

Social Sciences for Knowledge and Decision Making

INFORMATION SOCIETY



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OECD Proceedings

**Social Sciences
for Knowledge
and Decision Making**



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FOREWORD

The social sciences have to strengthen their position in order to reconquer their influence and effectiveness in the policy field. Evidence-based policy and broader approaches can help address the problems inherent in social sciences' relations with policy. However, changes in this relationship also raise issues, notably paradoxes in the use of scientific knowledge to resolve problems with a scientific component and/or in legitimating decisions, which need to be dealt with. Problem-oriented collaboration between scientists and policy makers constitutes a model that brings the very different social science and research communities together in fruitful ways. Quality assessment and dissemination strategies are particularly important tools for promoting the use of social sciences. Furthermore, the new relations that have emerged between knowledge and decision making – the expansion of relatively closed networks of expert advice to decision makers into more open ones of knowledge as arguments for public debate – have major implications. Public consultation in decision making must not be neglected. The danger for decision makers in public policy and business to make complex strategic choices without adequate public consultation, including the consideration of the ethical dimension, are significant, as demonstrated by recent public outcry on issues such as gene patenting and genetically modified food.

This report presents the views of high-level experts and policy makers on knowledge generated by the social sciences and on ways to improve and enhance the contribution of the social sciences to decision making in different sectors (and levels) of society. The report is based on presentations and discussion that took place at the Bruges Workshop on the Contribution of the Social Sciences to Knowledge and Decision-Making on 26-28 June 2000. The workshop was co-organised by the Federal Services for Scientific, Technological and Cultural Affairs of Belgium, the Research Directorate General of the European Commission, the Economic and Social Research Council of the United Kingdom, the Social Science Division of UNESCO and the Directorate for Science, Technology and Industry of the OECD and hosted by the College of Europe.

The Bruges Workshop was the second in a series of international workshops on the future of the social sciences approved by the OECD Committee for Scientific and Technological Policy as a follow-up to the conference on social sciences held in April 1998 at the OECD. The first workshop (Ottawa, 6-8 October 1999) focused on the infrastructure requirements of the social sciences. The third (Tokyo, 29 November-2 December 2000) will focus on strengthening the role of the social sciences in relation to innovation, and the final workshop (Portugal, May 2001) will draw the main conclusions of the program.

The report is published on the responsibility of the Secretary-General of the OECD.

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OPENING REMARKS: CHALLENGES FOR THE SOCIAL SCIENCES IN THE NEW MILLENNIUM

by

Olafur Ragnar Grimsson
President of Iceland

Distinguished guests,
Ladies and gentlemen,

It was with some hesitation that I accepted the invitation to be with you here tonight and address you on “Challenges for the Social Sciences in the New Millennium”. Hesitation because it is always risky for a former professor to rejoin his colleagues and pretend that he has become the bearer of new wisdoms, hesitation because the changes in recent decades have been so fundamental and wide-ranging that any attempt to predict the course of development in the coming centuries seems somehow arrogant to say the least.

When I travelled from Iceland more than 30 years ago to begin my university studies in Britain, the world of the social sciences was straightforward and stable. In the first political science lecture, a learned and respected professor waved a pair of scissors in front of the students, proceeded to cut the *Times* of that morning into pieces and thus introduced to us what he described as the tools of the social sciences – and the size of the scissors would indeed have made my Grandmother proud.

The teaching of political science at that time consisted of examining Britain and the United States, which were democratic and praiseworthy, the USSR which was totalitarian and bad, and France, which was a little bit of both. In sociology, the family, class and social mobility comprised almost the entire analysis, and anthropology consisted of studying Zulus in Africa with a little bit of Shakespeare thrown in.

For my PhD studies in the late 1960s, I had the good fortune of receiving an offer to join a small group of scholars led by the distinguished political scientists Robert Dahl, Stein Rokkan and Hans Dhalder, who had decided to examine for the first time what they referred to as the “smaller European democracies”, a group of countries which included Iceland, Denmark, Norway, Sweden and Finland, together with Belgium, the Netherlands, Ireland and Switzerland. The political systems of those countries were somehow judged to be so outside the mainstream interest in the four big powers – the United States, the United Kingdom, France and the USSR – as to warrant a special project financed by the Ford Foundation. Even though the leaders of this project were the foremost political

scientists of their time, they assumed, like everybody else, that the political division of Europe would remain the same for all the foreseeable future. Never, not once, during the five years the project lasted, was there a discussion of any fundamental changes taking place. We were all engaged in studying a stable world.

Thirty years later, with political, economic and social transformations moving at such speed as to make understanding and analysis – not to mention prediction – an almost impossible task, it might be seen as rather ironic to invite me to talk about the role of the social sciences in the new Millennium in the light of my own experience.

