criticising such an approach wrote 18 years ago: "The 'pre-embryo' is a designation that appears to me entirely unjustified. I fear that it has merely an alibi function"..... "The setting of calendar date serves only as a permit for the performance of experiments that normal reference before human life would have outlawed, experiments that until a few years ago would, in fact been unthinkable" (*Nature*, 327: 199, 1987).

To win public support for embryo research the state of the art in the technologies used is often presented in a way suggesting that their application in healing is just round the corner, which is obviously not true. A similar situation was seen in the case of genetic therapy in early 1990's. It also happens that researchers present their personal convic-

tions as conclusions based on scientific data, or support their point with argumentation which does not meet the standards of reasoning binding in the research area. Having a privileged access to knowledge they should serve people with it to help them take their own informed decisions in situations of moral dilemmas.

It seems likely, observing the liberal tendencies taking place in some European societies, that such decisions will be left to individual people, with less regulation by law. At present, regarding human embryos, the European Convention on Human Rights and Biomedicine takes a very cautious position: "When the law allows research on embryos, it shall ensure adequate protection of the embryo" and "The creation of human embryos for research purposes is prohibited".

Comments on Human Embryo Research

Hans Galjaard*

Professor Revel's lecture provides a comprehensive overview of the scientific, ethical and legal issues associated with research on human embryonic stem cells (ES) and so-called therapeutic cloning. He rightly points out that there is a great similarity between the normal debate on ES research and that on previous occasions when new methods like IVF (in vitro fertilisation) and PGD (pre-implantation genetic diagnosis) were introduced. I would add that similar emotions occurred at the end of the 1960's/beginning 70's when prenatal diagnosis of fetal abnormalities became possible and selective abortion at the second trimester of pregnancy was considered as a means to avoid the birth of an otherwise severely handicapped child.

Like today's debate on human ES cell research the main points of controversy are the status of various stages of embryonic development, the resulting rights and the question whether other considerations may take precedence over such rights.

Historically, the approach of prenatal diagnosis of fetal disorders and the freedom of choice by parents to choose for selective abortion has become widely incorporated into medical care in Europe, Israel, North America, Cuba, Australia, New Zealand, China, and even in Iran in connection with a national screening programme aimed at the prevention of a frequent hereditary blood disease Thalassaemia.

In Europe the only countries without legislation of (social) abortion are N-Ireland, Poland and Portugal but in the latter termination of pregnancy is allowed when a fetus is found to be severely affected. In the context of Prof. Paszewski's lecture it might be useful to note that within Poland there is diversity in clinical practice of prenatal diagnosis and selective abortion with a very strict ban in Krakow and a more liberal attitude in Warsaw.

As has been mentioned the dogma of the Roman Catholic Church is that personhood and hence the right to life is acquired at the moment of fertilisation. As a consequence the Roman Catholic Church does not

* Em. Professor Human Genetics, Erasmus Medical Centre, Rotterdam, The Netherlands.

authorize prenatal diagnosis, IVF or ES research. Yet, many Roman Catholic citizens in European countries like Spain, Portugal, Italy, France, Belgium and The Netherlands personally accept and use prenatal diagnosis and selective abortion as an acceptable means to prevent the birth of an affected child. Also the method of IVF is widely used as an approach towards infertility and in several countries 1 in 50 of all children born are after IVF.

This suggests a discrepancy between the moral view of Church leaders and that of many of their followers but in countries like Poland and N-Ireland this does not seem to apply. Recently, in Italy a referendum on liberalisation of IVF failed because the Holy See discouraged citizens to participate; the separation between church and state is not only vague in Islamic countries.

During seven years of membership of the International Bioethics Committee of UNESCO and participation in many discussions and reports on ethical aspects of genetics and reproductive technology, I have come to the conclusion that it is not possible to convince each other of a different moral view on the status and rights of a fertilized egg, an 8-cell stage human embryo or a blastocyst from which ES cells can be derived. Like in the case of prenatal diagnosis the future will reveal how strong the moral objections against embryo research will remain when useful, maybe lifesaving methods will be derived from it. One recent experience on this matter:

During a meeting of UNESCO's Bioethics Committee a member of the USA presidential ethics committee strongly defended his president's negative view on the production and use of human embryos. When I asked him whether his president would forbid American patients with Parkinson disease or Alzheimer dementia to use a therapy that was derived from human embryo research his answer was: "of course not, because then our president would have sufficient public support to change his view".

Prof. Paszewski in his contribution to this symposium tries to provide biological arguments for the fact that even an early human embryo has the right to life. Unfortunately those examples are scientifically not convincing. His statement that an organism remains in the same relation with the environment from zygote to senescence will not receive wide approval. The same is true for the top-bottom axis orientation of each embryo as an argument that a 2, 4-8 cell stage is an 'organism'. Fortunately in his comments on the personhood of an

embryo Prof. Paszewski admits that 'person' is a philosophical and theological notion and not a biological one.

For our practical work in modern medical care and probably also for future legislation it is important that the European Court of Justice has recently ruled that an embryo is not a person and on that basis cannot claim any rights. Maybe personhood is mainly a judicial notion.

This is not to say that a human embryo does not have dignity. On the contrary, there seems to be consensus about this issue although some experts have pointed to the great difficulty of defining dignity and warned against inflation of the term.

Despite the right to life as set out in the Universal Declaration of Human Rights of the United Nations (1948) we send young people into war or we refuse to pay the amount of money needed to keep youngsters in developing countries alive. We do so because other considerations are judged to supersede. For the future development of embryo research the conclusive factor will be the effectiveness of medicines or other biotechnical methods to prevent or cure serious disease that might result from such research.

Since scientific progress is unpredictable it may well be that new insight in the gene regulation mechanisms of gene expression and new opportunities to influence these will make human embryo research for this purpose super-fluous.

As long as such results have not been established the present debate on moral issues will continue and pluralism will be reflected into different national legislations as has been summarized by Prof. Revel despite general declarations at the level of Europe or the United Nations.

In quantitative terms the number of embryonic/ foetal lives that are terminated by embryo research are a few hundreds compared with 40.000 world wide as a result of prenatal diagnosis of foetal abnormalities, more than 50.000 in India because of female sex and an estimated 50 million world wide annually because of unwanted pregnancies and inadequate contraception.

Case of Migration

Bridges between Research and Policy? The Case of Post-War Immigration and Integration Policies in The Netherlands

Rinus Penninx*

Introduction

In The Netherlands a strong tradition of research for policy and of policy advice from the scientific world to policy making has been developed since WWII. The field of immigration and integration policies is not an exception to this rule, although it had to wait until the mid-1970s before this took shape. Several analyses on the specific nexus between research and policies in this specific domain have been published (ACOM 1979 and 1982; Van Amersfoort, 1983; Biegel & Smit, 1991; Entzinger, 1981 and 1986; Penninx, 1984, 1985, 1988, 1992 and 2000; Van Praag, 1987).

That same tradition of research for policy has always been a topic of discussion and hot debates. Pro's and con's, underlying paradigms, advantages and pitfalls were scrutinized, and quality of research and policy use hotly debated (see *e.g.* a special of *Social Interventie*, nr 4, 2000; Köbben 2003; Köbben & Tromp, 1999). From these continuous discussions it becomes clear that the relation between research and policy is not self-evident. Any such relation should be based on crystal-clear and shared assumptions on the role of both parties and on the basic rules that should be adhered to. That is the reason why I will spend some thoughts on this in the next paragraph.

If we have established a frame of such basic rules we are able to look back empirically how the research-policy-relation in the domain of migration and integration has developed in The Netherlands. To be systematic and insightful, such a description, however, also asks for an analytical device. In this case I propose - in the third paragraph - to use the concept of the policy cycle and connect that with the specific functions of research in that cycle.

Armed with these two heuristic notions I will give a descriptive analysis of how the research-policy-relation has developed in The

* Scientific director of the Institute of Migration and Ethnic Studies (IMES), Universiteit van Amsterdam, The Netherlands.

Netherlands in the post-war period in paragraph 4. In the last paragraph I will draw conclusions.

Research, politics and policy making: a frame of reference

Co-operation between researchers and policy makers is not self-evident: it needs an explicitation of the basic premises and rules on which such a co-operation should be founded.¹ I start from the assumption that these actors agree that the most elementary rules that regulate their relations, are those derived from a political context of democracy. This implies that the primacy of politics in decision making is recognized; in liberal democracies we start from the basic rule that political decisions relating to governmental policies are taken ultimately by the chosen representatives of that political system.

This primacy of the politician, however, is at the same time seriously conditioned: democracy is not just the application of the formal majority rule; the quality of democracy can best be measured by the extent to which the public debate is systematically used as an instrument to reach 'consensus' or 'compromise' among different interest groups.² In our case this 'quality rule of democracy' is all the more important, since we focus on the position of newcomers in societies: groups that are often relatively small in numbers, groups that often have limited ways and means to express their interests effectively in the political system, and groups whose interest are not necessarily reflected in the political and institutional infrastructure of their new place of arrival, because that structure has been the outcome of the earlier political struggle of established groups in that particular society. Too early and too much application of the last resort of democracy - majority rule - may thus have perverse effects on minority groups.

This implies that one may expect from politicians that they should actively collect, scrutinize and weigh all relevant facts and arguments

¹ I leave aside a comparable question of how to organize a sound relation between politicians and policy makers, and stakeholders in the policies concerned. There are some parallels in this relation, but also significant differences.

² Whether one prefers the term consensus or compromise depends on the school of political theorists one adheres to. However, both 'foundationalists' who speak preferably of consensus seeking, and 'non-foundationalists' who speak of making workable compromises, agree that the public debate is an important instrument in democracy.

before taking decisions, and that they should reconsider earlier decisions if new relevant arguments or data come forward. It means also that the politician can be asked to explain how he reached decisions. General public interest, responsibility for future developments, openness and public responsibility are thus important conditions for politician's primacy. Since the task of the civil servant is one which is derived from that of the politician, also civil servants in democratic societies have comparable, derived obligations.

It is from this conception of quality of democracy and governance and the role of public debate therein, that the specific role of researchers can in principle be derived: scientists can contribute significantly to the quality of the public debate by delivering sound and adequate problem definitions, by collecting and publishing high quality information, by making clear what receiving societies and their institutions on the one hand and immigrants themselves on the other are able and willing to contribute, but also by indicating possible unintended consequences of policies, etc. Briefly: by bringing in ideas, analysis and facts. One could even say - and some political theorists do so - that researchers as 'responsible citizens' have an obligation to contribute to the quality of the public debate.

In my view some basic observations follow from this thesis. The first one is that each of the actors should stick to the tasks attributed to him/her according to these basic premises: also in case tensions should arise - and this often happens - the researcher should stick to the rules of his/her scientific game and do that scrupulously, and the politician/policy maker should do the same. It should be the rules and tools of the game of good democratic decision making and good governance that should enable us to overcome such tensions. The second observation is that structured forms of communication and cooperation are a better guarantee for adequate contributions of research to policy making, even if they go with tensions, than having no communication and cooperation at all.

These two are normative observations. A third, more empirical observation is that the practice of cooperation between researchers and politicians/policy makers is very diverse and fluctuating, both between countries and within countries. In case structural relations are organized, the form these take may differ significantly: they may vary from the one extreme in which researchers do have their own and full responsibility and autonomy of deciding on content and orientation of

(academic) research, financed from funds that are earmarked by political decisions as funds for fundamental research on the one hand, to the other extreme in which, within the framework of a specific policy domain, research budgets are made available to find an answer to a given policy question. Between these two positions a number of hybrid positions are possible. Furthermore the relation between policy and research may change in the course of time. By opposing the two extremes, it becomes clear that the way of organizing the interface between research and policy is in itself an important question. The way these relations are organized may lead to specific forms of tensions between the two.

Functions of research for policy and the policy cycle as a heuristic device

If any form of structured cooperation between researchers and policy makers comes into existence, the form of that cooperation and the content of it depend primarily on the `demand' articulated by the policy makers or politicians, as is implicated in the primacy of politics-thesis of the foregoing paragraph. Such `demand', *i.e.* the kind of questions they want the researchers to answer, depends to a great extent on the phase of the policy cycle. Ideally, policy analysts define four different phases in such a cycle.³ For the purpose of my analysis I extend that notion of the cycle, claiming that each of these phases implies different questions and calls for different functions of research for policy:

Phase 1. Recognition and problem definition

In this phase there exists among politicians and policy makers the feeling that there is a problem that should be tackled, but there is uncertainty as to *What* the problem is and how it should (best) be defined. Researchers may be called upon to give an adequate problem definition, a framing and delineation of the field, including relations with other (policy) fields, a basic framework of causalities and consequences; in academic terms: studies of a strongly conceptual nature. Crucial in this phase is whether politicians and policy makers

³ I took my inspiration on this point from Winsemius (1986) who analyses the cycle of policy making related to environmental policies, but I reformulated elements of his cycle to fit the research-policy-nexus better.

accept the conceptual contribution of research and reformulate them in policy terms.

Phase 2. Instrumentation of policies

The second phase starts at the moment political decisions have been made on the foregoing questions and policy goals have been formulated, mostly in the form of accepted laws or policy documents. Questions by policy makers change: given accepted problem definitions and policy goals, *How* can such goals best be attained? The focus of research is moved to questions of instrumentation of policies: with what instruments can key-variables be influenced (preceded in liberal policy-research relations by the question which variables can be influenced anyway by policy interventions and which ones cannot).

Phase 3. Evaluating standing policies

When policy formulation has taken place and instruments are in place the attention within the cycle shifts to the question: *Does it work?* Monitoring outcomes of policies becomes the central theme; efficacy and efficiency are the catch words. Definitions and instruments are given, and by that time engrained in an established structure of policy implementation that brings in its own weight in the process. For researchers the room to manoeuvre and their influence on policy has become much smaller, in general.

Phase 4. Reformulating policies

Finally, politicians and policy makers may feel the need to reformulate policies. This may be based primarily on monitoring and evaluation, but it may also be inspired by a primarily political redefinition of the field. In the former case partial redefinition is the most probable outcome. In the latter case policies may change either partially or thoroughly.

Theoretically a new policy cycle has started by such reformulation. In practice - and this is a weak point of this heuristic model - this new cycle does not start from scratch. The history of the earlier cycle brings its legacy to any new cycle. Notwithstanding this weakness let us see in how far the model helps us to explain the developments in the Research-Policy relation in the field of migration and integration in The Netherlands in the post-war period.

Research and policy in The Netherlands after World War II

The period up to 1979

Although The Netherlands has historically been an immigration country par excellence for a long time (1550-1800), the public memory and policy starting points are dominated by a later period (1800-1960) in which The Netherlands was predominantly an emigration country (Lucassen & Penninx, 1997). In the postwar period the central idea has always been, and still is, that The Netherlands is not, and should not be an immigration country. Facts of substantial (ex-)colonial immigration from the Dutch East-Indies / Indonesia (including Moluccan ex-soldiers of the colonial army) and later from Surinam, and growing labour immigration in the 1950s and 1960s were fitted into this ideology by calling these immigrants either 'repatriates', or temporary migrants and 'guest workers'. This contradiction between the norm of not being an immigration country and the facts of large immigrant groups that stayed for long or even permanently, led to mounting tensions in the 1970s (Entzinger, 1975). This tension was felt most intensively within the Ministry of CRM (Culture, Recreation and Social Work) that had been made responsible for reception policies of most of these immigrants. It was this ministry that looked at the scientific world for advice (and for a strategic partner in its plea for more adequate policies). That ministry installed in 1976 the Advisory Committee on Research related to Minorities (ACOM). Although this committee enjoyed a great liberty and prepared the ground for many studies and reports, its direct impact on policy was limited. Firstly, because it was composed of researchers only to advise on research policy; secondly, it worked for a ministry in charge of welfare, that was not able to influence key-ministries such as those responsible for labour, education and housing.

1979-1989

The impetus for policy renewal was given by another advisory body: the Scientific Council for Government Policy (WRR), the highest and generalist scientific advisory body of the government, published on its own initiative a report in 1979, called 'Ethnic Minorities' (WRR, 1979). It analysed the untenable situation of immigrants that was a consequence of the assumption of temporary stay and the practice of

long-term stay. It diagnosed that this could ultimately lead to 'minority formation' and to second rank citizens. In its advice the old message that The Netherlands is not an immigration country, did not change, but the report made a well founded argument that long-term factual immigrants should be given an adequate place in society on the basis of political participation, socio-economic equality and to a certain extent cultural and religious equity by explicit and targeted integration policies. This was - in the eyes of the WRR - not only to the advantage of the immigrants themselves, but a necessity for Dutch society as a whole.

The conclusions and recommendations of the 1979-WRR-report were taken over nearly literally by the government. In 1980, 1981 and 1983 policy documents were discussed and accepted in Parliament that formed the basis for a completely different policy, called 'Ethnic Minorities Policy' [Henceforth EM-policy; see Ministerie van Binnenlandse Zaken (Ministry of Home Affairs), 1980, 1981, and 1983]. The main principles of this policy were:

- a. Equality in the socio-economic domain, inclusion and participation in the political domain and equity in the domain of culture and religion within constitutional conditions and to the extent feasible (One could say 'multiculturalism *avant la lettre*').
- b. A targeted focus on specific groups that were in danger of becoming a distinct minority by the combination of their low socio-economic status and their being perceived as culturally different from mainstream society. Not all immigrants were included, but specific groups of low class immigrants, plus some native underprivileged groups: former guest workers and their families, Moluccans, Surinamese and Antillians, refugees, gypsies and caravan dwellers.
- c. The policy should cover all relevant domains and thus ministries, and be anchored in a strong governmental organization: the ministry of Home Affairs became the coordinating ministry. Substantial specific financial means should be made available and an adequate system of monitoring policies should be developed.

This early phase of defining the EM-policy (1979-1983) fits perfectly into the first phase of the policy cycle described above.⁴ Looking back the intriguing question is: How was that possible?

Three observations are often made in the literature as (complementary) explanations. The first refers to the strong tradition of cooperation between researchers and policy makers in The Netherlands, mentioned earlier. This tradition opens a window of opportunities to influence policy making - as compared to some situations abroad - if, and at the moment researchers come up with an adequate analysis and problem definition. The second explanation relates to the strong political pressures for change created by the tension between facts of immigration and the neglected consequences for integration mentioned above. This took a specific form by the dramatic events in the 1970s caused by Moluccan youngsters (children of ex-soldiers of the colonial army in the Dutch Indies, brought to The Netherlands 'temporarily' in 1951): their violent actions of hijacking trains and occupying buildings were taken by politicians as a forceful sign of failed policy towards that group (Köbben, 1979). In the aftermath of these events new policies towards this group were formulated in 1978; policies that were taken into the more general EM-policy from 1980 on.

The most important third factor or condition for change of policy was the existence of a broad political consensus among the elite of all political parties that endorsed the new policy developments. That consensus was symbolized by the fact that a right wing Liberal/Christian-Democratic government coalition appointed a socialist (of the oppositional Labour Party) as head of the Coordination Department within the Ministry of Home affairs. The essential point is that immigration and integration was not politicised at that moment. On the contrary, it was kept deliberately away from the agenda in political campaigns. As Rob Hoppe analysed in 1987, ethnicity (concretely the growing multi-ethnicity of the state through migration) was systematically de-politicised, meaning: "removing the controversial load through

⁴ A factor that has contributed to this is the fact that continuity in persons was involved: the author of this article has been a member of the ACOM from its inception in 1976, and was asked by the WRR to write the background report "Towards an overall ethnic minorities' policy" on which the WRR-advice was based (Penninx, 1979). He had started to work as a civil servant at the staff department of the ministry of CRM (and later Home Affairs) before the WRR-report was published. In his new capacity he wrote substantial parts of the draft (1981) and final policy document (1983) on EM-policy.

a (pseudo-)scientific or administrative (re)definition of its problems, or keeping them away or moving them prematurely from the political agenda for administrative handling" (Hoppe, 1987). During the 1980s that same political consensus also led to a more or less explicit agreement not to allow (local and national) extreme rightist and racist parties 'to play the migration card'. The *cordon sanitaire* that was built in 1983, after local elections in the municipality of Almere where such a party gained 13 % of all votes, persisted successfully throughout the 1980s.

The WRR-report of 1979 and the first positive political reactions to it in 1980 (Preliminary reaction of the Government) and 1981 (Draft Minorities White Paper) started the second phase of the policy cycle. The ACOM was brought over from the founding ministry of CRM to the ministry of Home Affairs, now responsible for the coordination of EM-policy. Part of the budget for this policy was earmarked for research, to be advised on by the ACOM. In the years 1980-1985 a series of research reports were commissioned that served a deeper exploration of many sub-fields and the instrumentation of policies (for a detailed overview see Penninx, 1988 and 1992). In 1984 the first steps were taken to set up a comprehensive system of monitoring the position of the target groups of the EM-policy and the effects of policy. The key-words of this nation-wide system, covering all relevant domains, were *Evenredigheid en Toegankelijkheid* (Proportional Equality and Accessibility).

In my detailed analysis of the development of Research-Policy-relations of the 1980s (Penninx, 1992, 16 ff) I draw two main conclusions for that period. The first is that the more the organizational structure for policy implementation was built up within various ministries, including budgets, the more specific the 'demand' (research tenders and commissions) were formulated. This limited the scope and impact of the ACOM as adviser in research matters significantly. Towards the end of the 1980s this institution was seen more and more as 'academic' and not living up to the expectations of policy makers. The second conclusion was that the EM-policy had spurred off a significant increase in research on migration and integration in general, within and outside universities in The Netherlands, financed by universities themselves, the National Science Foundation and others. The unique position of the ACOM of the 1970s and early 1980s had eroded and the initial quasi-monopoly of funding of research in this

domain by the national government had ceased. Ultimately the ACOM was dissolved in 1990.

1989-1996

Interestingly, in the same period that the influence of specialists⁵ in the ACOM was decreasing, a new Report of a general advisory body, again the WRR, was published, this time explicitly asked for by the government that was not satisfied with the results of policies. In this report the first strong critique on the EM-policy was formulated (WRR, 1989). Briefly stated the message was that there was too little progress in two crucial domains of policy: labour market and education. An interpretation was added to this: too much attention was given to (multi)cultural aspects and subsidizing organizations, suggesting that that could hinder participation in education and labour market rather than enhance it. The advice was consequently: more efforts should be made in the key areas mentioned, and in a more compulsory way. Obligations of migrants should be more balanced with the extended rights, and policies should focus less on cultural rights and facilities.

The direct effect of this new diagnosis on policy was limited in the sense that policies did not change immediately [Ministerie van Binnenlandse Zaken (Ministry of Home Affairs), 1990], but the seeds for a different conception were sown, to grow later.

The structure of Research-Policy-relations was revised in the early 1990s. Though the ACOM has been dissolved in 1990, it was felt (within the ministry of Home Affairs) that it would not be wise to do away with all forms of specialist advice. Research on immigration and immigrant integration had grown at universities and elsewhere, and policy makers were in principle able to harvest from that reservoir of knowledge, but that turned out not to be easy. A need was felt to have an intermediary body, consisting of both researchers and policy makers of the national and local level to collect and translate the body of research, and to test its usability and utility for policy making: a Temporary Scientific Advisory Committee on Minorities (TWCM) was installed in 1992 by the Ministry of Home Affairs. The TWCM produced overview studies on the one hand, and policy recommen-

⁵ The list of members of the ACOM counted indeed all important researchers of that period, among them Hans van Amersfoort, Frank Bovenkerk, Hans Heijke, Han Entzinger, Kees Groenendijk, André Köbben, Rinus Penninx, Carlo van Praag, Wasif Shadid, Justus Veenman.

dations built on such overviews on the other. Evaluating its impact it is fair to say that its period of existence has been too brief for the TWCM to be really influential. It was dissolved in 1996 as part of a general operation to 'clean' the governmental administration of too many advisory bodies. Only a few, large and general advisory bodies have survived this sweep action.

1996 - 2004

The initial political consensus of the early 1980s changed in the course of time, as did the public discourse on immigrants and their integration. It is particularly during the 1990s that politicians and political parties started to take explicit and diverging stances that challenged the earlier political consensus. One of the first was Frits Bolkestein, a prominent Liberal Party (VVD) member, who suggested in his statement in 1991 that Islam was a threat to liberal-democracy and a hindrance for integration of immigrants.⁶ The implications of Bolkestein's message were potentially far-reaching, although it has to be added that he himself saw mainly practical consequences of his thesis: a 'modern Islam' should be stimulated in Europe. (He took, for example, the initiative to bring a liberal interpreter of Koran and Islam as a professor to the University of Amsterdam.) Later, however, others carried his critical stance relating to Islam much further, calling Islam a 'backward' religion, as Pim Fortuyn did in 2002.

A second topic that challenged the political consensus and dominated the public and political discourse in the nineties was the so called 'asylum crisis'. Asylum seekers from all parts of the world had started to apply in The Netherlands in significant numbers since the middle of the 1980s, but it was particularly in 1993, briefly after Germany had changed its lenient asylum policies, that asylum peaked to a number of 53.000 applications in one single year. The initially very friendly asylum reception had been changed already in the late 1980s to a sober system of reception, but by 1993 both the reception and handling of evaluation procedures got completely jammed. Years of

⁶ Earlier tensions around Islam as these emerged with the Rushdie Affair and Golf War had been solved in a typically Dutch way: the minister of Home Affairs called all leaders of Islamic organizations to the ministry to give them a double message: (1) we have rules for disputes that everyone, also Muslims, should respect, so no fatwa's and book burnings in The Netherlands, and (2) if you are threatened, because you are a Muslim, we will protect you.

attempts to reform asylum procedures followed, but the crisis did not cease. The number of applicants in limbo for years, not allowed to work nor to follow education, increased. The number of asylum seekers denied access, but not sent back, increased and swelled the ranks of illegal residents. That coincided with measures taken to exclude illegal residents from all facilities of the welfare state through the linkage law (*Koppelingswet*) that required any institution of the Dutch welfare state to check the legal residence of applicants and clients before service could be delivered.

One can say that the first factor - that of Islam as a divisive factor in politics - to a certain extent has been one that was 'imported', and that the second one - that of the explosion of asylum migration - was also a consequence of global developments impacting on reception systems in The Netherlands. The third factor - that of a growing politically voiced dissatisfaction with the results of EM-policy and with the consequences of continuing immigration - came from within. A critical piece that made this dissatisfaction surface was an essay published by Paul Scheffer, a publicist and former member of the Scientific Bureau of the Labour Party, in the national newspaper *NRC/Handelsblad* in 2000 under the title 'The Multicultural Drama' (Scheffer, 2000). The central thesis of his essay is that integration and integration policies have failed. Policies have been too liberal and focused too much on 'retention of culture of immigrants', they have neglected the negative aspects for the native population and have ignored their voice and complaints. The consequences are that (social) segregation is abundant and is threatening social cohesion; immigrants do not speak sufficiently Dutch and their knowledge of Dutch society is insufficient, as is their participation in Dutch society, let alone that they share basic values and norms of Dutch society. Muslim immigrant groups are most prominently reflecting these trends. The direction in which solutions should be found is thereby given: more mandatory policies for immigrants to learn Dutch and to participate and to accept values and norms of the society of settlement; away from too lenient 'multiculturalist' policy. The essay was a normative political statement rather than a know-

ledge-based piece.⁷ The divisive elements mentioned above have thus become stronger in the course of the 1990s, each of them separately. It was in the early new century that the populist politician Pim Fortuyn brought all these elements together in a political discourse that combined:

- (a) the idea of failure of integration processes and policies;⁸
 - (b) the threat of Islam, particularly 'fundamentalist' Islam, for democracy;
 - (c) the accusation that the political elite (and researchers) had made this possible by 'hiding the real problems in politically correct speech';
 - (d) the thesis that the victim of all this has been the native Dutch voter.
- His populist campaign was very successful and the electoral success was probably enhanced by his assassination just before the national elections in May 2002. His LPF-party won 26 of the 150 seats in the Dutch national Parliament, a political landslide. However, the new government coalition with the LPF fell within 100 days after its formation. In the new elections, early 2003, the LPF-party was decimated from 26 to 8 seats.

However, the harm was done. Other parties had taken over the populist thinking on migration and integration, particularly the Liberal

⁷ Interestingly the essay was published at a point in time when it became apparent that the situation of immigrants, and particularly the second generation was improving in the crucial domains of work and education. Reports of the Social and Cultural Planning Bureau of 2001 (SCP, 2001 a and b), for example, indicated that the high unemployment percentages of more than 30 % in the early 1990s had decreased to about 10 % in 2000, admittedly rather as a consequence of general (positive) developments on the Dutch labour market than as a result of policy. Also immigrant entrepreneurship had grown significantly. In the domain of education immigrant minorities still had significant arrears, but also some progress was made (more pupils in higher forms of secondary and tertiary education).

⁸ In September 2002 a majority of the Dutch Parliament backed up a request to have a Parliamentary Inquiry on Integration and Integration Policy. The Blok-Committee, named after its chairperson, published a voluminous report in 2004 after extensive hearings and studies (Tijdelijke Commissie Onderzoek Integratie-beleid, 2004). The conclusions of the report initially aroused strongly negative reactions from several parties and politicians suggesting that the report was not critical enough, but in the long run the report seems to function as a common point of reference for the Parliament (whose parties attach of course somewhat different interpretations to the report).

Party (VVD).⁹ Media had followed this trend to a great extent. The result has been that the new minister for Immigration and Integration, Mrs Rita Verdonk of the VVD, is outdoing the LPF-minister Nawijn of the preceding short-lived coalition in reforming Dutch migration and integration policies.¹⁰ What happened in this recent period of political polarization to the Research-Policy-relations? Since 1996 there was no institutionalised, regular forum for exchange between the policy world and the research world. This does not mean, however, that there was no exchange at all. I briefly mention the following developments:

First of all, after the TWCM was abolished in 1996, the Department for Coordination of EM-policies within the ministry of Home Affairs decided to form a small unit for 'Strategy, Research and Communication' of officials within its department to harvest scientific knowledge and to commission research, if needed. Comparably, but on a larger scale, within the same ministry a 'Knowledge Centre for Urban Policies' (*Kenniscentrum Grotestedenbeleid*) was established in which integration and diversity are important topics. Key of these developments was that the 'function of research for policy' was brought directly and structurally within the ministry. Research is defined as a market 'out there' to be recruited according to policy needs.¹¹ Exception to this rule seems to be the instalment in 2000 of an advisory body of

⁹ There is an interesting and somewhat unexpected element in the polarized discussion in The Netherlands: a significant part in that discussion is played by MP's and local politicians of immigrant origin, Ayaan Hirsi Ali, a Liberal Party-MP of Somali background being the most prominent one. In general, immigrants are represented proportionally in Dutch Parliament: between 8 and 10 % of all representatives, having different immigrant backgrounds and being part of all major parties, including the LPF. In that sense one could say that integration of immigrants at this level has been successful. A major advantage of this in the present polarized discussion is that the dividing lines among participants are not congruent with the native-non-native division.

¹⁰ The Department for Coordination of EM-policies within the ministry of Home Affairs was moved to the ministry of Justice and attached to the new minister for Immigration and Integration within that ministry in 2002.

¹¹ This had been the case already for years within the ministry of Justice, which has its own Scientific Research and Documentation Centre (WODC). Recently within WODC a special department for Migration, Integration and International Affairs has been formed.

legal specialists, the Advisory Committee on Aliens' Affairs (ACVZ) by the ministry of Justice.¹²

Secondly, the generalist advisor of the government, the WRR once again was asked to shed its light on immigration and integration policies at the turn of the century. Its report *The Netherlands as an immigration society* (WRR, 2001) appeared in the midst of a growing political turmoil and does not seem to have had a significant influence on developments.

In the recent polarized climate in The Netherlands a 'pick and choose-strategy' of politicians and policy makers in charge is dominant, and their choice is coloured by the new ideology behind recent immigration and integration policies.

Conclusions

What conclusions can be drawn from this dense analytical description of relations between policy and research in the domain of immigration and integration in The Netherlands over a period of some 30 years?

Firstly, on the most abstract level it has become clear that building bridges between research and policy in liberal-democratic society means bringing together two different worlds and logics. Researchers follow (predominantly) the logic of the 'analytical-rational model': they assume that better knowledge of how mechanism of migration and integration work makes it possible to advise policy actors how they can possibly intervene in these processes, at what particular point in time, and with what instruments. They can also indicate what variables in such processes cannot, and which ones can be influenced. The world of politics and policy making follows the logic of decision making, within a system of majority-minority relations, as to the desirability of admission of newcomers and the conditions attached to it (in immigration policies) and the desired outcomes of the incorporation of newcomers and ways to reach these goals (integration policies). The processes involved in this logic are normative rather than rational, and the process that channels the struggle of interests involved, is a political

¹² This happened before the Department for Coordination of EM-policy was moved from the Ministry of Home Affairs to the Ministry of Justice/Immigration and Integration.

process. These different logics may lead to tensions as is illustrated in the Dutch case.

Secondly, it has become clear that the Policy-Research-Nexus is one in which the partners involved are unequal. On the one hand this is a priori given, as I have tried to explain in the second paragraph, but the case of The Netherlands has also shown that empirically the Policy-Research-Nexus is never situated in a societal and political vacuum. In this case it has been shown that the changing place of the topic in politics - from de-politicised in the beginning to strongly politicised - affects the relation strongly. The abstract rules formulated in the second paragraph are often difficult to apply, the more so when the policy domain has become politicised.

Thirdly, the way of structuring the Policy-Research-Nexus changes often as a consequence. Not only is there the continuously dilemma of who are important players in the nexus (specialists or generalists from the scientific world; mixed policy makers and scientist advisory bodies) and how to structure them. There is also the more general relation between growth and expansion of research as a consequence of policy involvement, including the influence on content, direction and perspectives of that research.

Fourthly, the Dutch case particularly in the early phases between 1976 and 1989 can be explained relatively fruitful by the heuristic model of the policy cycle. The analysis shows that research may be influential in the first phase; it shows also that the influence decreases in later phases. Application of the model for the later phases - after 1989 -, however, turns out to be problematic. The analysis leads to the conclusion that a de-politicised situation - as it existed for a period, expressing itself in an openness of the political system to research input in all its forms, from framing, instrumentation to evaluation - is a precondition for a more or less orderly 'policy cycle'. What we have seen in the Netherlands from the early 1990s on, is a gradual incremental redefinition which has been primarily politically driven (and is even sometimes contradictory to straight empirical facts).

With the benefit of hindsight we can possibly say that both researchers and policy makers have been somewhat naïve in the late 1970s and 1980s in three aspects:

- in defining the institutional PR-nexus (ACOM) too specific, i.e. involving only researchers and advice on research (and some say

too many anthropologists and sociologists accentuating the cultural aspects of the topic);

- in defining the topic too narrow by the specific definition of 'Ethnic Minority' and limited target groups of these policies;
- in taking for granted that such a definition of the problem was shared/accepted by the population at large.

What are the consequences of the present situation? Here I come back to what I laid down earlier about tasks and responsibilities of both politicians and policy makers, and researchers. Politicians should actively collect, scrutinize and weigh all relevant facts and arguments before taking decisions, and they should reconsider earlier decisions if new relevant arguments or data come forward. Researchers should act as 'responsible citizens'. The time of a privileged position of researchers that has structurally anchored relations with policy making in this field has existed over a period of time, but does not exist any more. Researchers are now in a situation in which they primarily participate as citizens in '(re)defining the problem and the present situation' in the public debate. It is their task to 'market' their knowledge and make it broadly available for use in the public debate.