Of course, I could make my prediction and analysis very brief, and simply say to you in five words: “You’re in for great surprises!” – and then leave you to figure out the implications of that profound statement.

But, since you were kind enough to invite me to be with you here tonight, I will paraphrase Friedman’s classic statement and say that there is no such thing as a free dinner, and then attempt to outline a few of my reflections on what will influence the social sciences in the times ahead.

Let me first emphasise that despite the different fashions in the social sciences I believe our task is still the old commandment: to seek reliable knowledge – and not yield in our obligation to provide hard-headed analysis and facts. The more social scientists are drawn into the decision-making processes, the greater will be the tendency to clothe contributions in the fashion of the times, to employ concepts, select studies and tailor the presentation to suit the powerful forces of the decision-making institutions. Their leaders have a tendency to employ social scientists in order to facilitate particular processes and obtain agreements on predetermined policies. It is not always popular to be the bearer of true and bad tidings; in the old Viking times, such tellers of truths were often punished, even executed. Although the risks are less dramatic in modern times, it can require a strong character and deep commitment to science to adhere to the old commandment of scientific discovery: always remain faithful to the endeavour of seeking the truth.

Second, and as an example of the tension between truth and fashion in the social sciences, let us look briefly at Europe – this almost mythical entity which is supposed to be evolving towards unification, thus implying the withering away of the nation state. Is this really so? Or are the nation states in Europe at the opening of the new Millennium more vibrant and thriving than ever before? Are not some of the most dramatic tensions, even armed conflicts, on the continent caused by attempts to create even more nation states? The Council of Europe, which for decades numbered only about 20 member states, now has around 40 and is still growing. The expansion of NATO and the enlargement of the European Union are both attempts to deal with the increasing number of independent, democratic and sovereign states in Europe. Just before the middle of the 20th century, almost all nation states in Europe had been crushed by communist, nazi or fascist empires and for many the fashion of those times was the subjugation of national rights to broad ideologies defined by class or race. Now, however, we are marching into the new Millennium with over 40 European states demanding a rightful role in the evolution of the continent. The nation state seems to be thriving as never before, not only here in Europe but also in other parts of the world.

My next five observations deal with areas where questions of rights seem to have taken the place of pragmatic approaches as the key ingredient:

- Human rights have now become the primary concern in political and social development and a criterion in determining the success or failure of policies and political institutions. Previously, human rights were the subject of constitutional lawyers and received very little

attention in the training of social scientists, but I believe human rights will increasingly become a core issue of the future as the test by which national and international actions will be measured as well as being the driving force of political and social change.

- Minority groups, ethnic, social and political, the disabled, drug addicts, the very poor, social outcasts – all those who do not belong to the affluent middle classes will increasingly demand attention, and the media and public organisations will highlight their problems and disadvantages. The broad analysis practised by the established traditional social sciences will have to make room for studies of groups and sub-sections of society. Political science and sociology might thus benefit from drawing on the methods and theories of anthropological research. Concepts referring to social exclusion, minorities, life-styles and various temporary factions of society will thus increasingly complement the traditional analytical concepts of class, age, occupation, income and even sex. People, in their misery as well as their grandeur, will be the necessary subject matter to study if we hope to be able to understand the evolution of our ever more fragmented societies.
- The environment, the interplay between man and nature which the classical philosophers thought to be fundamental to understanding society, has again become crucial, not because social scientists have recently discovered the vital nature of that relationship but because the democratic and technical processes of economic and social evolution has brought nature back into the political system, by means of the problems created by mankind's encroachment upon the environment. The impact of this development will become more and more dominant in the years ahead, especially since various public movements as well as many political parties see it as fundamental to the future of mankind and to the survival of Mother Earth.
- Genetic research has in recent years opened up a new set of questions which have necessitated decisions by parliaments, governments, political parties and public organisations, as well as professional groups and the public. How do we balance the desire to seek cures for some of the most widespread and dangerous diseases of our times with the requirement to guarantee privacy and personal rights, as well as securing a fair distribution of the potential profits created by such research? My small nation has in the last two years gone through an extensive open debate regarding these issues which has clearly demonstrated that the process of scientific discovery will in the future bring a new set of challenges and transformation to our social and political institutions, as well as becoming potentially the driving force of economic change in the 21st century.
- Internet and the new information technologies are already challenging ideas and laws pertaining to democratic decision making, national sovereignty, privacy, free speech and law enforcement. No government or international institution seems able to direct this evolution and thus in the new Millennium we will probably face a wider-ranging transformation of the power of the individual than ever before.