References

- ACOM (Adviescommissie Onderzoek Culturele Minderheden)(1979). *Advies onderzoek minderheden*. Den Haag: Staatsuitgeverij.
- ACOM (Adviescommissie Onderzoek Culturele Minderheden)(1982). *Naar een betere organisatie van het minderhedenonderzoek; een advies van de ACOM aan de Ministers van Binnenlandse Zaken en CRM*. Leiden: ACOM.
- Amersfoort, J.M.M. van (1983). Migratieonderzoek, overheidsfinanciering en beleid: aantekeningen van een participant. *Grafiet*, 4, 130-154.
- Biegel, C. & Smit, V. (1991). *Sturend of gestuurd? Evaluatieonderzoek en minderhedenbeleid, acht onderzoeken geëvalueerd*. Leiden: COMT/RUL.
- Entzinger, H.B. (1975). Nederland immigratieland? *Beleid en Maatschappij*, 12, 326-336.
- Entzinger, H.B. (1981). De ACOM als voorbeeld van onderzoeksprogrammering; maar wat levert het nu op aan kwaliteitsverhoging? In:

- B.W. Frijling & C. Rottländer-Meyer (Eds.), *Sociaal beleidsonderzoek; luxe of noodzaak?*. Zoetermeer: Actaboek.
- Entzinger, H.B. (1986). Vergelijkend beleidsonderzoek op het terrein van etnische minderheden. *Mens en Maatschappij*, 60, 1.
- Hoppe, R. (1987). Etniciteit, politiek en beleid. In: R. Hoppe (Ed.), *Veertig jaar minderhedenbeleid: van onbedoelde beleidsevolutie tot gefrustreerde beleidsopvolging*. Amsterdam: VU Uitgeverij.
- Köbben, A. (1979). De gijzelingsakties van Zuidmolukkers en hun effecten op de samenleving. *Transactie*, 8, 147-154.
- Köbben, A. (2003). *Het gevecht met de engel. Over verheffende en minder verheffende aspecten van het wetenschapsbedrijf*. Amsterdam: Mets & Schilt.
- Köbben, A. & Tromp, H. (1999). *De onwelkome boodschap; of hoe de vrijheid van wetenschap bedreigd wordt*. Amsterdam: Mets.
- Lucassen, J. & Penninx, R. (1997). *Newcomers. Immigrants and their descendants in The Netherlands 1550-1995*. Amsterdam: Het Spinhuis.
- Ministerie van Binnenlandse Zaken (1980). *Regeringsreactie op het rapport 'Etnische minderheden' van de Wetenschappelijke Raad voor het Regeringsbeleid*. Den Haag: Ministerie van Binnenlandse Zaken.
- Ministerie van Binnenlandse Zaken (1981). *Ontwerp-minderhedennota*. Den Haag: Ministerie van Binnenlandse Zaken.
- Ministerie van Binnenlandse Zaken (1983). *Minderhedennota*. Den Haag: Staatsuitgeverij (Handelingen Tweede Kamer 1982-83, 16102, nr. 21).
- Ministerie van Binnenlandse Zaken (1990). *Voorlopige regeringsreactie op het WRR-rapport 'Allochtonenbeleid'*. Den Haag: Ministerie van Binnenlandse Zaken.
- Penninx, R. (1979). Naar een algemeen etnisch minderhedenbeleid? In: WRR, *Etnische minderheden*, rapport 17, pp. 1-174. Den Haag: Staatsuitgeverij. (Also published in English: Towards an overall ethnic minorities policy?, in: WRR, *Ethnic Minorities*, Den Haag: Staatsuitgeverij).
- Penninx, R. (1984). Research and policy with regard to ethnic minorities in The Netherlands. A historical outline and the state of affairs. *International Migration*, 22, 345-366.
- Penninx, R. (1985). Onderzoek met betrekking tot minderheden in Nederland. In: A. Martens & F. Moulaert (Eds.), *Buitenlandse*

- minderheden in Vlaanderen-België. Wetenschappelijke inzichten en overheidsbeleid*, (pp. 233-254). Antwerpen/Amsterdam: De Nederlandse Boekhandel.
- Penninx, R. (1988). *Wie betaalt, bepaalt? De ontwikkeling en programmering van onderzoek naar migranten, etnische minderheden en woonwagengewoners 1955-1985*. Amsterdam: SGI-reeks, UvA.
- Penninx, R. (1992). *Wie betaalt en wie bepaalt? Onderzoeksbeleid van de overheid m.b.t. minderheden en de invloed van onderzoek op beleid*. Den Haag: Ministerie van Binnenlandse Zaken.
- Penninx, R. (2000). Over machtsverhoudingen tussen politiek, beleid en onderzoek. De casus van minderhedenstudies en -beleid. *Sociale Interventie*, 7, 175-181.
- Penninx, R., Kraal, K., Martiniello, M. & Vertovec, S. (Eds.)(2004) *Citizenship in European cities. Immigrants, local politics and integration policies*. Aldershot/Burlington: Ashgate.
- Praag, C.S. van (1987). Onderzoek naar etnische minderheden in Nederland: een signalement. *De Sociologische Gids*, 34, 159-175.
- SCP (Sociaal en Cultureel Planbureau)(2001a). *Vorderingen op school. Rapportage minderheden 2001*. Den Haag: SCP.
- SCP (Sociaal en Cultureel Planbureau)(2001b). *Meer werk. Rapportage minderheden 2001*. Den Haag: SCP.
- Scheffer, P. (2000). Het multiculturele drama. *NRC/Handelsblad*, 29 January 2000.
- Tijdelijke Commissie Onderzoek Integratiebeleid (Commissie Blok)(2004). *Bruggen bouwen. Eindrapport van de Tijdelijke Commissie Onderzoek Integratiebeleid*. Den Haag: SDU (Handelingen Tweede Kamer 2003-04, 28689, nrs 8-9).
- Winsemius, P. (1986). *Gast in eigen huis; beschouwingen over milieumanagement*. Alphen a/d Rijn: Samsom/Tjeenk Willink.
- WRR (Wetenschappelijke Raad voor het Regeringsbeleid)(1979). *Etnische minderheden* (Rapport 17). Den Haag: Staatsuitgeverij. (Also published in English: Scientific Council for Government Policy, 1980. *Ethnic minorities*, Report 17, The Hague: State Publishers).
- WRR (Wetenschappelijke Raad voor het Regeringsbeleid)(1989). *Allochtonenbeleid* (Rapport 36). Den Haag: SDU. (Also published in English: Scientific Council for Government Policy, 1990. *Immigrant policy*, Report 36, The Hague: Scientific Council for Government Policy).

WRR (Wetenschappelijke Raad voor het Regeringsbeleid)(2001).
Nederland als immigratiesamenleving. Den Haag: SDU.

Migration to Europe and the Question of Common Values

*Hans-Rudolf Wicker**

Introduction

Science and scholarship have sufficient arguments in store to presume that ethical questions on behalf of migration and migration policies will be of as much importance in the near future just as ethical reasoning and the search for ethical standards are today, for example in the fields of biotechnology, medicine, economic development, sustainability and other fields. Needless to say, many of the scientific and technical developments which have helped to make modern societies what they are today, on the one side have solved human problems and increased welfare, yet on the other side have also created new zones of risks. Related to most of the societal, institutional and technical fields, where zones of this kind are at stake, ethical discourse is supposed to appear. Following public opinion and government statements, consequences of migration gradually develop the characteristics of such zones, which are conceived either as risky or even as threatening, depending on the position of the participants in this kind of discourse.

Taking liberal nation-states as collective actors, something they doubtless are, we may ask first what kind of ethical and moral beliefs these states have performed through their migration policies in past times, and in what ways social science and the humanities have helped to frame these policies. We may further look for the challenge of present migration policies of nation-states, which currently are under great pressure by economic globalisation and growing transnational mobility, both of a regular and irregular nature. This search aims to illuminate some of the common values and ethical stances that lie behind these new policy patterns. The conclusions, finally, will serve to discuss the point of how social science helps to frame these common values and what direction should be taken to alter them.

* Institute for Social Anthropology, Bern, Switzerland.

Common values performed through old migration policies

It may well be said that the outgrowth of powerful nation-states in the 19th century was linked in many ways with the politics of identities, that means it was linked with the unceasing desire to define who belongs to the nation and who does not.

Within the complicated and long process of nation-building, immigration was perceived from the outset as being a matter of utmost concern. Basic fears surrounding immigration, which were inscribed in political discourses and in the emerging laws on immigration control, revolved around the question as to whether immigrants would adapt to the prerequisites of the host society, and whether they would be loyal to the nation-state which allows these aliens to settle down in the corresponding national territory. Loyalty was an imperative quest directed towards foreign-born residents in immigration countries at the end of the 19th and the beginning of the 20th century, and its main feature consisted in the assumption that an immigrant can and will be loyal to the host country only when he resists demands of loyalty from his country of origin, including loyalties towards left-behind kin and neighbourhood and political circles. Immigrants who were not willing to replace old loyalties through new ones were perceived as a discernible social, cultural and political risk. The notion put in practice to handle these risks was assimilation, a token borrowed from biology where, in the 19th century, it stood for the transformation of received nourishment into new bodily components and tissue.

Looking for how common values were affirmed in old national politics through imagining the threatening immigrant, another significant operational dimension has to be revealed besides the paradigm of assimilation in order to complete the picture of early migration policy: the selection mode. While the assimilation metaphor had a functional meaning of striving for national identity, the selection of willing immigrants had the function of protecting assumed common values and preventing the corrosion of postulated national identities. Selection, in this understanding, means dividing immigrants into those who are welcomed as residents and as future citizens, and those who are assessed as not qualified to be members of national communities and who, for this reason, have to be prohibited from passing immigration control. Singling out migrants into good ones and bad ones calls for a

scale of morality according to which decisions on behalf of migrants can be taken.

At first glance it might be surprising to learn that selection measures were first implemented by those nation-states which, for demographic and economic reasons, strongly relied on new settlers, and whose politicians proclaimed their countries as being open for immigration, such as the USA, Canada, Australia and others.

The European nations' path to enacting migration policies was different from those of the old immigration countries. On the one hand, European governments promoted assimilation in similar ways as did the American states. While *jus soli* nations, as for example France, linked the assimilation quest to early and easy naturalisation, *jus sanguinis* states, as for example Germany, charged foreigners with the assimilation demand before naturalisation could be taken into account. What European policies had in common, and what set them apart from American states, is that they did not really think about the necessity of implementing selection standards for immigration. In comparison to the old immigration countries mentioned above, it might appear that European states maintained the image of following a more liberal immigration policy in those days. This paradox can be explained by two particularities which helped to frame societies and economies on the old continent. First, European nation-states, until the end of World War II, had to cope much more with emigration than with immigration. Immigration policies, in the strict sense of the word, had at best a low profile on the agendas of national governments or simply did not exist. Second, after World War II the European nation-states, with the exception of those in southern Europe and those which stayed under communist rule, entered into a period of strong economic growth and saw themselves confronted with considerable shortages in labour force. The search for cheap labour gave rise to broad recruitment endeavours abroad and to the sustaining of what I would call a liberal framing of immigration policies. It was primarily this modernist and liberal picture of migration that allowed old colonial states such as France, Great Britain and The Netherlands to keep open their borders for migrants coming from present or former colonies, while it allowed other countries like Germany and Switzerland to implement what was called *Gastarbeiterpolitik*, an entrepreneurially driven policy aimed at recruiting unqualified workers in Southern Europe and Turkey without granting these guests citizenship rights.

Although some of those European states which have meanwhile turned from emigration to immigration countries started to reduce the possibilities of free entry for migrants already in the Sixties, the challenge which obliged governments to come to terms with migration issues actually started in the aftermath of the oil crisis in the mid-Seventies. This shock, which propelled industrial states into a deep economic crisis, has to be viewed as the turning point in regard to migration policies, bringing to light that old migration ideals should be disqualified and that new rules should be drawn up.

Common values performed through new migration policies

The shift to a new view on, and a new structuring of migration has to be seen as a political process, through which mere national positions are more and more curtailed and replaced by the doctrines of the European Union, a supranational framework which slowly but steadily has been taking over the power to define mobility rules and regulations. In a preliminary allegation it can be presumed that the old migration pattern is broken down into two positions, with the first of these shaped by liberal ideas of the free movement of persons between states and the abolishing of border controls; the second one is moulded by conservative ideologies culminating in restrictive visa policies and the consolidating of border controls. As can be noticed without any difficulties, the liberal stand is of an intra-European nature and refers to those agreements of the European Union's member states which acknowledge the free movement of persons within EU-territory.

The conservative stand of the new migration policy, on the other hand, is directed mainly towards those potential zones of migration located outside the European Union. Migration to Europe is at stake in this conservative position, which explains the high symbolic and political value of the Schengen border. Migration to Europe from non-EU-states has become an affair of considerable restriction, first and foremost in regard to all those citizens originating from countries which are not equipped with special migration covenants.

The shift from old to new migration legislation and practice deeply affects the overall structure and symbolism connected with transnational mobility, as can be shown in regard to the following points:

- The old image of the 'Gastarbeiter' of south-European origin, who in the Fifties and Sixties represented the cultural alien in western Central Europe and who worked temporarily in a host country without being granted any social rights whatsoever, vanished once and for all from the imaginary landscape. However, those Gastarbeiter originating from the former Yugoslav Republic, who had been recruited in large numbers during the Eighties, lost their status as short-term workers during the Balkan War and were transformed into refugees, asylum seekers and undocumented migrants. Having their roots in a non-Schengen-country from which labour recruitment is no longer permitted, they these days have come to represent the cultural alien in manifold ways.

- Due to the new migration restrictions put into practice by EU-legislation, Portugal had to abolish its open migration approach, for instance with regard to Cabo Verde and Brasil, just as Spain had to restrain its special relations with regard to Morocco and to some of the Latin American countries. Labour recruitment in countries like Turkey for Germany and in Maghrebian states for France had to be halted all of a sudden. Hence, the re-framing of international relations promoted and enforced by EU-politics and enacted by its member states exercises a considerable influence in the realm of migration issues.

- Perhaps the most striking challenge in migration matters occurred in the field of refugee and asylum politics. In the aftermath of World War II, the real refugee was the one who escaped from communist repression and who was ready to accept Western rules of freedom and democracy. This political vision came to a close in the Seventies, when the Western world saw itself more and more confronted with asylum seekers who had fled from right-wing repressive regimes (Chile) on the one hand, and from civil war countries (Sri Lanka, Turkey) on the other hand. Political discourses on asylum seekers arose, dividing them into bona fide and hypocritical refugees. As a consequence of the fact that refugee movements in the Eighties and Nineties increased considerably and that asylum applicants increasingly originated from the Third World, asylum law all over Europe was subsequently made more restrictive.

- The conjuncture of thwarted legal entry facilities through restrictive visa policies towards people from third countries and of closed asylum portals has brought a new phenomenon to Europe: the undocumented migrant. Migrants of this kind, possibly numbering several tens of

millions in the EU/EFTA zone, can be classified as either illegal or illegalised ones. Governments of European countries and of corresponding civil societies are aware of the rising problem. On a level with enigmatic asylum practices, policies in regard to undocumented migrants are slowly being developed.

- Economic perceptions differ quite considerably from state and civil society responses to legal and illegal immigration. Contrary to the general public, entrepreneurs and labour markets do not have any problems with migration in general. As is well known, (post-)modern economies tend to split up into high skill and low skill labour market sections. Migrants prevail in both sections, nevertheless, only the low income worker is identified as the real migrant. Within these low income sections, which evolve on both sides of a small and permeable border dividing formal and informal, that is, legal and illegal economies respectively, short-term workers, asylum seekers and undocumented migrants predominate.

- The last point to be touched on in situating modern European migration policies is the notion of culture. As we have seen above, the concern about the question, if and in what manner immigrants will adapt to mainstream national and societal values, is an old one. For two reasons the cultural question gains importance in modern societies. The first one consists in the fact that intra-European migration is not seen as threatening any more, while Schengen border immigration has become subject to deep suspicion and distrust - and it is this kind of immigration which is linked with the cultural and religious question. The second rationale, which brings in inter-cultural stress in European receiving countries, has to be located in the fact that new immigrants are pulled mainly into the existing low income sections of national economies. What in earlier times had been seen as upper and lower class interaction hostility, is shaped more and more by intercultural distrust.

Taken together these pieces of evidence help to outline modern European migration policies and thereby bring to light a confusing picture. We find that national policies concerning admission and integration of migrants coming to Europe still are of essential weight, something that can be explained by the fact that first and foremost nation-states and their respective civil societies take measures to incorporate or exclude foreign-born non-European migrants from labour markets, from social security systems and from civil life.

However, it cannot be disregarded that the European Union is increasingly being authorised by its member states to intervene in migration matters. Migration prevention, Schengen border control, and the harmonisation of security measures in the domains of crime and asylum are some of the important tasks to be mentioned.

We might further observe that modern European migration policies follow policies pioneered by old immigration countries. Liberal migration policies are vanishing definitively and selective admission practices are being rehearsed. Similar to the USA, Canada and other countries, European nation-states try to attract highly skilled migrants on the one hand and to close the doors for unskilled and poor migrants on the other.

Common values and migration research

We do not have any difficulties in ascertaining that, after World War II, European nation-states have developed migration policies. Nevertheless, considerable obstacles exist to uncover those common values supporting these national and supra-national policies and giving space to and also directing and limiting transnational migration. At least four different value systems might be discerned, all of which have their own logic, their own historic roots, and indeed their own narrative frame. These narratives, which will be explored subsequently, can be identified as discourses on national and cultural cohesion, on social cohesion, on economic based liberalism, on demographic development, and on legal issues.

The culture-nation narrative is identity-based. It is easy to notice that conservative and right-wing politicians, who attribute to themselves an anti-immigration attitude by their very ideological nature, foster the existence of those common values which draw attention to the essential virtues of national culture. Maintaining and defending these virtues is at the bottom of what is known today within social science and philosophy as the Communitarian point of view. Conservatives and Communitarians argue that migration to Europe should be reduced or even stopped, and this because migrants originating from other cultures and religions do not evince virtues complying with the common values provided by European nations. On behalf of those first and second generation migrants already settled in Europe, conservative policy speakers as well as Communitarian lecturers from social science attach

importance to assimilation and measures such as loyalty towards national identities and virtues. It is not surprising that exponents of this discourse are likely to reject notions of tolerance claimed by immigrants with regard to cultural and religious particularities.