The eighth element of my vision for the social sciences in the new Millennium is the growing importance of moral standards in decision making and public performance. In the past, the question of morals was supposed to be a private matter so long as one did not break the law; we were very pragmatic in our judgements. Now, however, I see an ever-growing emphasis on employing moral standards with respect to public performance, by institutions and individual decision makers alike. The transparency and global interaction of modern media has strengthened this development. The training of social scientists has so far not made us particularly skilled in analysing this interplay between morals and public action – and once again the spirit of the times has preceded our academic progress.

The ninth element is the impact of religion on political and social behaviour. Throughout most of the 20th century, religion was somehow outside the scope of our research, except in very limited ways, but we are now increasingly witnessing the influence of religion on the political and the social cleavages of modern societies. Whether it is the sway of religious groups in the United States, the religious divisions among the immigrant populations of European societies or the impact of Muslim fundamentalism on international politics, the evidence points clearly towards the need to give the study of religion an enhanced place in the workshop of the social sciences.

The tenth element is the mobility of people all over the world, between states as well as within them, from one continent to another, across the great oceans of the world. People of all nationalities, races, religions and professions are on the move as never before and no institution or public authority, national or international, can control this process. It is of the utmost importance to examine the causes as well as the consequences of this monumental flux because it could potentially become the most important instigator of social change in the 21st century.

The eleventh element concerns new bases of prosperity in the information economy of the future. The new economy will increasingly be dependent upon the social sciences for harvesting the ever more important human resources (as already reflected in the growing emphasis on the management of human resources). Innovation in the labour market, at the micro level of individual workplaces and in education, will to a greater extent utilise the tools and knowledge of the social sciences, both for increasing prosperity and for distributing it equitably among populations.

The twelfth element is the need for integrated cross-disciplinary approaches in research and decision making. Although specialisation is necessary to comprehensive understanding, effective solutions will only be found by enlisting all the social sciences. In my first years at university, we were introduced to all the social sciences – political science, sociology, anthropology and economics – and specialisation in one discipline came into force only in the third year of study. Throughout my professional life, both in the university and in the public arena, I have come to realise that this exposure to different social science disciplines was perhaps the best part of my university education. In the last decade or two, however, the ambition and prestige of professors and researchers have brought specialisation forward and reduced the exposure to different social science disciplines. Somehow I think we are now entering a new world where the old interdisciplinary training, almost in the classical sense of unified social sciences, must be the guideline for training wise and effective social scientists for the future.

This brings me to my final observation, the need to remember what it was that centuries or even a few thousand years ago brought philosophers and thinkers to analyse the nature of man and society, to understand the essence of political, social and economic evolution. In looking into the uncertain prospects of the new Millennium, the classical texts can provide us with guidelines and show us what should be the real purpose of our common journey.

Justice and democracy. These two ideals of our civilisation, extending from the dialogues of Socrates, Plato, Aristotle and their disciples and through centuries of European thought influenced by Hobbes, Locke, Rousseau, Mills, Marx and many others, are still the cornerstones of our attempt to seek a better world.

We must not become so emerged in our desire to find practical solutions for temporary problems that we forget the most noble task of social and political thinking throughout the centuries: to try to enlighten our journey towards more justice and greater democracy. The right of the people is the most enduring principle of social progress and those thinkers who have attempted to provide us with a better

understanding of how to secure it have also had the greatest impact on the relationship between man and society.

Although our times are dominated by greater forces of change than ever before, I strongly believe that the new Millennium will, like previous centuries, be dominated by the never-ending search for justice and democracy. How can they be defined? How can they be achieved? How can they be secured?

Will the social sciences be worthy of that task? Or will our preoccupation with narrower visions prevent us from playing a constructive role in the advancement of mankind? In that sense, the new Millennium will be the time of the classics, the time to reach for the fundamentals of social and political thinking in order to provide the essential understanding which will be needed in the coming centuries of revolutionary change.

CONTRIBUTION OF SOCIAL SCIENCES TO KNOWLEDGE AND DECISION MAKING: SUMMARY REMARKS

by

Science and Technology Policy Division, OECD, Paris

At its meeting in March 1999, the OECD's Committee for Scientific and Technological Policy (CSTP) approved a series of international workshops on the future of social sciences to be hosted by Member countries as a follow-up to the conference on social sciences in April 1998. The first workshop, held in Ottawa, Canada on 6-8 October 1999, examined the infrastructure needs of the social sciences (see Chapters 1 and 4).

This book brings together the presentations made at the second workshop of this series held in Bruges, Belgium on 26-28 June 2000, which examined the contribution of social sciences to knowledge and decision making (see Chapter 1).

The Workshop was co-organised by the Federal Services for Scientific, Technical and Cultural Affairs of Belgium, the Economic and Social Research Council of the United Kingdom, the Research Directorate General of the European Commission, the Social Science Division of UNESCO and the Directorate for Science, Technology and Industry of the OECD. Luk van Langenhove, Deputy Secretary General of the Federal Services for Scientific, Technical and Cultural Affairs of Belgium chaired the Workshop, which was attended by more than 80 participants from 20 OECD Member and Observer countries as well as from regional and international organisations.

Mr. Olafur Ragnar Grimsson, President of the Republic of Iceland (formerly Professor of Sociology at the University of Iceland) opened the workshop with a keynote address on the challenges facing the social sciences in the new Millennium. Following a presentation by the organisers of the workshop objectives, eminent experts and policy makers framed the basic issues concerning the contribution of social sciences to knowledge and decision making.

Parallel working groups then focused on the following issues: evidence-based policy and practice, public consultation and decision making, problem-oriented collaboration between social scientists and policy makers, and quality assessment and dissemination issues in the use of social sciences by policy makers. Following presentations by experts in each of the groups, discussions took place with the aim of identifying the conditions that support a wider and more efficient use of social sciences to highlight the interactions between social choice and outcomes and public decision making, and the principal obstacles to such use. The groups also examined why policy makers turn to social

science knowledge. Finally, they considered the value added of international social programmes compared to national or local programmes (see Chapter 2 for the reports of the working groups).

Although a number of presentations described projects establishing a relation between social science research and policy decisions (Bedford, Bruce, Burgelman, Ducatel, Kastrinos), some scepticism was expressed with regard to achieving public legitimatisation of the social sciences and a greater impact of the social sciences on society beyond their mere – but nevertheless essential – interpretation function. Obstacles and barriers which make interaction between the social sciences and decision making difficult were identified and discussed:

- Social scientists may resent the fact that their research agenda might be set by the policy-making process, and may sometimes be reluctant to become involved in such a process and address issues that they consider “short-term”.
- Historical, longitudinal and comparative studies, which provide the necessary depth of analysis, do not provide the short-term knowledge required to take political decisions (Meny).
- There is a lack of unity within the social sciences, a lack of quality control for social science work, and a lack of generative power of social science research (van Langenhove).
- There is a partial shift of both knowledge production and decision making from the public to the private sector while the problems facing society remain public ones (Liberatore).
- The social sciences are regarded as being more biased and less objective than the natural sciences. For example, social science research often supports participatory approaches of political decision making, calling for changes in traditional decision procedures. In this connection, the question arises as to whether the social sciences should restrict themselves to the *analysis* of societal phenomena or should be instrumental in actually *changing* society.
- There is a lack of information on how to disseminate research results, on the one hand, and how to access these results, on the other hand (Pohoryles).

Opinions differed with regard to the question of the extent to which social scientists should become involved in the decision-making process. While some speakers advocated a re-establishment of the institutional distance between science and politics (*i.e.* Weingarten), others supported the idea of trying to change society by expressing their views with clarity and passion (*i.e.* Renaud). However, there seemed to be agreement on a number of points:

- Social science research needs to be problem-oriented and multidisciplinary if it is to have an impact on decision making (de Gier).
- Social science research needs to address gaps in our knowledge – both theoretical and applied knowledge (Renaud).
- The social sciences must use language, concepts and research methods that policy makers and members of the public can understand (Bedford).

Overall, the workshop participants stressed the fact that social science research was critical to advancing knowledge and to supporting decision making at all levels, and that there was further need for reflection on the role of the social sciences in knowledge and decision making.

Chapter 1

CAN THE SOCIAL SCIENCES ACT AS AN AGENT OF CHANGE IN SOCIETY?

by

Luk Van Langenhove*

Deputy Secretary-General, Belgian Federal Services for Scientific, Technical and Cultural Affairs and
President of the Steering Committee of the OECD International Workshops on the Social Sciences

As C.P. Snow once noted, there was a time when social change was much too slow to be noticed in a lifetime. Today, social change is occurring so rapidly that it is difficult to understand it. Societies everywhere have gone through a tremendous series of changes that question their socio-economic and policy orientations. There is a pressing need for a better understanding of ongoing societal developments, making the need for social science input obvious. The question is one of whether the social sciences are in a position to take up this challenge and act as an agent of change.

This question seems to be attracting more and more attention, especially within international forums such as the OECD, UNESCO or the European Commission. Today's workshop, which focuses on the contribution of the social sciences to knowledge and policy making is one of a series of international meetings initiated in 1998.

In April 1998, an OECD seminar on the social sciences was held in Paris and focused on the problems encountered by social science disciplines today and on ways forwards. Among the topics discussed at that seminar were:

- *The status of the social sciences*

It was stressed that the social sciences do not enjoy the same status as the natural sciences in the eyes of either the scientific community or the general public. This has serious consequences for public funding and public legitimisation.