Besides this conservative and mostly popular perspective, a second one has to be sketched out, one which, instead of connecting values and virtues with national and cultural patterns, links value claims to social issues. According to exponents of this discourse, the social cohesion of modern European civil societies is at stake, and it is this imagined social cohesion that is jeopardized by massive and uncontrolled immigration. The social domain focused on by these politicians and social scientists, who position themselves according to a more modernist rather than identity-based conservative stance, is twofold, and can best be explained in conformity with Emile Durkheim's ideas on organic solidarity and *anomia*. Following the statements of this group, welfare systems in European countries, already under strong pressure by globalisation processes and neo-liberal politics, would not be able to resist deterioration in the case of large groups of poor and uneducated migrants being granted admission. Anomic tensions are traced out by exponents of this modernist group with regard to a variety of social and economic sectors, where foreign-born migrants show a lower performance rate than nationals do, with the consequence that migrants have a higher performance rate on welfare issues than nationals. The discourse of social cohesion and anomic stress maintains that, on average, immigrants do indeed show higher unemployment, social welfare and disability records than nationals; that immigrant children are lagging behind in school; that segregation incidences with regard to housing in urban areas are significant; and that criminality rates are high. Social cohesionists do not hesitate to blame the state for having failed entirely with regard to policies of admission and integration of migrants, and, thus, it is not surprising that politicians and social scientists who act on behalf of social cohesion are very critical concerning future migration to Europe, with some of them even calling for stronger Schengen border control as well as for better surveillance, disciplinary, and sanction techniques in the domain of social and welfare issues.

While the two first discourses on common values are critical with regard to migration to Europe, the third one, paraphrased above as economic-based liberalism, is less ambiguous. As is well known,

liberal economists favour those shared values which focus on the free market, on individual responsibility and risk taking, as well as on limited state regulation. With regard to migration, a social scientist may be quoted, who once said that a liberal economy does coexist quite well with migration whereas the welfare state does not. Defendants of liberal positions, therefore, although not publicly promoting migration, are much more willing to accept this kind of transnational and transcultural mobility than are those advocating the culture-nation identity or the social cohesion pattern.

In addition to the three different debates on common values mentioned above, a fourth one has to be discerned that embraces demographic issues in regard to the development of modern European societies. Although demographic knowledge is not very well appreciated by the public at the moment, it may well be that population development issues will move to a first order item on the agenda of state policies. The reason for this is, that in this kind of scientific and political discourse, matters like economic growth, welfare development, and migration are inseparably interwoven with one another, and thus new light would be shed on immigration to Europe as a consequence. Addressing topics like low fertility rates and shrinking populations, and also highlighting accurate demographic forecasting that predicts serious challenges for European countries, this demographic debate obviously has deep ethical connotations. Taking into account that already by now the shrinking process of national populations in more than one European country has been slowed down due only to the fact that first generation immigrants do have higher birth rates than nationals, and considering also that the continuing ageing of national populations is threatening working pension and health care schemes, and that this crisis is held off in part by the fact that immigrants are younger than nationals on the average, it probably will not be possible in the near future to think of demographic, economic and welfare development while leaving out of consideration what I would call a 'friendly immigration policy'.

Placing legal issues on behalf of migration to Europe as the last point to treat within the rating scale of common values is no coincidence here. The legal framework which helps to structure migration processes between European states and from third countries to Europe is difficult to grasp, and although one might presume that the bulk of laws should contain common ethics, these are not supposed to be detected

with ease. Considering national and EU regulations on migration, these laws embrace such things as human rights, international laws on refuge and asylum including non-refoulment regulations, as well as laws against the trafficking and smuggling of people; in addition, visa, admission, residency and naturalisation laws exist. Reducing these rules to a common denominator, one could say that human rights and refugee laws are - although to different degrees - respected throughout Europe, and that all European states follow the rule of free exit of their own citizens but not of free entry of aliens, such as the rule that foreign residents in a country have reduced basic rights in comparison with local citizens. What also has to be mentioned is that entry possibilities for third-country migrants have been attenuated considerably during the last decades through restrictive visa policies, with the result that the asylum back door has gained in importance in attracting migrants who do not always fulfil the prerequisites as refugees according to international law. If something like a common will in regard to European migration and refugee laws and in corresponding policies is to be found, it would probably consist in taking back control over third-country immigration to Europe without closing the portals completely for humanitarian reasons and - as a hidden agenda - for reasons of the need for young people and skilled and unskilled labour.

The overview of co-existing and competing value systems, which in no way is comprehensive, brings to the fore considerable difficulties in coming to terms with ethical and moral codes on behalf of migration to Europe. Depending on the positioning of the politician or the social scientist, he or she will advocate a national or cultural view - for instance focusing on enlightenment deficits of Muslim communities -, or they will argue that organised social cohesion of modern societies has to be secured by restricting the admission quotas of unskilled and uneducated migrants coming to Europe, or they will stand for a liberal migration policy, in light of the consideration that national economies still need skilled and unskilled labourers; or he or she will evince that, considering demographic development, European nation states will have a drastic economic and welfare disadvantage in case migration portals to Europe should be closed. These different narratives pursued by politicians and scholars alike do not mirror a knowledge system founded upon the existence of any one single truth, but they do reflect a thought system based upon participation and negotiation, where partial truths are exposed and compete with each other. Hence, a final truth is

out of reach, a fact that has to be accepted as both a basic weakness and a basic strength of the functioning of a liberal-democratic society.

Conclusion

In order to avoid an entirely negative stance concerning a consensus on one single common value system, the perspective may be shifted; instead of searching for accurate values to be shared by whole societies which are difficult to be detected, we may ask how incomplete value systems work and under what conditions they are altered. With regard to transnational mobility, a thoroughly new perspective-guided analysis reveals that 'thick' common value discourses arise as soon as unbalanced migration prevails, and that 'thin' shared value discourses arise inasmuch as transnational migration corresponds to a pattern of a more or less balanced reciprocity. Examples abound which show that unbalanced migration and 'thick' identity discourses coincide. Suffice it to mention cases like the Mexico-USA border crossing, migration towards Russia from the Caucasus and Central Asia, Indonesian migration in the direction of Malaysia and the Philippines, and migration from African and Balkan states towards Europe. In receiving countries all these unbalanced migration processes bring about scientific and political debates upon two important questions: how can massive immigration of this kind be managed, and what are those central values that tell us both who we are and to which new immigrants have to be subjugated.

The shift from unbalanced to balanced migration endeavours may best be illustrated by casting a glance at the case of Europe. Those *Gastarbeiter* movements from South to western Central European countries occurring after World War II - typical migrations of the unbalanced type - have induced 'thick' common value discourses in receiving countries in line with strong xenophobic strains. This 'thick' discourse has given way to a 'thin' one at the juncture, when south-north and north-south migration was mitigated to a more balanced type following reciprocal principles. These days nobody tries to figure out those south European cultures which are assumed to be opposed to western Central European value systems as it occurred in the Fifties and the Sixties of the last century. Hence, with regard to unbalanced migration processes - something that migration to Europe undoubtedly is - the solution to be aimed at does not consist in looking for those

barely discernible common values - which ultimately demarcate national interests and purporting to devalue alien national shared value systems - but to explore those common interests which exist between sending and receiving countries and to come to terms with international standards regulating migration. Agreements of this kind would also deal with those side effects which actually are considered to be agonising from the side of European receiving countries, such as legal questions on behalf of entry and residence, cultural and religious issues, cooperation with regard to returning migrants and asylum seekers from the side of sending country governments, and co-ordination concerning the fight against the smuggling and trafficking of human beings. However, interest constellations of sending countries would also have to be tackled, as for example, the legal crossing of the Schengen border, human, social and working rights issues, remittances, and regional development affairs.

In the long run this kind of standard would probably smooth down those conflicts which truly seem to be inherent in migration from third countries to Europe these days. Obviously, it will take time to reach an agreement on migration standards which somehow would correspond more to a universal common will and not alone to the shared values and particular interests of some nation states. Low profile negotiations directed at coming to terms with such migration standards are on the way. In 2004 the International Organisation of Migration (IOM) organised a series of regional conferences in Latin America, Africa, Asia and Eastern Europe on this topic, the results of which were integrated into the final conference, which took place in December in Bern, Switzerland. The United Nation's Global Commission is also starting to tackle minimal standards on migration aiming to reach a consensus among the delegates of its member states. Needless to say, these commissions are circumvented by researchers working on policy counselling - social scientists, migration policy specialists, and those advocating international law.

So, as a final conclusion, it may be said that with regard to migration to Europe, it might be more convenient and promising for researchers to support the IOM and the Global Commission's initiatives directed at coming to terms with migration standards instead of engaging too much in research on nation state-based and European Union-based common values.

Case of Environment

Scientific Advice on Environment and National Politics

Jan H. Koeman and Jan D. Schiereck*

Introduction

It is continually reported that the world's ecosystems are deteriorating at a rate that will soon affect the options for survival of the human species. There are diverging views but there is evidence showing that conditions are getting worse in many regions of the world. Apparently our society is not (yet) able to counteract these changes. Nevertheless, at a certain moment in the not too far away future some state of sustainability will be required. Here we want to address the position of science and the scientists involved. Why does scientific research that claims to show arguments for a change of policy remains without sufficient result? To what extent science and scientists are responsible themselves? Should they re-examine the way they conduct and organise their research? Should they improve the way they communicate with other researchers, intra- and inter-disciplinarily, and with administrators, politicians and other stakeholders? Where appropriate reference will also be made to the outcome of a conference *Responsibilities of environmental research*, the Advisory Committee on Science and Ethics of the Royal Netherlands Academy of Arts and Sciences organised last September (Koeman & Schiereck, 2005).

Over the last decades numerous scientific papers and reports on environmental issues have reached the conclusion that the condition of the environment and the world's natural ecosystems is deteriorating at a quickening rate. One of the first was the report *Limits to Growth* published by the Club of Rome in 1972. In 1992, 1575 scientists, including 104 Nobel laureates, signed *The World's Scientists Warning to Humanity*, calling attention to the pressing environmental issues facing the natural world. The independent *World Watch Institute* has

* Chairman and secretary respectively of the Advisory Committee on Science and Ethics of the Royal Netherlands Academy of Arts and Sciences. The authors are indebted to Jelte van Andel, Sjaak Swart and Marten Scheffer for their permission to use figures from their publications. We are also grateful to *Nature* for the permission to use fig. 3 from Scheffer et al., 2001.

disseminated many documents on environmental degradation, pollution and conservation methods. Recently an elaborate global assessment of the state of ecosystems (*Millennium Ecosystem Assessment*, 2005) has been published. The assessment was carried out by 1300 biological, physical and social scientists. They conclude that the majority of ecosystem-services (e.g. clean water and air, genetic resources, fish captures) are dramatically declining. Only a few services have increased, namely crop and livestock production and aquaculture. However, their increase coincides with losses of regulatory ecosystem services, and of aesthetic and cultural values. The FAO has concluded that in coming years enormous population increases, combined with growing per capita consumption, will continue to result in agricultural expansion on new lands, mostly through deforestation (FAO, 2003).

Society at large has responded to the concerns expressed by organizing a number of world summits starting in Stockholm in 1972, followed by the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992. The Kyoto Global Climate Conference adopted an international agreement on measures to be taken against human influence on climate change in December 1997: the Kyoto Protocol (entered into force on February 16, 2005). In 2002 the World Summit on Sustainable Development was organized in Johannesburg. In the declarations of these summits the loss of ecosystem services is well recognized and many good intentions are listed with regard to future developments. However, until now the declarations and agreements emerging from these summits, have not (yet) led to adequate measures sufficiently counteracting processes leading to ecosystem degradation.

This is not to say that nothing has been achieved with regard to the abatement of certain forms of impact on the environment. In many countries corrective measures have been taken to reduce environmental pollution and to improve the protection of endangered habitats. However, until now mostly problems have been addressed which are perceived as a direct short term threat to the health and well-being of the human population living in affected areas.

We will first go into some aspects of environmental research and their consequences for scientific practice. Then we pay attention to interests of citizens and society, and of governments. Communication importantly influences whether scientific results lead to political decisions. Action, or lack of it, so it seems, may be related to prisoner's

dilemmas. Finally, we will dwell on some of the responsibilities the scientific community bears in countering apparently diverging interests.

Scientific research

Complex nature of environmental research

Among the reasons for the apparent disconnect between scientists' historic warning and political action, the relatively poor scientific understanding of the complex processes involved and the absence of adequate data is important. Environmental scientists have been rather successful in identifying cause and effect relationships in relatively simple situations, for instance the effects of fishing on local fish populations or the impact of pesticides on particular species. However with regard to complex and relatively larger systems and functions considerable difference of opinion may exist among scientists. Especially in systems with relatively large fluctuations, the difference between 'natural' fluctuations and the start of a significant change may be hard to discern, let alone that its cause can be identified unequivocally. Ecosystems may respond in a smooth way to the impact by human activities, but sudden catastrophic changes may also occur in case the resilience of an ecosystem is critically reduced (Scheffer *et al.*, 2001, see also fig. 1 below). It is often impossible to assess exactly whether a system is still robust or close to a collapse. Empirical long-term studies are required to assess how much (additional) human pressure an ecosystem can endure.

Figure 1 (see below) shows that the stability landscapes depict the equilibriums and their basins of attraction at five different conditions. Stable equilibriums correspond to valleys; the unstable middle section of the folded equilibrium curve corresponds to a hill. The bottom plane shows that if a system is close to the bifurcation point F_2 a slight incremental change in conditions may bring it beyond the bifurcation and induce a catastrophic shift to the lower alternative state. If the size of attraction is small, resilience is small and even a moderate perturbation may result in a catastrophe (from Scheffer *et al.*, 2001; in 2004 the authors received the Sustainable Science Award of the Ecological Society of America).

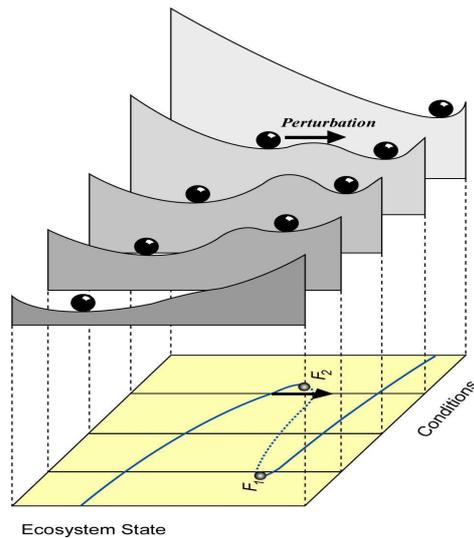


Fig. 1. External conditions affect the resilience of multi-stable ecosystems to perturbation.

If scientific data lead to different interpretations and competing views alternative plausible pictures of the state of ecosystems may be constructed. The scientific climate debate is a good example. For some researchers the scientific data available provide sufficient evidence for serious negative effects, while others defend contrary interpretations.

During the KNAW-conference *Responsibilities of environmental research* referred to before, the observation was made that the efficiency of the analysis of complex problems regarding processes in ecosystems and the role of biodiversity in the conservation of ecosystem services could be improved. Multidisciplinary and interdisciplinary research should be enhanced. Scientists from different disciplines need not only come together; they need to develop new knowledge in collaboration with social actors.

Good scientific practice

Like all scientists, environmental scientists will have to follow principles of good scientific practice in research and scholarship. Several codes of good practice have been established (e.g. Evers, 2003). At an abstract level these codes of conduct tend to agree on

general values and principles. However, they are interpreted differently in various disciplines leading to incongruence in multi-disciplinary fields of research such as environmental research. On the one hand it may lead to an exaggeration of the issue. On the other hand opposite views may lead to underestimations. In case views differ widely the messages communicated to decision-makers will not have much impact, especially when opinions outnumber facts.

Occasionally environmental scientists, like others, do not meet the standards of good scientific practice, for instance when they defend beliefs and opinions that are not sufficiently supported by scientific results. A relatively recent example may illustrate this point. In the middle of the nineties of the last century a number of scientists suggested that the hormone system of humans and other species became increasingly endangered by a vast number of chemicals. These so-called endocrine disrupters were supposed to be responsible for reproductive effects in humans (*e.g.* decreased sperm counts in men), adverse effects on diseases like cancer, neurodevelopment deficits in children and reproductive failures in wildlife. The case became a media hype and to some extent a political hype. A number of scientists initiated this process at the publication of *Our Stolen Future* (Colborn *et al.*, 1996). In this book many synthetic chemicals causing serious impact on the hormonal balance in animals and men were identified. A number of critical reviews pointed at the authors' lack of discrimination between anecdotal reports and meticulous scientific studies (*e.g.* Hirshfeld, 1996). The book does not present balanced or objective scientific evidence on the issue (Lucier & Hook, 1996; Wilkinson & Dawson, 1996). However, responding to the hype governments, industry and bodies like the EU and OECD established task, working and steering groups on endocrine disruption and vast amounts of money were allocated for special research programmes. The problem became a bandwagon for the majority of the community of environmental scientists. Finally, in 2002 the International Programme on Chemical Safety (IPCS 2002) published a global assessment summarizing the state of scientific knowledge at that time. One of the conclusions is that the studies examining endocrine effects by chemicals in humans have yielded inconsistent and inconclusive results. Also, extensive evidence showed that wildlife has been affected adversely. As a comment one may say that the majority of the effects on wildlife were already evident before the hype started (*e.g.* Guillette

et al., 1994, Sumpter, 1995). In the US the American Council on Science and Health (ACSH, 1999) also concluded that the analysis of the human data has so far failed to provide firm evidence of direct causal associations between low level (i.e., levels measured in the general population) exposure to (endocrine-active) chemicals and adverse health outcomes. The ASCH concluded also that the current scientific knowledge provides evidence that certain effects observed in wildlife can be attributed to chemicals that function as endocrine disrupting chemicals. However, in most cases, the evidence of a causal link is weak, and most effects have been observed in areas where chemical contamination is high.