- *The influence of the social sciences*

Two conflicting attitudes were observed: those who stress that the social sciences do not appear to be of much use in resolving the problems facing society vs. those who think that some social science disciplines (*e.g.* economics or management), have a considerable, albeit diffuse, influence.

* The views expressed in this chapter do not engage the Ministry of Science Policy.

- *Institutional rigidity and interdisciplinary*

The division of labour across the various social science disciplines and sub-disciplines was widely recognised as creating an obstacle to greater status and influence. In addition to disciplinary boundaries, reflected in institutional rigidity, methodological dissensions lead to a lack of unity in studies of Mankind and Society.

Following the 1998 seminar, the OECD Committee for Scientific and Technological Policy (CSTP) decided in March 1999 to organise a series of follow-up international workshops on the social sciences under the general heading *Re-inventing the Social Sciences*.

Today, we are gathered at the second of these follow-up workshops; the Bruges workshop has been organised by a whole range of national and international organisations. Just take the list of co-organisers and/or sponsors: the European Commission, UNESCO, the Economic and Social Research Council of the United Kingdom, the Flemish Government, the College of Europe and my own organisation, the Federal Services of Scientific, Technical and Cultural Affairs of Belgium. The fact that so many organisations wanted to contribute to this event shows that there is a need for reflection on the social sciences.

Before explaining the issues at stake at today's workshop, I would first like to tell you something about the results of the first follow-up workshop "Social Sciences for a Digital World: Building Infrastructure for the Future", held in Ottawa (October 1999). The Ottawa workshop dealt with infrastructure and the challenge of the digitalisation of the world for the social sciences. It mainly focused on the development of new surveys and databases and on the relations between data producers and data users. Four major areas were identified in Ottawa that must be addressed in order to ensure the development of adequate research infrastructure for the social sciences:

- Sharing research data and resources between disciplines and countries.
- Improving linkages between data sets.
- Improving the interactions between researchers, policy makers and the public.
- Funding international research projects and providing better training for the next generation of researchers.

The focus of today's workshop brings us from the *infra-structure* to the *supra-structure*; that is, to the actual and possible uses of social science research by, for instance, policy makers.

The overall objective of the Bruges workshop is to provide a high-level international workshop where the contribution of the social sciences to knowledge and decision making can be discussed. The workshop will focus on the knowledge generated by the social sciences and on ways to improve and enhance the contributions of social sciences in decision making in different sectors of society at the local, regional, national and global levels.

Both practitioners and policy makers need knowledge to strengthen the scientific foundation of their decisions. As such, the social sciences can generate information and evidence that can be used in decision-making processes. This "scientification of politics" often goes together with a "politicisation of science" and poses a number of problems that need to be studied. Among them is the intertwining of experts and politics and the use of expert advice not only for problem resolution, but also for legitimisation. In addition, the question remains to what extent the social sciences should be playing

the role of an agent of change? Whatever the answer to that question, one can only observe that many researchers have not been sufficiently diligent in carrying out research that is relevant for practitioners and policy makers who, in turn, have not always been sufficiently discerning in distinguishing bad research and unreliable findings from high-quality research. These problems have to be confronted in more imaginative ways if social science researchers, practitioners and policy makers are to serve the public more effectively.

Evidence-based policy and practice that makes use of social science input will in general promote interdisciplinary research since the problems to be dealt with are seldom of a monodisciplinary nature. A focus on problem-oriented research could well be a crucial factor in overcoming the rigidities associated with the organisation of social science research along disciplinary lines. However, one of the problems with interdisciplinary initiatives is how better to determine the optimal “combination” or contributions of the social sciences to a given problem area. Does this imply a division of labour of research elements of a problem area, or does it suggest the cumulative effect of research from different disciplinary perspectives being brought to bear on the problem area?

In this regard, the absence of a clear framework for assessing the quality of research output against the quality expectations of different disciplines reduces the credibility of interdisciplinary research in the framework of evidence-based policy and practice.

The Bruges workshop includes general presentations in plenary sessions and participants will split up into four interactive working groups to discuss: *i)* evidence-based policy and practice; *ii)* public consultation and decision making; *iii)* problem-oriented collaboration between social scientists and policy makers; and *iv)* use of the social sciences by policy makers: quality assessment and dissemination issues. The workshop is intended to facilitate a structured discussion between academics and policy makers to identify the issues that need to be dealt with and to develop policy recommendations.

To be sure, we are not the first people to address this problem and we will certainly not be the last – the issue necessitates continuous reflection. Allow me, as a way of triggering debate, to share with you some thoughts on the possibilities for the social sciences to act as an agent of change in our societies.