Hypes like the one briefly described are harmful for the image of science and scientists. They hamper reasonable scientific discussions. Society, governments and international bodies may become misled, taking inappropriate decisions. The amount of money that has been allocated to the 'endocrine issue' over the last decade for research, regulatory developments, task forces, international meetings etc. is enormous and very probably excessive. During the KNAW-conference *Responsibilities of environmental research* the observation was made that environmental scientists - like scientists in general - should be closely involved with society and a willing to debunk myths in public opinion (facts, analysis and reasoning versus opinion, prejudice and popular belief). They should invest first in their own *community of scientific practice*, which should be based on appropriate, solid scientific methodology. Scientists can preserve their independence (and thereby clarify their position in the debate) while providing crucial knowledge focusing on alternative options for action for any given issue, including all economic, ecological and social trade-offs involved.

Communication

The scientific community is sometimes criticized for being incapable to adequately communicate the outcomes of research to society. Some scientists are not particularly interested in the communication of their research results to parties outside their scientific community. Hence, these results may remain invisible for researchers in other disciplines, decision-makers and the general public. The lack of communication with other disciplines is to some extent the result of the way science

communities are organized. Faculty barriers frequently separate disciplines and scientific meetings and societies generally have a limited focus.

Scientists may also lack interest for communication seeing it as their job to produce data having no particular interest in what will happen with the results of their work. However, they should make sure the data are properly interpreted at the next echelon. A case study may illustrate this aspect. It concerns the analysis of the ecological impact of coarse-scale hydraulic dredging of cockles in the Dutch Wadden Sea.

The Ministry of Agriculture, Nature and Food Quality initiated an ecological evaluation study, carried out by three research institutes. This resulted in scientific reports, summarised and interpreted in a so-called public version, presented by the Minister to the Dutch Parliament in December 2003. The final scientific report was published in August 2004. In January 2004 a meeting was organised to enable an open discussion among scientists who had been working under contract with the Ministry and the independent research groups. The conclusion was drawn that mechanical cockle dredging had caused ecological damage, both to the soil ecosystem and to shorebirds. However, it remained unclear whether the damage was irreversible, because this depends on the time required for recovery and on the criteria for return to the original state. Two months after this symposium, the Wadden Sea Advisory Committee to the Government under the chairmanship of a leading politician stated that current mechanical cockle fishery is incompatible with the natural value of the Wadden Sea. Nevertheless, the committee advised allowing cockle fishery to continue for another seven years, subject to the condition that a sustainable exploitation of the cockle fishery would be developed and that the ecological limits set by the evaluation study were respected in the meantime. The independent research groups asked the contract researchers whether they agreed with the latter decision. In their reply the project leaders stated that it would not be the task of researchers to set the conditions for political decisions. Furthermore, there would be a risk of science no longer being considered independent, thus diminishing the impact science should have on the policy-making process.

In June 2004, a group of over 100 Dutch scientists wrote to the Minister of Agriculture, Nature and Food Quality and to the relevant parliamentary commissions that current scientific insights are sufficiently valid to conclude that another seven years of cockle fisheries as

proposed by the Advisory Committee will not result in sustainable use of the Wadden Sea. The Minister was asked to take the available scientific knowledge seriously into account. Thereafter the Dutch government decided that mechanical cockle fishery is banned since 1 January 2005.

An analysis of this case by Van Andel and Swart (2005) reached the conclusion that this was an example of ‘contextualised science’, science in which societal interests and disputes in economic, ethical, and political senses play a predominant role. When interests are low we may speak of autonomous science. Autonomous science often occurs in academic settings, is curiosity-driven and is often internally funded. In the case of well-established scientific insights, research often aims to develop new applications. This means that scientific claims will be more strongly assessed for their practical use or impact. This applied science is often carried out in non-academic institutions. Politicized science, as a special form of contextualised science, is science in which scientists are led in their conclusions by political or ideological convictions (during the ALLEA meeting the suggestion was made that this type of science should not be accepted as science at all). The relationship between these four forms of ‘science’ is illustrated in fig.2. As the authors state the boundaries are not hard and fast.

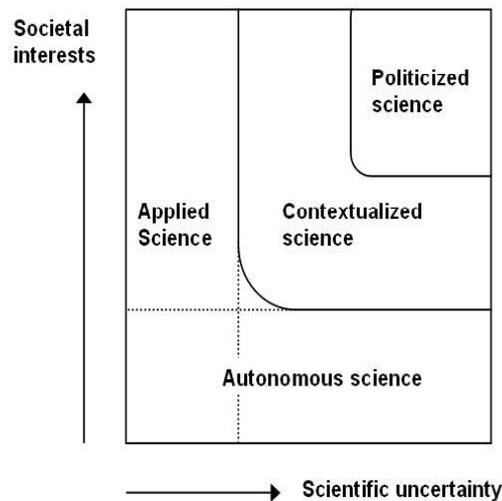


Fig. 2. Different modes of scientific research, used as a framework for the analysis of the debate among scientists at the interface between science and politics.

During the KNAW-conference *Responsibilities of environmental research* the observation was made that scientists should take time to consider the broader scientific picture before they express their scientific findings to the public. Academies of science should encourage researchers to communicate across disciplinary boundaries and reduce institutional boundaries between disciplines. A second conclusion was that traditionally, scientists tend to believe that good research will find its way on its own merit. However, professional communication techniques are needed to reach modern citizens, who are subjected to a continuous avalanche of information. Scientists cannot afford to ignore this if they are serious about their work. They have a responsibility to provide data, arguments and critical interpretations. They should evaluate the use and abuse of the results and interpretations in the decision-making process. The decisions belong to the realm of politics, but all scientists should foster the correct use of scientific arguments in the decision making process. Finally it was stated that alarming messages about environmental degradation are generally counter-productive. Mass media often comment on rather serious and sober reports on empirical state of affairs in alarmist terms. Scientists should be aware of this. Pointing to positive achievements is crucial to get things done in the future. However, at the other extreme is the position of being over-cautious or conservative, which means that scientists are excessively cautious when drawing conclusions and arguing continuously that sufficient proof of the deterioration of the environment in general is lacking, setting an unreasonably high standard of evidence.

The world at large

Interest of society

Interesting scientific data on environmental issues still only receive attention by a minority of the population, generally labelled as 'environmentalists'. For the majority of the people living on this planet, the natural environment and its multitude of life-support functions is hardly considered to be of any importance. According to pessimistic contemporary philosophers, like the German philosopher Peter Sloterdijk, the majority of the population is increasingly engaged in hedonic

consumentalism and the globalisation process seems to support this development (Sloterdijk, 2005). Messages about the state of the environment are mostly negative and the acceptance of counter measures advised seem to interfere with personal well-being and the phasing out of poverty.

Attempts have been made to demonstrate to a wider public that a better management of the world's resources is not only beneficial for environmentalists but for all people. An appealing approach appears to be the concept of the 'ecological footprint'. The 'ecological footprint' of a specified population is the area of land and water ecosystems required to produce the resources that the population consumes, and to assimilate the wastes that the population produces, wherever on Earth the relevant land/water may be located (Wackernagel & Rees, 1996; Rees, 2005). According to Rees, everybody recognizes that he or she has a positive ecological footprint. However, the ecological footprint concept has only reached a minor fraction of the population and it is unlikely that this will change in the near future. From an anthropological point of view it has been stated that humans are predisposed genetically to behave in ways that were once adaptive but that have become self-destructive in modern times. These biological predispositions are currently being reinforced by cultural factors, *e.g.* few attempts have been made to save fossil fuel for future generations.

Interests of government

This is in general a reflection of the attitude of the general population. The long-term management of ecosystems and their services and other essential resources has relatively little political weight. The recommendations made are mostly conflicting with short-term interests of economic growth. An example on a related issue may illustrate this point.

In 2002 the Advisory Committee for Science and Ethics of the Royal Netherlands Academy of Arts and Sciences has analysed the scientific and ethical aspects of fighting foot-and-mouth disease. A serious outbreak occurred in the spring of 2001. This outbreak was controlled according to the non-vaccination approach established under the auspices of the EU in 1985 and sharpened in 1991. As a consequence many thousands of healthy animals had to be destructed in the affected countries, including rare animal breeds and hobby animals. At a certain

stage it was even considered to kill all free-living herbivores. This gave rise to considerable social tumult. Questions raised by the Committee were: Was the policy based on all available epidemiological, population-biological, veterinary and economic knowledge? Did scientific-ethical considerations play any role at all? The veterinary experts pleaded in favour of vaccination, arguing that vaccination is a relatively inexpensive guarantee against outbreaks of foot-and-mouth disease, which can be widespread in a non-vaccinated population. After an extensive consultation of documents and scientists who closely observed the policy developments, the Committee had to conclude that commercial interests, that were mainly founded on regulations concerning international meat trade led to the non-vaccination policy. The possible psychosocial repercussions and the consequences for threatened species were not taken into account. Although at the time a number of scientists put forward arguments in favour of vaccination it is not clear whether their arguments were sufficiently articulated and whether these scientists drew enough attention to the research outcomes that supported a plea for vaccination (KNAW, 2002).

The collapse of some of the world's fish populations is also largely due to management failures by governments and international bodies like the UN, including the failure to heed the warnings of academic scientists. Regrettably these tragedies are fairly typical examples of the human exploitation of self-producing natural capital. Although there is considerable variation in detail, the danger signals have been evident and there is a remarkable consistency in the history of resource exploitation. Resources are often over-exploited, to the point of collapse or extinction. During the KNAW-conference *Responsibilities of environmental research* the observation was made that the scale on which human demands, as a result of technological development and population growth, have ravished the resources of the earth is new. Scientists need to address the problem of dealing with environmental issues that are often subject to scientific uncertainty, have major social impacts, particularly on the vulnerable segments of society and on ecosystems and species and, hence, are arguably characterised by urgency. Many of these impacts are expected to occur in sometimes fairly distant futures (as seen by decision-makers), leading to an unwarranted lack of mitigate action or application of the *precautionary principle* (e.g. Fenstad, 1998; Perrings, 2005). Moreover, such action would often challenge vested interests of politicians and industrialists.

Policy makers face problems, in bringing policy into effect that reduces short-term advantages for some, for the benefit of long-term advantages for all.

Prisoner's dilemma

Two prisoner's dilemmas may be distinguished with regard to environmental policy. Citizens may feel that taking care adequately of nature and natural resources is in the interest of all and in the interest of their offspring. At the same time, people may evaluate the behaviour of others as endangering these long-term interests in the interest of their own short-term benefits. This may lead to the idea that 'corners may be cut' for one's own short term benefit even though long-term goals will be seriously hampered if many others would do the same.

Responsible governments should try to formulate a general mean interest for the people in their country. As a part of this, they may strive for consensus between countries to save natural resources and use them in such a way that future generations may benefit of them as well. But governments have to take the relatively short-term interest of voters support into account. Politicians may see the long-term interest of all to make use of natural resources in a responsible manner. But if this implies policymaking with a negative effect on actual liberties and wealth electoral support may dwindle.

Conclusion

In order to preserve ecosystem services, profound changes are required in the way the global society operates. It is not likely that such changes will be accomplished soon, unless threat of obvious potential disasters caused by environmental mismanagement becomes imminent. One may recall that the rise of concern about environmental pollution in the sixties and early seventies of the previous century, followed by legislative measures and the establishment of environmental agencies and ministries, only occurred after the number of calamities with chemicals increased significantly. Environmental issues of global concern are generally at odds with national interests. This stresses the need for well-coordinated international actions supported by high

quality scientific advisory boards. In principle ALLEA could play a key role in this respect.

The scientific community should partake in the discussion on the agendas for research. The case of the environment will be supported by specific topics for future research: options for sustainable use of natural resources, influencing behaviour, communication of finite resources and moral positions towards future generations.

Environmental research has a global scope. This implies that research topics and results often are expressed in very large numbers. For those who are unfamiliar this imposes a serious barrier to understanding research questions and results. Environmental researchers should be aware of this and make an effort developing ways to communicate research results. Environmental scientists - like scientists in general - should have a close involvement with society and a willingness to debunk myths (facts, analysis and opinions versus prejudices and popular beliefs). It is clear that interests or dependencies often determine the opinion of the beholder. These should be made visible and subjected to critique. Scientists have to play a crucial role contributing facts, analysis and clear diagnosis showing the consequences of political decisions. Scientists have an obligation and a privileged position that should be handled with both responsibility and care.

Environmental research combines social and natural sciences. In the latter the idea that scientific research is not value-free seems to be appreciated with much more difficulty than in the former. It leads to the question how the relation between values and research should be addressed. This will have consequences for principles of good scientific practice in environmental research.

References

Advisory Committee for Science and Ethics of the Royal Netherlands Academy of Arts and Sciences (2002). *Fighting foot-and-mouth disease: Stamping out or making use of scientific research?* Amsterdam: Royal Netherlands Academy of Arts and Sciences.

- Andel, J van & Swart, J.A.A. (2004). At the interface between science and politics: The case of cockle fishery in the Wadden Sea. In: *Responsibilities of environmental research*. Amsterdam: Royal Netherlands Academy of Arts and Sciences.
- ACSH (1999). *Endocrine disruptors: A scientific perspective*. New York: American Council on Science and Health.
- Colborn, T, Drumanski, D. & Myers, J.P. (1996). *Our stolen future*. New York: Dutton.
- Evers, K. (2003). *Codes of conduct, Standards for ethics in research*. Brussels: European Commission.
- FAO (2003). *State of the world's forests*. Rome: FAO.
- Fenstad, J. E. (1998). The precautionary principle: Can nature be predicted. *UNESCO Courier*, May 1998, pp 23-28 (English edition).
- Guillette, L. J. Jr, Gross, T.S., Masson, G.R., Matter, J.M., Percival, H.F. & Woodward, A.R. (1994). Developmental abnormalities of the gonad and abnormal sex hormone concentrations in juvenile alligators from contaminated and control lakes in Florida. *Environmental Health Perspectives*, 102, 680-688.
- Hirshfeld, A.N. (1996). Editorial review of our stolen future. *Science*, 272, 1444-1445.
- IPCS (2002). *Global assessment of the state-of-the-science of endocrine disruptors, International Programme on Chemical Safety*. Geneva: UNEP, ILO, WHO.
- Koeman, J.H. & Schiereck, J.D. (Eds.)(2005). *Responsibilities of environmental research*. Amsterdam: Royal Netherlands Academy of Arts and Sciences.
- Lucier, G.W. & Hook, G.E.R. (1996). Editorial. *Environmental health perspectives*, 104, 350.
- Millennium Ecosystem Assessment (2005). *Biodiversity and human wellbeing: A synthesis report for the convention on biological diversity*. New York: United Nations.
- Perrings C. (2005). Environmental risk, uncertainty and the precautionary principle. In: *Responsibilities of environmental research*. Amsterdam, Royal Netherlands Academy of Arts and Sciences.
- Rees, W. E. (2005). Science communication and policy with special reference to ecological footprint analysis. In: *Responsibilities of environmental research*. Amsterdam: Royal Netherlands Academy of Arts and Sciences.

- Scheffer, M, Carpenter, S., Foley, J.A., Folke, C., & Walker, B. (2001). Catastrophic shifts in ecosystems, *Nature*, 413, 591-596.
- Sloterdijk, P. (2005). *Im Weltinnenraum des Kapitals*. Frankfurt am Main: Suhrkamp.
- Sumpter, J. P. (1995). Feminised responses in fish to environmental estrogens. *Toxicology Letters*, 82/83, 737-742.
- Wackernagel, M. & Rees. W.E. (1996). *Our ecological footprint*. New Society Publishers.
- Wilkinson, C.F. & Dawson, A. (1996). The endocrine disruption issue: Truth or fiction. *Pesticide Outlook*, June 1996, 6-9.

Sustainability and International Solidarity

Oleg Suša*

Introduction

The current globalisation era is characterized by growing interdependencies that create a complex ecosystemic planetary environment. This means that human learning also comprises information on the risks and consequences of social interaction within the global arena as well as within international relations. We learn about new global problems and, through this learning, we are confronted with an opportunity to become global citizens. As the recipients of an ever-growing amount of knowledge on the increasingly global world, we are, from time to time, exposed to various definitions of the global agenda - in both a descriptive as well as normative sense - and urged to accept global responsibility, and act as responsible and solidary global citizens. The producers of knowledge and definitions of global risks - scientists and groups of activists - are not the sole bearers and proponents of ethical responsibility. The responsibility is greater where the decision-making power is greater. In the current world, countries are still the main organizers of a reactive or proactive policy regarding solidary cooperation that accepts responsibility on a global scale, although within a more multilaterally configured framework.

It is widely recognized that the new and growing transnational social solidarity is an important condition for global environmental reform as normative, goal-oriented, environmentally responsible, and sustainable political action. We need to differentiate between international solidarity, civic social solidarity and transnational solidarity. Whereas international solidarity is about solidarity *inter-nationes*, *i.e.* between nation states, civic social solidarity is locally and globally organized, created and formed at the same time as transnational solidarity. The situational character of the inter-relationship between local, national and global transnational solidarities is therefore crucial. Solidarity as a social relationship, social attitude and/or social value is simultaneously

* Senior Researcher at the Institute of Philosophy, Czech Academy of Sciences, Prague and Senior Researcher at the Department of Sociology, Philosophy Faculty, Charles University, Prague, Czech Republic.

something spontaneous, normative and organized that can be momentous (occasional), short term, or long term.

Sustainability and solidarity

Sustainable development has been defined in many ways. Sustainable development's normative goal lies in its aims to balance economic and environmental priorities, thus present and future generations' conditions of survival. To date, international political goals have been shaped by the following aims: to organize global environmental reform and management, as well as to co-opt environmental criteria into the system of the existing institutional order. Is this order compatible with a sustainable way of life within the global ecosystem framework?

In addition, sustainable development, as a dominant 'western', or global North project, implies inequality between the environmental priorities, values and definitions mainly supported by the global triad of the EU, USA, and Japan and the developing countries whose environmental and social priorities are often neglected. The political drive to activate global markets and economic relations in respect of environmental reform still mainly originate from the global triad (Mol, 2001, p. 213-214).

Beyond the current power structures that influence global regulative regimes (the OECD, WTO) and the various definitions of sustainability, global politics' most important issue in respect of solidarity and sustainability is how to overcome the environmental disparities between the global North and the global South. Any attempt in this direction would encounter the following three forces:

Firstly, in practice, power elites within international relations' current institutional system often seek to 'integrate' environmental issues into their own definitions and social constructions (as well as interpretations) of sustainability and risk management. Secondly, within the global capitalist corporate community's framework as within the nation-states' wider international community (the UN platform for example), or in non-state actors' other communities and networks, there are certainly different approaches to solidarity.

Global capitalism as well as transnational business is trying to reconcile economic growth's business interest with environmental responsibility in different ways, for example, through the self-presen-

tation of ideologising rhetoric on the overall 'greening', which includes setting standards for economic competition, green labelling and, most importantly, proclaiming their interest in self-regulation, and self-control. This business policy seeks to 'domesticate' and institutionalise environmental sustainability by subsuming it within the market framework and bringing it under its flag.

Nation-states have been developing the concept of sustainable development and the politics of environmental modernization, which originated in western, global North societies, so that international solidarity and cooperation in respect of sustainable development are dependent on the possibilities and capabilities to create *inter-nationes* negotiated regimes, common interests, values, goals and institutions (organizations, laws, and procedures). Finding consensus between the different positions of the global North and South's various nations and societies seems to remain a complicated problem that raises significant barriers to a truly global solidarisation. The solutions seem to lie in greater participation, more equal access to decision-making and deliberation processes. However, in this respect the multiple inequalities between states regarding international relations are also of importance. It is perfectly normal for strong states, which can afford it, to speak about 'international solidarity' (using it as a phrase), while pursuing their own parochial interests. International solidarity organized within a system of inter-state relations, international regulatory regimes etc. often takes a rather formal and bureaucratic form that has little respect for such delicate issues as global social justice, unsustainable and unequal distribution of goods and resources as well as environmental and social wrongs.

Civil society, the third force to be encountered when wishing to overcome environmental disparities, is often considered as another (or alternative) source of solidarity.

Global civil society, international solidarity and civic cosmopolitanism

In local and national societal contexts, many citizens participate in political and social movements. Social movements also operate at a global level. Global movements are concerned with the processes and impacts of global and local change, therefore their political agenda

deals with questions such as how governments can best co-operate to counter global environmental degradation, or deal with the economic insecurities resulting from volatile global money markets. In other words, this is about the global agenda. The planetary biosphere provides the most obvious example of the shared global nature of many problems. Growing environmental problems "are connecting lives of people in very different societies. It is ultimately impossible to hide oneself away from these phenomena altogether" (Yearley, 1996, p. 28).

Such common interest problems could be the new foci of identity and collaboration between citizens of distant countries. That means thinking about ourselves collectively while identifying with all humanity, increasing multicultural awareness, empowering self-aware social actors, and broadening identities. For instance, a growing number of people are articulating the strong conviction that everyone has certain rights as a human being. They express moral outrage when these rights are violated and demand that they be universally protected. This constitutes a clear break with the recent past. The existing power model of a dominance-dependent interrelationship is normatively challenged by the decision to share the governance of our planet.

Some globalisation analysts hope that nations and cultures are more willing to recognize and accept cultural diversity, and increasingly regard co-operation around a set of shared values as well as structures as possible, necessary and desirable (Perlmutter, 1991, p. 898; Cohen-Kennedy, 2000, p. 36). Sustainable development has also been introduced into the normative construction of 'our common future', or the fate of this planet's ecological community, which has been widely published, disseminated and communicated from the 1980s onward.

The subjective force of reflexive individualization is another very important factor in respect of a critical assessment of social action, its broader social conditions as well as of solidarity regarding the sharing of responsibility for the social and natural environment. This growing reflexivity is partly linked to the development of mass education and the wide dissemination of not just scientific knowledge but also the principle of doubt on which scientific method is built.

These have provided keys to citizen empowerment such as access to specialised systems of expertise, professional training and the means to acquire various kinds of lay expertise. In such conditions, reflexive citizens may challenge the truth claims forwarded by governments, corporations and the scientific community. The tendency to criticize

powerful institutions is often paralleled by intense disillusionment with the consequences of modernity and material progress as well as with military, technological and scientific institutions' unchecked powers, which now seem to threaten the viability of the planetary biosphere. We are surrounded by vast new risks (Beck, 1992). Our lives have become more insecure, we have more freedoms as well as more personal responsibility to manage our lives while engaging in the critical appraisal of established institutions because our survival and that of our planet depends on this.

The capacity for reflexivity has also increased among the most disadvantaged citizens of many developing countries, because there are no longer remote global areas. Citizens everywhere are challenging state power and forging links with their counterparts in other countries. This is partly due to the realization that governments are often ineffective in the face of "currency crises, pollution disasters, terrorist attacks, ozone depletion and a host of other problems that transcend national boundaries" (Rosenau, 1990, p. 337). Global information media can, for example, remind us of growing transnational interdependency. The basis of the influence of non-state organizations' transnational power and, increasingly, that of inter-connected global citizen networks is taking shape. Many of those involved are highly critical of the established order, which has the potential to form, from below, effective global alliances between various groups that seek alternative futures with a more sustainable, democratic, responsible, fair, just, or more egalitarian world order.

In addition, comparisons with and understandings of other cultures alter our allegiance to the specific local cultures in which most humans remain rooted ('relativisations', Robertson, 1992, p.29): We need to judge and decide how we feel about other cultures in the light of our participation in the global, specific and local. There is an increase in the mutual interpenetration of the local and the global. People can then respond to the reality by means of selection, adaptation or resistance.

In selection, there is often a borrowing or modification of the global by its contact with the local (Robertson terms this process 'glocalization'). Adaptation enables simultaneous participation in the global and the local, although growing knowledge of the global may serve to intensify loyalty to the local. Knowledge of the global also results in resistance, which could be the ultimate result of the global's negative impacts on the local.

On the other hand, there is no globally shared environmental frame of reference, and no truly global network of movements and non-governmental organizations that cover the planet. Environmental priorities in different parts of world and definitions in respect of ecological problems and sustainability differ fundamentally. Environmental universalism is often prevented by local factors articulated in heterogeneous cultural frameworks.

The absence of such a solidarised global frame of reference is also related to capacities and resources with which to articulate an environmental global civil society discourse being unequally distributed. Sustainability and international solidarity should be better related to global justice's ethical and moral framework, with awareness of real human inequalities. International solidarity can only become more efficient if social and cosmopolitan solidarity is possible. Ultimately, global information networking can only provide the technical means to such ends.

Information society, trans-border networking, global environmental subpolitics, solidarity and sustainability

Interdependencies and interconnections bind localities, countries, companies, social movements, professional and other groups, as well as individual citizens into an ever-more dense network of transnational exchanges and memberships, participations and affiliations. These networks transcend territorial borders, and rupture cultural and economic self-sufficiency. Knowledge and information are key drivers of these global networks, and the main elements of participation empowerment: the power of knowledge flows "takes precedence over the flows of power" (Castells, 1996, p. 469). Technical information media such as the Internet-introduced participation in the horizontal politics of 'globalised space' (Rosenau, 1998, p. 46). Globalised space networks enable people to share perspectives, provide information and mobilize resources as well to create non-territorial or virtual communities as alternative political spaces that constrain the 'real' world politics' hierarchical organizations. On the other hand, large numbers of people still do not have access to computer networks, and are dependent on information provided by the news media, *i.e.* the press and, above all, TV.

In situations in which nation-states often lose control of national and global developments in a relative manner, in which scientific proof is no longer taken for granted, but is regarded as an instrument of social interests and an object of social conflict, new forms of global environmental subpolitics emerge. Scientific and technological knowledge producers are responsible members of this global environmental subpolitical community. As globally responsible citizens, scientists and technical experts are able to do more to shape and activate the necessary international solidarity by means of even more careful learning and by assessing the political contexts of their knowledge systems' application (and consequences). Global information and communication systems increase the transparency of global economic and political actors' worldwide actions. Global capitalist elites find it difficult to ignore social protests and environmental sensibilities, therefore transnational corporations cannot afford to restrict their environmental performance to mere compliance with formal political requirements. They consequently not only justify their actions to conventional political actors, but also to civil society (social movements, scientists, and experts as responsible world citizens) and communication media.

Are all these developments really signs of a potential growing global responsibility on the way towards more sustainable global governance in future?

Strategic power of the global media: Implications for sustainability and international solidarity

The media are organizations that specialize in the communication of ideas, information and images of our environment, our communities and ourselves. The media are therefore actors with significant power and influence on our ability to learn to be responsible cosmopolitan citizens. They also project images about 'the others' and their communities. The media are, however, doing everything but reporting news neutrally, whether the wider effects of this are intentionally or unintentionally meant. According to their length, position on a page, or place in the broadcasting schedule, messages incorporate the values of the news organization that produces them. Various types of decision-making are part of the media's agenda-setting role, whereby they play a

significant role in reflecting and shaping public debate on the likelihood of international solidarity. The gate-keeping process through which the media decide which news stories to choose and which to discard, is another important role that they play.

The global media can shape, develop, distort or undermine global cosmopolitan citizenship and solidary environmental interests in sustainability with the same influencing power with which they currently serve transnational corporations (TNCs) by means of advertising and consumerist campaigns (big corporations spend more than half as much per capita to create corporation-friendly consumers as the world spends on public education: see Korten, 1995). The media can conflate fact and fiction, reason and emotion. Large media corporations may contrive to use this ability to project images and ideas that suit their own interests rather than the global responsible citizenship's national, international, or cosmopolitan interests.

Today, some corporations have achieved a near monopolistic, complex and overlapping control of newspapers, film archives, television net-works, radio stations and satellites. The concentration of program-ming, production, marketing and broadcasting functions within a small number of media corporations is also increasingly evident. And the combined ownership of different media gives such corporations a global reach that is sometimes regarded as threatening democracy, diversity and freedom of expression.

The media giants are often able to influence business, international agencies and national governments. The dominance of several large western news agencies means that news stories from many parts of the world are either not broadcasted, or are regarded as trivial, misleading and/or ethnocentric. Those who own the means of communications can link vast audiences and potentially feed them with similar and selective messages.

Media giants, software companies and business interests are now trying to control the Internet and commercialise virtual global information spaces (Sassen, 2000; Castells, 1996, pp.331-332). Can these spaces successfully escape media corporations' global power? Mass communications media do not lead to multicultural understanding and mutual respect for other peoples: the need to annex the media for consumerism leads to an appropriation of other cultures in the interest of greater profits (Cairncross, 1997, p.4). The same can be said of the appropriation of the environment within a framework of privatised

consumerist propaganda when contrasted with environmental sustainability and international solidarity.

This is the double-edged sword of the cosmopolitan openness of the information society's culture. The media have a relatively independent life, which means that a message (*e.g.*, scientific knowledge of strategic importance) can be significantly changed through the process of communication. This confers special power on technology and on those who own it, understand it and work with it.

We have to ensure that we learn what the media are telling to us and what they are not telling us. Are they distorting the democratic political order, destroying all other ideas and ways of life with the exception of those amenable to the free market in respect of goods and ideas (Herman & Mc Chesney, 1997)? What are the real chances of greater international solidarity and cosmopolitan democratic accountability, whether public or civic, of global mediated communication when the media are increasingly a private enterprise? The dilemma grows: do the media actually serve private interests, or public interests, which includes participating in the global responsibility to become cosmopolitan citizens by means of learning and identifying with the value of solidarity, thus creating a common democratic (and socially significant) interest in sustainability?

References

- Beck, U. (1992). *Risk Society*. London: Sage.
- Cairncross, F. (1997). Telecommunications. *The Economist*, 13 September 1997.
- Castells, M. (1996). *The rise of the network society*. Oxford: Blackwell.
- Herman, E. & McChesney, R. (1997). *The global media: The new missionaries of global capitalism*. London: Casell.
- Cohen, S. & Kennedy, P. (2000). *Global sociology*. London: Macmillan.
- Elliot, L. (2004). *The global politics of the environment*. Basingstoke: Palgrave.
- Korten, D. (1995). *When corporations rule the world*. West Hertford. Conn: Kumarian Press.
- Mol, A. (2001). *Globalizaion and environmental reform*. Oxford: Blackwell.

- Perlmutter, H. (1991). On the rocky road to the first global civilization.
In: *Human Relations*, 44, 897-920.
- Rosenau, J. (1990). *Turbulence in world politics: A theory of change and continuity*. Princeton, N.J.: Princeton U.P.
- Rosenau, J. (1998). Governance and democracy in a globalized world.
In: D. Archibugi, D. Held & M. Koehler.(Eds.), *Re-imagining political community. Studies in cosmopolitan democracy*. Cambridge: Polity.
- Robertson, R. (1992). *Globalization: Social theory and global culture*. London: Sage.
- Sassen, S. (1999). Digital networks and power. In: M. Featherstone. & S. Lash. (Eds.), *Spaces of culture*. London: Sage.
- Yearley, S. (1996). *Sociology, environmentalism, globalisation*. London: Sage.

Epilogue

On the Wilderness ALLEA Must Help to Cultivate¹

*Beat Sitter-Liver**

Introduction

In Amsterdam, Frits van Oostrom opened the Conference on 19 May 2005 by optimistically stressing that striving after universal values and a respective ethics of science was the privileged topic and obligation of scientific² academies – in contrast to the universities who were mainly driven by self-interest. Thus academies – and all the more ALLEA, their European federation – were assigned the moral duty to assure that science, scholarship, and technology contribute to a better world. But *ultra posse nemo obligatur*: What about the academies' capacity to meet such an obligation?

In a slightly earlier lecture given to the Academy of Athens, Pieter J. D. Drenth had pondered over the interaction between science and ethical norms (Drenth, 2004). Not only did he show "that there are more kinds of knowing than cognition" (p.175), but he also reminded his audience that all science seen as a complex undertaking depended on extra-scientific presuppositions, value related and normative ones; moreover that scientific efforts were 'pegged down by social, political and legal restrictions' based again on 'ethical and moral values' which are, at least partly, 'culture-specific'. Disagreement between countries on the acceptability of objectives, methods, and guiding conceptions cannot be dissolved by "only scientific arguments and rational risk analysis" (p.178). We will not discuss the open and tricky significance of the term 'rational' but content ourselves with noting that according to Drenth there are probably but a few ethical constraints "so fundamental that they could have ... a universally imperative character" and serve as

* Professor of Philosophy at the University of Fribourg, Switzerland.

¹ To Albert Schweitzer, ethics is not a well ordered French park, but wilderness in which we have to find, in an ever renewed effort, our path (Günzler, 1996, 22) following the promptings of our conscience while being aware that a safe conscience is the devil's invention (Schweitzer, 1974, vol 2., 388).

² In this text, the term 'scientific' is used in a broad sense, including natural and social scientists, medical scientists, engineers and scholars (*i. e.* the community of the humanities).

unquestionable limits to the research business. He mentions unacceptable damage (including as objects nature and culture), "conflict with basic human values" (first human dignity, then autonomy, with other values and principles that are well known in the discussion about research on human beings following), finally the principles of solidarity and equality, extending them from actual mankind to posterity "embodying the broader responsibility for the sustainable development of the planet that was to be left for future generations"³ (p.179 f).

Drenth's observations show that the obligation Frits van Oostrom alluded to is far from evident. Yet there exist even less confident positions and statements, underpinned by historical, systematic and empirically supported arguments. Such is the case *e.g.* with J.-P. Connerade maintaining that there are not any prefixed common moral bases in Europe, and that it is from shared worries only that common values may emerge (cf. Connerade, above)⁴; or with H. T. Engelhardt's study on *Bioethics and Secular Humanism* (1991) on which we shall have a quick look. My intention, however, is to take up some less tackled issues which in making use of civic ethics⁵ might be easier to treat without being less important for morally and ethically acceptable behaviour in the science business.

Living in a world of 'moral strangers'

Over and over again, we are told and agree that, although there is no serious lack of moral conviction and orientation in our cultural communities, we are confronted with a plethora of competing moral positions and ethical endeavours. While in urgent need of commonly mastering vital problems in various fields of shared interest, we seem to be living together as 'moral strangers'⁶ with no chance of constructing a sufficiently detailed value system and ensuing normative rules, which would offer us a path to tackle those problems with the hope of lasting success.

³ Obviously, P. J. D. Drenth's position is not simply anthropocentric, but open to the idea of inherent worth in nature.

⁴ There are more pessimists among our authors, cf. *e. g.* H. Galjaard or O. Susa, above.

⁵ Cf. J. Mittelstrass and Ayse Erzan, above.

⁶ Engelhardt, 1991, XI, XIV. Cf. the whole Introduction for a quick and comprehensive orientation.

The complaint about the absence – at least an overscarcity - of mutually affirmed and binding moral and legal rules⁷ has been officialised: The Council of Europe has been heading for a minimal set of common values and obligations in pressing problem areas such as biomedical research and practice.⁸ While experiencing limited success, the Council had to pay the price of remaining rather general and evading queries where consensus could not be reached. - The European Union issued directives, *e.g.* on patenting living substances⁹, which remained contested, lead one of its member states to launch a law suit (eventually lost in court), and are not yet generally transposed into national legislation.¹⁰

⁷ For a telling, though biased example see George Weigel's critique of secular Europe renouncing the very heart of its cultural tradition supporting human dignity, human rights, the spiritual humanism, and democracy: the Judeo-Christian heritage (2005).

⁸ Council of Europe, 1997. The work of the Convention is work in progress. A recent achievement in this continuous effort is the Additional Protocol to the Convention of Human Rights and Medicine Concerning Biomedical Research, Strasbourg, 25.1.2005.