On previous occasions (Van Langenhove, 2000), I have stressed that the public legitimatisation of the social sciences depends upon: *i)* its claim that it makes the world intelligible; and *ii)* its contribution to problem solving and policy making in society. My personal position is that in order to obtain such a public legitimatisation one needs a double paradigm shift in the social sciences: a paradigm shift from *publication*-driven research towards *change*-driven research and a paradigm shift from *disciplinary*-driven research agendas towards research driven by problems and their driving forces (Van Langenhove, 1999).

The rationale for the second shift is that research organised around disciplinary perspectives, although focusing on a given problem, is unable to capture the organic dimensions of that problem due to the institutional divisions outlined above. By organising research agendas around problem-driven bottom-up agendas and by including in the research process different interests and perspectives, it should be possible to carry out a more holistic analysis of the problem. The first paradigm shift implies the adoption of future-oriented participatory methodologies similar to those employed in modern industries in which the client is involved in the process of product development from the earliest stages. This type of knowledge demands a heterogeneous participatory forum where all the groups linked to some societal issue are brought together to set common priorities concerning the objectives

of research. In other words, research has to be conceived as joint projects between users of knowledge, funders of research, and researchers.

Of course, one can not say that the social sciences have not been capable of delivering practical knowledge that can be used as guidelines for action. As noted, for instance, by Martinotti (1999), two of the most central collective activities of our time – politics and economics – have become highly dependent on social science research. Indeed, monitoring of the opinions of the electorate and assessments of consumer behaviour are two tools widely used by political leaders, entrepreneurs and business managers. And, think also of the massive exploitation of statistical data that allow the study of population trends, wealth and health trends, and so on. And there are, of course, many more examples. Nevertheless, there does seem to be a consistent tendency to claim that the social sciences are not sufficiently able to demonstrate achievements (Gergen, 1982; Wallerstein, 1995).

One of the main themes of the Bruges workshop is the question to what extent we can hope for greater or better impact of social sciences on society. Let me try to briefly frame this question in a historical context.

If we look at the historical development of the social sciences (see, for example, Manicas, 1987), it becomes clear that from the very origins (between 1750 and 1850) there have been relations between the newly constituted social sciences and all kinds of social practices and institutions. And, as the concept of nation-state emerged at the same time as the birth of the social sciences, it is not surprising to see that the social sciences organised themselves very much into a national framework. Indeed, as the nation became the framework for dealing with social issues, so social science research agendas were national as well. As such, the idea that social sciences should and can provide knowledge for national or local governments and policy is not new.

Of course, in the 20th century, the social sciences became as internationalised as any other academic disciplines. But, as rightly noted by Wagner (1999), in assuming that disciplines are rather globally defined, the fact that disciplines such as sociology or history are far from identical across national boundaries is often overlooked. Remember the French school of sociology, American pragmatism, etc. And, it should also not be underestimated that the “uses” of social science knowledge usually remain national. Also, the disciplines – firmly rooted in academic institutional structures – have not left the national university systems. As we well know, the university system has long been regarded as the guarantor of national culture (Readings, 1996) and, notwithstanding growing internationalisation, universities and science systems remain primarily national institutions. Also, the agenda setting of the social sciences has been influenced by the 1648 Treaty of Westphalia that introduced the concept of sovereign rights of territorial states. For the social sciences, the implications of this concept were profound, since to define the state as a sovereign actor also meant placing it at the centre of social research. The nation-state became a major unit of analysis in social research.

However, the forces of internationalisation have nevertheless created at least a sort of international language of social sciences. Some scholars (Manicas, 1987) refer to the “Americanisation” of the social sciences. It includes not only a common language but also a common methodological point of view: positivism is today the mainstream philosophy underlying most social science research. And one of the consequences of positivism is that the aim of research is often considered to be that of generating general propositions (nomothetic laws), rather than contributing to concrete single problems (idiography).¹

One might wonder to what extent the internationalisation of the social sciences has not also led to a kind of detachment from “local” national institutions dealing with social issues while at the same time still being part of the national academic frameworks. My feeling is that, today, we have at least

two different communities of social scientists: one operating within the disciplinary structure of universities and one – much smaller – operating in specialised institutions that work for governmental decision makers or within governmental structures.

The first community seems to a large extent committed to positivism and will think of relations with the outside world in terms of what can be called the *limestone model* of transfer of results (Bulmer, 1987). In this model, the results of social science research are pictured as slowly permeating into society, as water seeps through limestone. And, in so doing, the water also shapes the limestone. In such a model of transfer of results, the social sciences have only an indirect and cumulative interest and the only thing that researchers have to do is to present their findings in a readable way. As such, the transfer of scientific knowledge is in this model regarded as open-ended and as providing only general orientations.

The second community will probably be more open to non-positivist viewpoints such as action research. The model of transfer of results that dominates here could be called the *engineering model*: it is problem-centred, instrumental and control-oriented (Bulmer, 1987). In this model, social scientists are compared to engineers: they have expertise, they wait for instructions (“build a bridge”) and they are capable of doing the job. If the bridge collapses, the engineer can be blamed...

Whatever the differences between the two models of transfer, they have in common that they suppose a kind of *linear transfer of scientific information*, produced by experts and transferred to users who are non-experts. This is certainly the case for the engineering model but also holds for the limestone model since in both models users and producers are seen as separate spheres with, on the one hand, consumers deprived of knowledge and, on the other hand, producers of knowledge who can remedy these knowledge deficits in a direct or indirect way. Maybe we have to stop thinking in such a linear way and consider that many consumers possess knowledge and seek producers more to test or confirm their own knowledge.

As I stated in my opening speech at the Ottawa workshop (Van Langenhove, 2000), the social sciences need to be brought into the public sphere by promoting research that brings together researchers, those who play a role in the phenomena being studied and those who are in a position to make decisions about the phenomena being studied. Only in such a way will the social sciences be able to change the world – rather than merely interpreting it.

In my view, this also means that we need more *non-linear* transfers of social science knowledge. The problem is, of course, how relationships between “producers” and “consumers” can be organised in a non-linear way? Here I think we should refer to the concept of *learning organisations*. What is needed are new means of organising scientific research in such a way that researchers, together with all the stakeholders involved in the problems under study, can engage in an individual and collective learning process. Such new organisational forms of research not only involve the handling of large amounts of data, but also require a continuous monitoring and steering of the communication processes between scientists, policy makers and the general public. Information Highways can certainly play a facilitating role in such enterprises, but I consider it totally wrong to believe that technological tools will suffice. Such a view, once again, treats the people who act as decision makers as passive “users” of scientific information. Dealing with societal problems involves much more than scientific information: at the end of the day, choices are always ethical and political and have to be framed in the dynamics of the social interactions in which they occur (Harré and Van Langenhove, 1998). Thus, the issue of managing social science information as a contribution to the resolution of societal problems is far from simple – as a matter of fact, it too needs to be studied. New forms of managing such information within our complex democracies are needed and, once again, increasing societal learning seems to me to be the crucial challenge. I believe that this can only be achieved by

paying greater attention to knowledge brokering in social sciences. Today, the function of social science knowledge-brokerage hardly exists as it is considered that part of the task of social scientists is to collect all relevant material and organise the dissemination of results. Maybe what is needed is a new division of labour, where social scientists are active at a local level and are assisted by knowledge-brokers who link “local” research with globally available information. Surely, today one can find a great deal of information on any subject whatsoever in books, journals and on the Web. But easy access to the Web should not make us think that social scientists can therefore easily frame their (local) work in the global context: the abundantly available information needs to be translated into knowledge. Also, whatever the results of a given local research project, they need to be actively channelled into those places where they can be of use and, in the first place, into organisational learning processes.

So, for me, there is a pressing need for social science information-brokers to enable the social sciences to continue their contribution to knowledge and decision making. What’s more, if such a knowledge-brokerage function is not rapidly integrated into social science research, I fear that the social sciences will be unable to contribute much to societal change and risk becoming a total epifenomenon in the next century. That would cause problems not only for the social sciences but for society as a whole, because, as Martinotti (1999, p. 91) noted, the absence of social sciences leaves the way clear for the contribution of “myths, superstitions and ideologies” to the decision-making process.

NOTE

1. For a discussion of the nomothetic-idiography debate, see Smith, Harré and Van Langenhove (1995).

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Chapter 2

THE CONTRIBUTION OF THE SOCIAL SCIENCES TO KNOWLEDGE AND DECISION MAKING: REPORTS OF FOUR WORKING GROUPS

by

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Introduction

The papers published in this volume were the subject of extensive discussions in four interactive working groups focusing on: *i*) evidence-based policy and practice; *ii*) public consultation and decision making; *iii*) problem-oriented collaboration between social scientists and policy makers; and *iv*) use of social sciences by policy makers: quality assessment and dissemination issues. Each of the four working groups was asked to tackle four questions:

- What conditions *promote* the use of social sciences for governmental decision making and social choice?
- What are the main *obstacles*, both within and outside the social sciences, to the use of social sciences for decision making and/or societal debates?
- What are the implicit and explicit *motivations* and *needs* of policy makers to turn to social science knowledge?
- What is the added value of international social sciences programmes compared to national or local ones?

The moderators of each of the working groups were asked to structure the discussions around the above questions and to relate the questions to both the specific topic of their working group and the content of the presentations. The rapporteurs of the working groups were asked to use the questions as the format for their plenary presentations to the extent possible.