⁹ European Commission, 1998.

¹⁰ We must not, however, overlook the efforts the European Union has been making, particularly in the last few years, to establish generally recognized values and norms. Its most fundamental initiative is the adoption of the Charter of Fundamental Rights and its introduction into the draft European Constitution – even if this draft was finally rejected by two of the member states, and therefore is not valid today. Since more than twelve years, the European Group on Ethics in Science and New Technologies has been issuing *Opinions* to the European Commission, *e. g.* 2003. - In 2002, the Commission published a *Science and Society Action Plan* which also included a strong ethics component in putting responsible science at the heart of policy making. This plan became part of the 6th Framework Programme (FP6) of the EU project of creating a European Research Area. – Another notable document issued by the European Commission is the *European Charter for Researchers* with the *Code of Conduct for the Recruitment of Researchers* (2005). – Last but not least, special mention must be made of UNESCO's decade-long effort in dressing universally acceptable ethical agreements. I will content myself with mentioning but the latest relevant proclamation of the General Conference, the *Universal Declaration on Bioethics and Human Rights* (19 October 2005), for two reasons: firstly because the introduction provides a kind of a summary of the numerous documents stating values, ethical, and legal principles and norms formally accepted by the worldwide human community, and secondly because it testifies that community's will to reach such normative agreements and its capacity to do so. This is of high importance even though political and moral practice of state and private bodies, as well as individuals, remain far behind what has formally been agreed. The challenge and the chance of realization thus remain conceivable and the object of reasonable hope.

What has been experienced on the European level is but an echo of the everyday struggle for ethical and political understanding and cooperation in the particular European countries - *i. e.* nations and cultural areas featuring international as well as intranational differences which seem to make the mere quest for a European and universally shared moral and legal area an utopia. In any case, it has become doubtful whether the traditional democratic procedures still offer an effective path out of this awkward situation (Dahrendorf, 2002, p.101 f., 103 f.).

It is well known that many of the normative controversies characteristic of the present historical situation are due to scientific achievements and discoveries, and to technological advances. They have been changing what we consider reality, and traditional images of the world and the human being have been altered.¹¹ Out of the new forms of understanding ourselves and the world we live in, emerged unexpected possibilities, interests, and objectives of forging both. However, these interests and objectives are far from being unanimously welcomed. There exists an obvious clash between traditional and newly acquired conceptions and attitudes, to such an extent that peaceful co-existence within and between our societies has been put under heavy additional stress. Thus, looking for common ethical procedures, moral attitudes and standards has become a major concern of the socially, politically, culturally and, to some extent, also economically competent and responsible actors: institutions as well as individuals, amongst them the overarching organizations alluded to, *viz.* the European Community and the Council of Europe. Global bodies are engaged, too, in the first place the United Nations Organization with its precarious efforts of having the human rights respected all over the world.

The quest for ethical consensus and compromise

Science, technology, and scholarship with their personal and institutional actors are among the leading factors responsible for the 'post-modern predicament'; and since their performances and products are no longer *a priori* and generally saluted as a wish for progress, and a promise of general wealth and happiness (Ropohl, 1996, chapter 1),

¹¹ A prominent example has been provided by the efforts and the achievements of the neurosciences leading, amongst others, to the contention that human free will was but an illusion. Cf. Roth, 2001 and Singer, 2003, 24-34, particularly 32 f.

they are also among the first to be hit by the demand of engaging in the quest for existential meaning and moral orientation. Their representatives, in the first row their academies and professional associations, perceived and after some time accepted that demand turning it into one of their prominent responsibilities (this does not apply to ALLEA, for it spontaneously did so right from its beginning).

They have been realising their responsibility in various ways, particularly on two separate though indissolubly related tracks. The first consists in submitting scientific and scholarly practice to ethical critique and moral regulation¹²; the second in elaborating the specific responsibilities of those pertaining to the scientific and scholarly communities in looking for ethically acceptable ways of meeting the challenges of present day societies, of humanity at large.¹³ On both tracks, though in different ways, they have been striving after universal normative arrangements. - A third track they followed should not be overlooked, *i.e.* the direct political engagement when faced with stirring violation of the principle of human dignity, more precisely of human rights¹⁴, particularly the right to free scientific and scholarly activity and communication. Lately a fourth track has become dominant, with the public discussion - and sometimes heavy protest - in view of morally and ethically controversial scientific and technological advances¹⁵. This track consists in taking the role of ethical consultants to authorities of different kinds as well as to firms, often by insisting on the prevalence of

¹² *E.g.* Drenth et al., 1999, *European Science and Scientists Between Freedom and Responsibility*. Then the annexes in Lenk and Ropohl, 1987, 311-363; *Medizinische Ethik im Alltag*, 1999, 435-587; Shea and Sitter-Liver, 1989; Berthoud and Sitter-Liver, 1996. (The last two publications were issued on behalf of the Conference [today the Council] of the Swiss Scientific Academies.)

¹³ In 2003, ALLEA published a «Memorandum on Scientific Integrity. On standards for scientific research and a National Committee for Scientific Integrity (NCSI)». Cf. also the Bibliography, 21 f. - In 2002, the Swiss Academy of Medical Sciences had already decided on and published a respective set of guidelines and norms; cf. again the Bibliography on 19 f.. - The Council of Swiss Scientific Academies (CASS) had also been active on the international level, see 2001 and Sitter-Liver, 2001 - Note that these are but a few examples out of an impressive series of codes, analyses, and declarations issued on different organizational levels and throughout the world. - Cf. also European Science Foundation (2000), *Good scientific practice in research and scholarship* (Policy Briefing 10, December 2005). Strasbourg.

¹⁴ *E.g.* the Human Rights Network.

¹⁵ Take human therapeutic and reproductive cloning or research on human stem cells as just two examples.

scientific truth and by claiming particular ethical competence in the public debate, though not rarely on rather swampy grounds.

Strengths, omissions, and failures

This short – and doubtless incomplete – survey may encourage one to adopt van Oostrom's optimism. The national academies and particularly their international umbrella organizations had and still have a prominent role to play in this endeavour of creating universal ethical understanding and moral practice. Not directly depending on economic interests or political ambition, they stand the test as stronghold of independence, at least in the double sense of reflecting possible vested interests and dependencies, and of allowing critique and neutralization of such dependencies within their domain. By their very terms of reference, they ought to be and as a rule are motivated to open the field for controversial discourse, aiming at clear, enlightened, and reflected advice to third parties, the general public, and more particularly to social, economic, and political decision-makers. In this they have been offering notable achievements allowing the solution of urgent problems in the general and thus truly public interest. And yet, there remain at least two domains in which the scientific and scholarly communities are still far behind of what would have been one of their intrinsic obligations.

Decades ago, Charles Percy Snow deplored the grave gap between what he termed the literary intellectuals and the scientists - the representatives of the humanities, the empirical social and the natural sciences, as we might put it today, still in a rather reductionist way (Snow, 1969). That gap has not yet been filled, notwithstanding the notorious demand of inter- and transdisciplinary co-operation. Quite to the contrary, we experience the imperialism of the language of science¹⁶, particularly of the so-called life sciences. And the gap was even carelessly jumped over by the contention that the new and truly third culture would be formed by scientists with philosophical competence, leaving aside the knowledge and wisdom gathered by the traditional humanities¹⁷.

¹⁶ J. Andereg's expression. Cf. also id., 1999, 83-92.

¹⁷ Brockmann, 1996, Introduction, 15-35. (The English original *The Third Culture* was published a year before (New York: Simon & Schuster, 1995).

An important part of the difficulties we face when engaging in the quest of ethical understanding seems to stem from cultural differences inherent in the overall scientific system and causing deafness where open ears, intellectual alertness, and curious hearts were needed. The academies of arts and sciences have still a long way to go in their firm, it is true, attempt to better that harmful situation.

This failure is at the roots of another and commonly known difficulty with which science in particular is confronted, *i.e.* the replacement of the exuberant belief in the goodness of scientific progress by scepticism and even contempt for scientific and scholarly achievement (though usually accompanied by mostly unconscious or at least unreflected use of and everyday pleasure in very many of such achievements). The phenomenon is notorious under the heading of fading acceptance of science in society. It is less familiar as the lack of acceptance of societal needs and positions by science. Both science and society (a common expression which is itself purporting a gap that is not acceptable neither in the light of systems theory, nor in sociological and economic, not even in epistemological critique) stand up against each other with expectancies and demands as if they were autonomous entities with legitimate claims, instead of acknowledging their mutual pervasion and entwinement. Too many scientists still think that the general public needs one-way enlightenment about what they do, and that then the problem of trust would be dissolved. True communication would mean, however, accepting mutual critique and advice, and honouring different and maybe not easily reconcilable interests. Here, too, the academies and analogous scientific and scholarly bodies are confronted with an important task that needs modesty (or humility, as Ayse Erzan put it, cf. above) as well as competence. Striving after an understanding in fundamental moral and ethical queries either produced by science and scholarship, or being their research object, would certainly form an essential element in building a common vessel of truth, trust, and peace for a successful trip on uncertain waters.

Main concerns of today's societies, nay humanity, should stand in the foreground of such endeavours. They are commonly well known, and should encompass global challenges, such as the fight against poverty and hunger, and the ensuing need to re-examine and eventually modify the rules of actual economic systems with their theories; ecological deterioration of the globe; decent water, housing, and energy supply for everybody, but particularly for the less privileged; control of

overall population growth. They ought to include problems created by biomedical development such as human cloning and genetical engineering of living substances, with their ensuing economically driven patenting issues. These are but a few examples of the many globally relevant concerns waiting for thorough co-operative investigation by scientists and scholars and the innumerable professional institutions. And they are of high social, cultural, and political relevance, on national, regional, and global levels.

Needless to stress that generally stopping science and scholarship would not result in any favourable and fruitful solution. Yet both science and scholarship do need guidance – and limitation - springing from two equally important sources: firstly emerging from within the scientific and scholarly cultural project of humanity, and secondly stemming from outside, offered by societal and imposed by political entities situated at various levels. However, the prerequisite of any successful guidance are values shared by the scientific and scholarly community and, in the end, by the universal community of - if not moral friends, then at least - moral relatives. This may sound quite utopian to many ears, particularly of those of the all too prudent and clever pragmatists. Yet it outlines an ideal that we must not dismiss if we sincerely care about true mutual understanding and generally life supporting peace and solidarity.

Difficulties to overcome

Enlightened optimism presupposes that the quest for shared values and norms face explicitly a number of serious difficulties. They must be handled so as to save the quest from ending in a vague and 'abstract utopia' (Bloch, 1965, p.124-132). I shall briefly address three of these difficulties.

The first difficulty is of a theoretical nature. It dwells in the controversy about universally acceptable normative arrangements; in the doubt whether these are at all possible and, if so, desirable. The post-modern interpretation of our world has become notorious: We are living in culturally surroundings where there are no more any generally

binding moral instances¹⁸. The search for meaning and orientation has become individualised; the ethical teaching that, in principle, every interest must be taken seriously on its own ground, is now a truism; the quest for at least a 'minimum concept of natural law' (Hart, 1061, p.189-195) has seen itself being reduced to the very general, thus abstract demand never to use a fellow human as a mere means¹⁹; to the contention that the accepted minimal significance of the concept of human dignity is given by the person's right not to be degraded and humiliated (Balzer etc., 1998, p. 28-31), and to accept that the idea of symmetry precedes that of asymmetry (Tugendhat, 1986, p. 334-336). In political discourses as well as in the notorious self-assertion accompanying almost naturally activities of intercultural encounter, the possibility and the acceptability of a universally adequate and obliging interpretation of the notion of human dignity has been theoretically questioned, while its non-universalisability has been dramatically affirmed on practical grounds. Insisting on the indisputable validity of intracultural, particularly intrareligious rules, provides just one of the most telling examples.²⁰

The second difficulty deepens the first one. It concerns by far not only, yet particularly scientific and scholarly associations proud to stress their independence as political consultants. Science and technology are not a world of their own but part of what has been named the socio-economic-technological system²¹. Scientific and technological research and development are to a high degree controlled by private enterprises and therefore driven by economic interests and boundary conditions.

¹⁸ Cf., for many, Dahrendorf, 2002, 104. - It is a scandal, Svend Andersen, president of *Societas Ethica* said in August 2002 in Brussels, that the plurality of options in ethics has been accepted.

¹⁹ E.g. Engelhardt, 1991 and Tugendhat, 1986, 323-338, both echoing I. Kant.

²⁰ Today's newspapers and magazines are full of striking examples; I do not think I need to cite any of them. However, I cannot help but highlight firstly the USA in their pragmatic contradiction when claiming to be the worldwide guarantor of the human rights, while at the same time, with reference to so-called national interests, trampling those very rights underfoot; secondly the daily lunacy of asking to kill and of killing hundreds and thousands of not involved and innocent human beings under the pretence of securing a particular human right or an indefinite number of those rights.

²¹ Ropohl, 1991, chapters 1 and 5, part. 118, astonishingly omitting here the military aspect of that system.

Public statistics tell us that an important part and in some countries, like Switzerland, more than half of the funds invested in pure and applied research is spent by the private sector. It is not an irrational guess to hold that freedom of research, one of the highly praised human or fundamental rights is generally (sic) very limited under such conditions. The same applies to publicly funded research since such research has to support the country's competitive position, and the apparently obvious needs of the political community. Freedom of research is one of the major arguments put forward by politicians and scientists when programmes and projects result in public controversies. Yet it seems that such defense is usually highly interest driven, and it calls another suspicion: that it serves to make one overlook, dismiss, or forget to what important extent research activities are in fact commissioned work, determined and thus limited by mostly economic, but also societal, political, and even military preferences.²²

When I maintained that this was also true for publicly promoted research and development, then I did so considering that their determining policy is usually fashioned by respective private lobbying. It is neither a secret nor astonishing that societal expectations together with personal ambitions influence even the so-called fundamental or non-oriented research. Being part of that complex system with its manifold interrelations and network processes, the scientific and also the scholarly associations are far from being independent of the social, political, economic, and military struggles. If they issue ethical guidelines and codes of ethical conduct for their professional communities - a pedagogical and ordering function of high significance - their statements cannot be considered as if they were universally acceptable by nature. The fact that infringements may be politically and economically successful and then become firstly excused, later legitimate, is a proof: Representatives of the Swiss National Science Foundation arguing successfully that the rhythm of research advances is superior to the one of political decisions, provides an actual example.²³ In June 2005, this argument was echoed by the majority of the Swiss National Parliament voting the legal status of pre-implantation diagnosis, in contradiction to

²² "Sometimes, the scientific community is behaving like a cartel. Only more dangerously." (Dahrendorf, 2002, 107; author's translation).

²³ The Foundation did so in defence of its decision to finance a research project using imported human embryonic stem cells while production of those cells in the country is forbidden on constitutional and legal grounds .

its former legal dispositions.²⁴ - In January 2003, Christopher Reeves had produced another telling example. He related trials on human paraplegic subjects applying the so-called therapeutic cloning. Asked to provide more details he refused to do so on the ground that scientific progress needed peer-review and other internal measures before it could and should be made public.²⁵

Yes, there are examples demonstrating the opposite: the public unmasking of major infringements of rules and good scientific practice, and the heavy consequences of those guilty of such moral crimes. The sudden fall of the South Korean 'national hero' Hwang Woo Suk, a cloning expert, is probably the most recent prominent example.²⁶ But such internationally disseminated cases are rare; they might be covering a reality which the respective community prefers to veil. Setting personal experiences aside, the many well documented and commented cases of blunt fraud and crime within that community and its military and political environment provides an acceptable ground for such a suspicion.²⁷

The normative statements of academies and professional associations are themselves often enough fruits of material and rhetorical compromise. They ought to be critically analysed and interpreted, *i.e.* submitted to an open discourse reaching beyond their confines, and indispensable for assessing and assuring their potential universality. In short, ethical statements of scientists, scholars, and their institutions are far from being truly authoritative; they are but one voice, though a highly meaningful one in the general strive for normative orientation within society.

The third difficulty flows from the second. As elements of the socio-economico-technological and military system, scientists and scholars depend on its processes and interrelations. Being functional, they can be used. And since power relations are inherent to the system, they may be abused. Where abuse meets their proper interests, corruption may ensue. This is not a secret either. Ralf Dahrendorf gave an apt description of what is at stake, in one of his recent interviews, resuming what many authors had already displayed: Scientists must not be left alone. Their ways of pursuing their proper interests and of defending their

²⁴ Cf. "Forschung ist Politik weit voraus", 2005, 11.

²⁵ Sidney, Reuters 24.1.03, cf. *Science et Cité Newsletter*, Bern 4.2.03.

²⁶ Cf. *Klon-Forscher Hwang als Fälscher entlarvt*, 2005.

²⁷ Cf. e. g. S. Loue, 1999, chapter 1.

convictions are often dogmatic and sometimes misleading. Since in all important ethical questions an economic interest may - and frequently does - come into play, "there will always be a scientist who can be bought" (2002, p.107). Of course, this does not mean that buying always plays a role where scientific and scholarly controversies appear. Striving after truth necessarily implies critique and controversy. However, while dissensions and public controversy among scientists and scholars are set, processes of ruling them out by powerful, sometimes institutionalised mainstream positions are also evident. Sociologically speaking, this is again neither extraordinary nor astonishing. But it encumbers ethical contributions and positions as well as formal statements of individual scientists or their corporations with a mortgage.

Scientific and scholarly achievements, impact, and obligations

In spite of those difficulties and often aware of them, scientists, scholars, engineers, and their institutions were successful in coming to terms with moral and ethical challenges.

Experiencing moral and in general cultural change, ever more induced by the growth of scientific knowledge and technological competence, they considered their normative activity as work in progress and in consequence reviewed and modified their former findings and statements when need was at hand. The work on international ethical guidelines for biomedical research involving human subjects provides a telling example. Starting with the 'Doctors' Trial' at Nuremberg in 1947, an intensive process of reflection, formalised decision-making, and reviewing lead to the joint CIOMS and WHO's²⁸ 2000 edition of the respective guidelines. They are exemplary in that they not only give voice to scientific expertise and interest, but explicitly integrate universal political and thus societal reflection and development. They ground their essential concepts on humane concern of true universality and in consequence provide a solid platform for tackling controversial concretisation and application. This prominent example is by no means unique. Together with comparable guidelines issued by national and international professional bodies, it proves that the hope of overcoming

²⁸ Council for International Organisations of Medical Sciences (CIOMS) and World Health Organization (WHO).

difficulties and achieving viable universal norms through the endeavour of scientists and scholars is a reasonable one.

The Opinion of the European Group on Ethics and New Technologies (EGE), issued on 4 February 2003, provided a respective testimony again giving rise to legitimate hope. The Opinion deploys 'Ethical Aspects of Clinical Research in Developing Countries'. Not only does EGE ground its considerations on the European Charter of Fundamental Rights (28.9.2000), particularly "on the indivisible and universal values of human dignity, freedom, equality and solidarity", but it also enumerates the fundamental principles it has been recognizing since its beginning, maintaining that they are universally accepted. Among them, we come across the principles of non-exploitation, non-discrimination, and non-instrumentalisation; the principle of individual autonomy; the principle of justice and the principle of beneficence and non-maleficence; the principle of proportionality, "including that research methods are necessary to the aims pursued and that no alternative more acceptable methods are available", and others.²⁹ The quest for generally acceptable ethical principles is not without any hope, and has proved successful. Even if we should maintain that this is true only on the general level, we have to admit that unanimity regarding principles remains a necessary condition for more concrete ethical, moral, and political understanding.

At this point, we must turn again to the undeniable fact that scientific, scholarly, and technological achievements are fashioning to a decisive degree our images of ourselves and of the world we are living in. An actual example has been provided by the recent findings within neurobiology and brain research, relevant to and highly questioning traditional concepts of freedom of will, autonomy, responsibility, and guilt - and therefore touching our expectations with relation to ethics and moral education³⁰.

The forming power to determine other essentials of human existence, and of the existence of living beings in general entails, at least for reasonable, *i.e.* morally open beings the obligation to participate in the endeavour of moral orientation and ethical critique. The public investment in the education and in the activities of individual scientists,

²⁹ Cf. paragraph 2.2, General Approach, of the above cited Opinion.

³⁰ Cf. Roth, 2001 and Singer, 2003. This contention has been criticized on good grounds and lead both authors to differentiate their positions. Yet this is not the place to enter into the exciting debate.

scholars, and engineers as well as in their frequently privileged social position, transforms it into an irredeemable moral duty, resulting also in the obligation to at least some form of political engagement. And this goes for their organisations, particularly for academies, as well.

Conclusion: Proposal for an ALLEA ethics agenda

Though the outline on which I ventured is not more than a sketch, it makes it clear that working for a world of moral relatives is not without any dangers and even pitfalls. But we have also seen, and this is an echo to the instructive conference papers, that sincere efforts are being made by the scientific community to meet the challenge, and that those efforts can be successful. For all those assuming the moral point of view (and whoever is asking moral respect from others has done so and is bound by the ethico-logical interdiction to succumb to the pragmatic contradiction), such a situation turns into a moral obligation – into the moral duty not to break with their engagement to commonly search for and eventually establish principles and norms destined to be shared by whoever is of good will and reasonable.

Yet the sketch also displayed that we cannot satisfy ourselves with remaining just moral *relatives*. The challenges of today's socio-economic, technologically and scientifically driven civilization are forcing us into more, if we truly wish to control the cultural conditions we have been creating. There are at least some fundamental values and principles we need to share, and be it only out of a vital interest to create and assure for each of us a solid basis for difference, dissent, and controversies (Sitter-Liver, 1994, p. 372-396).

Meeting that challenge, the scientific and scholarly community contributes to moral understanding within society at large, hopefully also on a global level. This hope is not a void utopia but, in the sense of Ernst Bloch, a concrete one (1965, p. 124-132) and therefore, again, an idea-driven duty we ought not to dismiss as long as we stick to the overarching ideal of being a moral, *i.e.* a universally oriented subject striving after what is good in itself. We would thus sincerely honour and truly preserve human dignity. But again, we cannot content ourselves with an all too scanty minimal ethics; more is needed.

The group that was preparing the 2005 conference had it at heart that the event should yield some practical outcome. Now it is not difficult to

take hold of numerous enlightening analyses, constructive pieces of critique, thoughtful advice, and helpful suggestions in the papers. They are working on a solid ground for circumspect decisions and firm actions, to be taken in globally relevant as well as in nationally and locally significant moral queries. Beside these results another outcome is at hand, with relation to ALLEA's proper ethical reflection and ensuing activities. A second look at the conference papers does indeed provide some elements of an ethics agenda for ALLEA itself. In conclusion, I would take up a few of these issues and suggest that they might be considered as elements of such a programme³¹:

1. A clear answer should be presented to the complex question about the role of scientists and scholars in the endeavour to find convincing and universally binding moral rules – for the development and the application of science and technology, of course, but not less reaching beyond and cultivating more general societal and political areas.
2. In the same way the analogous question should be answered concerning scientific and scholarly institutions, in particular national and international academies. Co-operation in this effort with such institutions should go without saying.
3. The contribution to and a leading function in the construction of general and specific codes of ethics (not just of good practice!) might be another element, complemented by proposals as to ways and means to enforce, to revise, and to further develop such rules. ALLEA may perhaps best serve this case by acting as an initiator and offering the platform allowing the directly concerned to turn the kick-off into success.
4. Advice and support, on demand, for member academies and other scientific bodies intending to draft such ethical codes seem to follow logically from that conception.
5. Assuring inter- and transdisciplinarity of the dialogue on ethics in science, technology, and scholarship corresponds to ALLEA's character. Rendering each dialogue an intercultural process, also and precisely in a purely European context, gives rise to a new challenge.

³¹ What follows is the draft of a personal balance I have to answer for. However, I gratefully acknowledge that it has been nurtured particularly by a discussion with Ludger Honnefelder, already in 2004.

6. With a view to moral and ethical enlightenment, and interested in enhancing respective personal and institutional potentials, ALLEA might engage in case-based analyses and recommendations concerning the principal implications of scientific, technological, and scholarly work. This should include the critical assessment of the specific role of scientific experts in social and political debate and confrontation.
7. Bring to light and make explicit for the public consciousness first the working conditions of the great majority of the researchers and second the complex and ambiguous networks *all* of them are active in, seems indispensable. This with a view of clarifying the meaning of the ever again invoked independence and autonomy of scientific and scholarly experts, the driving interest being to make their true advisory potential transparent and effective.
8. Peace, justice, equity, and solidarity being necessary conditions of all scientific and scholarly activity, the goal of proactively securing these conditions in the broad societal, political, and economic contexts is a moral must. It is not limited to national confines, particularly not to the formal area of the European Federation of Academies. The obligation implicitly holds as long as one honours the *universal* significance and the *global* pretention of the scholarly, technological, and scientific enterprise.
9. Today, ethics is at once demanded, trendy³², and looked down upon. Therefore, clarifying that it is not a barrier to the scientific and technological enterprise has become imperative and urgent. The general insight should be fostered that ethical reflection and ensuing moral commitment are indispensable conditions of the humaneness of that enterprise. One should insist on humanity being the ultimate goal and the prominent distinction of human beings, the practical testimony of their inherent worth and dignity. It should work for ethics to be seen as integral part of any correctly understood and evaluated scientific, technological, and scholarly activity. Remember Ayse Erzan's statement (*cf.* above): "Academies are not just

³² For a debunking short comment on the status of ethics, esp. entrepreneurial ethics, cf. Kaehlbrandt, 1991, 42 f.

another institute of excellence. They are the bearers of the humanistic tradition which is predicated upon the uniqueness, of the genius, the intrinsic worth of each and every human being."

10. It is but logical, then, that ALLEA should be ready to contribute to the development and the practice of education in ethics and to propagate ethical reflection in the broad public; to assist member academies and other learned bodies in this area, on their demand.
11. My last hint will remain controversial, and it depends on my interpretation of but a few exposures. I venture to add it all the same: The conception that ethics does not only concern human beings with their individual and social interrelations, but that the moral community encompasses any being in this our common world, not just because it is of any use to ourselves, but because it can be regarded as bearing an intrinsic worth – this idea, though well elaborated within the field of ecoethics, e. g. by deep ecology, is not (yet) widely held. Anthropocentrism in its various forms prevails, even though quite a number of reasonable arguments stand against its forcefully defended absolute or relative prevalence. I, too, take it that in today's overpopulated world with its dominating profit- and race-driven scientifico-technological civilization, it is no longer compatible with sincere sustainability, *i. e.* long-term existence also of human beings. It would therefore be appropriate to develop and propagate the conception of our world as an *oikos*: a home (*Heimat*) and a household coextensive with what we may call 'nature' – and to motivate the scientific community at large to open and maintain a discussion on the rationale and the practical consequences of such a conception.

References

- ALLEA (2003). *Memorandum on scientific integrity. On standards for scientific research and a National Committee for Scientific Integrity (NCSI)*. Amsterdam: ALLEA / KNAW / NWO / VSNU.
- Anderegg, J. (1999). Zur Legitimation und zur Wissenschaftlichkeit der Literatur- und Sprachwissenschaften. In: J. Anderegg & E. A. Kunz (Eds.), *Kulturwissenschaften und Perspektiven*. Bielefeld: Aisthesis.

- Balzer, P., Rippe, K.-P., Schaber, P. (1998). *Menschenwürde vs. Würde der Kreatur*. Freiburg / München: Karl Alber Verlag.
- Berthoud, G. & Sitter-Liver, B. (1996). *The responsible scholar. Ethical considerations in the humanities and social sciences*. Canton MA: Watson Publishing International.
- Bloch, E. (1965). *Tübinger Einleitung in die Philosophie I*. Frankfurt am Main: Suhrkamp.
- Bondolfi, A. & Müller, H.J. (Eds.), *Medizinische Ethik im Alltag*. (1999). Basel/Bern: EMH Schweizerischer Ärzteverlag.
- Brockmann, J. (1996). *Die dritte Kultur. Das Weltbild der Naturwissenschaft*. München: W. Goldmann.
- Council of Europe. (1997). *Convention for the protection of human rights and dignity of the human being with regard to the application of biology and medicine. Convention on Human Rights and Biomedicine*. Oviedo, 4.4.1997 (European Treaty Series 164).
- Council of Europe. (2005). *Additional protocol to the convention of human rights and medicine concerning biomedical research*. Strasbourg, 25.1.2005.
- Council of the Swiss Scientific Academies (CASS) (2001). In: B. Sitter-Liver, G. Bächler, A. Berlinger-Staub (Eds.), *Supporting life on earth*. Bern: CASS.
- Dahrendorf, R. (2002). *Die Krisen der Demokratie. Ein Gespräch*. München: C. H. Beck.
- Drenth, P.J.D. (2004). The universality of scientific values. In: Christophorou, L.G. & Contopoulos, G. (Eds.), *Universal values*. Athens: Academy of Athens, pp. 111-126.
- Drenth, P. D. J. , Fenstad, J. F. & Schiereck, J. D. (Eds.)(1999). *European science and scientists between freedom and responsibility*. Luxembourg: European Communities.
- Engelhardt, H.T. (1991). *Bioethics and secular humanism. The search for a common morality*. London: SCM Press and Philadelphia: Trinity Press International.
- European Commission (1998). *Directive 98/44/EG*. Brussels: EC.
- European Commission (2001). *Science and society action plan*. Luxembourg: EC.

- European Group on Ethics in Science and New Technologies to the European Commission (2003). *Opinions on ethical aspects of clinical research in developing countries* (No 17, February 4, 2003). Brussels: EC.
- Forschung ist Politik weit voraus (2005). *Der Bund*, 16 June 2005, 11.
- Hart, H. L. A. (1961). *The concept of law*. Oxford: The Clarendon Press.
- Klon-Forscher Hwang als Fälscher entlarvt (2005). *Neue Zürcher Zeitung*. 24/25 December 2005, 19.
- Lenk, H. & Ropohl, G. (1987). *Technik und Ethik*. Stuttgart: Reclam.
- Loue, S. (1999). *Textbook of research ethics. Theory and practice*. New York etc.: Kluwer Academic / Plenum Publishers.
- Ropohl, G. (1991). *Technologische Aufklärung*. Frankfurt am Main: Suhrkamp .
- Ropohl, G. (1996). *Ethik und Technikbewertung*. Frankfurt am Main: Suhrkamp.
- Roth, G. (2001). *Fühlen, Denken, Handeln. Wie das Gehirn unser Verhalten steuert*. Frankfurt am Main: Suhrkamp.
- Science et Cité (2003). *Newsletter*, Bern 4.2.03.
- Shea, W. & Sitter-Liver, B. (Eds.) (1989). *Scientists and their responsibility*. Canton MA: Watson Publishing International.
- Singer, W. (2003). *Ein neues Menschenbild? Gespräche über Hirnforschung*. Frankfurt am Main: Suhrkamp.
- Sitter-Liver, B. (1994). Skepsis als Praxis. Zur Grundlegung der praktischen Philosophie. *Zeitschrift für philosophische Forschung*, 48, 372-396.
- Sitter-Liver, B. et al. (2001). Sustainable development futures: A selection of Swiss academic perspectives. (p. 2153-2173) In: *Our fragile world: Challenges and oportunities for sustainable development. A forerunner to the Encyclopedia of life supporting systems*. Oxford UK; EOLSS Publishers.
- Snow, C. P. (1969). *The two cultures and A second look*. London / New York: Cambridge University Press.
- Swiss Academy of Medical Sciences (2002). *Integrität in der Wissenschaft. Richtlinien der SAMW für wissenschaftliche Integrität in der medizinischen und biomedizinischen Forschung und für das Verfahren bei Fällen von Unlauterkeit*. Basel: SAMS
- Tugendhat, E. (1986). Gibt es eine moderne Moral? *Zeitschrift für philosophische Forschung*, 50, 323-338.

Weigel, G. (2005). The spiritual malaise that haunts Europe. *Los Angeles Times*, 1 May 2005.

List of Contributors

Contributors

Ruben Apressyan

Head of the Sector Ethics, Institute of Philosophy, Russian Academy of Sciences, Moscow, Russia

Flavio Comim

Director of the Capability and Sustainability Centre, University of Cambridge, UK

Jean-Patrick Connerade

President of EuroScience, Professor in Physics, Imperial College, London, UK, and chairman of ESOF (EuroScience Open Forum)

Pieter J.D. Drenth

Em. professor in Psychology, Vrije Universiteit Amsterdam, former President of the Royal Netherlands Academy of Arts and Sciences (KNAW), former President and honorary President of ALLEA | All European Academies, and member (former Chairman) of the ALLEA Standing Committee on Science & Ethics

Ayse Erzan

Professor, Department of Physics, Istanbul Technical University, Faculty of Sciences and Letters, Department of Physics, Istanbul, Turkey, member of the Turkish Academy of Sciences, and member of the ALLEA Standing Committee on Science & Ethics

Hans Galjaard

Em. professor in Genetics, Erasmus Universteit Rotterdam, The Netherlands and member of the ALLEA Standing Committee on Science & Ethics

Rainer Gerold

Former Director of 'Science and Society', Directorate General for Research, Commission of the European Union, Brussels, Belgium

Henk ten Have

Director of the Division of Ethics of Science and Technology at UNESCO, Paris, France

Brian Heap

Former Master of St Edmund's College, University of Cambridge, Special Professor in Animal Physiology at the University of Nottingham and former Vice President and Foreign Secretary of the Royal Society

Ludger Honnefelder

Guardini Professor for Philosophy of Religions and Catholic World View, Humboldt University, Berlin, Germany, em. University professor in Philosophy, University of Bonn, Germany, and Chairman of the ALLEA Standing Committee on Science & Ethics

Jan H. Koeman

Em. professor in Toxicology, Wageningen University and Research Centre, Wageningen, The Netherlands, and Chairman of the Advisory Committee on Science and Ethics of the Royal Netherlands Academy of Arts and Sciences (KNAW)

Jürgen Mittelstrass

Professor in Philosophy, Director of the Centre of Philosophy and Science Theory, Konstanz, Germany, President of Academia Europaea, London, UK, and Chairman of the Austrian Science Council, Vienna, Austria

Frits P. van Oostrom

University professor for the Humanities, Utrecht University, Utrecht, The Netherlands, and President of the Royal Netherlands Academy of Arts and Sciences (KNAW)

Andrzej Paszewski

Professor in Biochemistry, Institute of Biochemistry and Biophysics, PAS, Warsaw, Poland

Rinus Penninx

Professor of Ethnic Studies, Director of the Institute for Migration and Ethnic Studies (IMES) of the University of Amsterdam, and Co-chair of Metropolis International, forum for bridging research, policy and practice on migration and diversity

Michel Revel

Member of the Bioethics Committee of the Israel Academy of Sciences and Humanities, and chairman of the Israel National Council for Bioethics, Department of Molecular Genetics, Weizmann Institute of Science, Rehovot, Israel

Jan D. Schiereck

Secretary of the Advisory Committee on Science and Ethics of the Royal Netherlands Academy of Arts and Sciences (KNAW)

Johannes J.F. Schroots

Director of ALLEA | All European Academies, Secretary of the ALLEA Standing Committee on Science & Ethics, and Senior researcher in Gerontology and Psychology, Vrije Universiteit, Amsterdam, The Netherlands

Beat Sitter-Liver

Professor in Practical Philosophy at the University of Fribourg, Switzerland, and member of the ALLEA Standing Committee on Science & Ethics

Oleg Suša

Senior researcher in Sociology of the Environment, Charles University, Prague, Czech Republic, and Senior Researcher, Institute of Philosophy, Czech Academy of Sciences, Prague, Czech Republic

Jérôme Vignon

Director General, Employment, Social Affairs and Equal Opportunities, European Commission, Brussels, Belgium