Conclusions

It is, of course, impossible to boil down the results of the debates which took place in the working groups to a set of clear-cut and consensual general conclusions. However, the discussions at the Bruges workshop highlighted the fact that, on the one hand, there appears to be a set of social science issues that constantly repeat themselves: problems relating to insufficient funding, to disciplinary boundaries and to a general lack of understanding between social scientists and decision makers have been voiced many times in the past. One wonders why these issues are still on the agenda? Is it because the social science system is unable or unwilling to change? Or is it because there are institutional obstacles? In any case, it is striking that, notwithstanding the continuous criticisms, many references were made to “best practices”; that is, examples of good research with a high degree of actual or potential impact on decision making. Does the problem lie in the fact that the social sciences and the decision makers are insufficiently able to learn from “best practices”?

On the other hand, various speakers and members of the working groups touched upon a set of issues that looks like an emerging new perspective to carrying out social science research. Central to this perspective is that the social sciences are regarded not as a set of disciplines but as a *process of interactive and continuous learning*. Applying concepts of organisational learning to: i) the performance of social science research; and ii) the relationship between “users” and “producers” of social sciences knowledge, seems to be a promising way to go. Such a perspective calls for the creation of new intermediate structures between researchers and decision makers. Finally, several participants stressed that the social sciences have to involve not only those who commissioned the research but also the general public.

Transforming the social sciences into a societal process centred on learning, knowledge brokering and public involvement, presents a major challenge. And, if this is the road to take, then funding structures, disciplinary organisations and even the epistemological foundations of the social sciences will also face a huge challenge.

As was noted by one of the participants, the social sciences are far too important to leave to social scientists. Perhaps there is some truth in this statement and a broad societal interest in the social sciences is necessary. In any case, it would appear that understanding the processes that make up the social sciences and improving the quality of the social sciences are matters that should be attracting far more attention from social scientists themselves.

Working group reports

A summary of the four reports follows. It should be borne in mind that while an effort was made to reach consensus, many different opinions and voices surfaced from the working groups. The summaries will probably not do full justice to the richness of the debates. However, they should be viewed as an attempt to formulate specific issues for use in the development of policy recommendations.

Working group 1. Evidence-based policy and practice¹

The discussions that took place in working group 1 can be summarised in five statements that, taken together, respond to the four questions.

Trends in policy-relevant social science research

The starting point of the discussion was that a clear distinction had to be made between the development of knowledge and the application of knowledge stemming from social science research. The working group focused on the latter aspect. Three important trends were emphasised in this regard. First, the increasing demand for studies and background research findings from non-governmental societal actors. Second, it was stressed that the contribution of social sciences to society is traditionally “measured” by the creation of knowledge on controversial topics which pose a challenge to social scientists. A parallel trend is the development of social science research in new types of institutions and think tanks that do not belong to universities. This was considered to be a positive trend that could lead to variety in future social science research agendas. Third, it was suggested that policy debates are becoming increasingly complex because the main actors in the debates are trying to secure legitimisation and credibility for their policies through many different levels of influence.

The dynamics of knowledge creation in policy-relevant research: institutions, actors and the public domain

The debate revolved around a simple question: Why do scientists disagree when they are engaged in policy debates and/or when they are invited to contribute to the solution of societal problems? Members of the working group had the impression that this trend had increased in recent years, especially in controversial areas, due to the growing influence of different and competing actors in the provision of resources for the creation of knowledge. The gap between the development and the application of ideas (or between ideas and propositions) is becoming evident across the spectrum of areas of policy-relevant social science research. Social policy was examined in detail as it provides a good demonstration of the influence of the mediation of applied knowledge among different actors in civil society.

The context of knowledge creation: limitations of the evidence-based approach

Data are simply a resource, but one which requires complex processing before becoming a direct input into policy analysis. In that dynamic interaction, two processes take place: policy making and evidence production. These processes are not independent and they tend to influence each other. There are even cases where it is difficult to reach consensus on what constitutes scientific fact and where concerns are being raised about existing facts. The use of evidence in policy-analysis processes was also stressed. Examples of decision support systems were provided that clearly demonstrated the need for synthesis competencies and quality control in the policy-analysis process. These competencies, for example the ability to “name and frame” the problem, are not routines that can be easily standardised, although there is certainly room for increasing codification of existing knowledge in this area.

Institutional arrangements for the efficient application of social science knowledge

The discussion was initiated by the introduction of the concept of the “joint learning process” which draws on the assumption that policy-oriented research requires participation and continuous learning. The idea that data and knowledge are an integrated “ready to be applied” package was criticised. Having said that, it was agreed that policy research is an open process which becomes more effective when it builds on an interdisciplinary approach. It was also emphasised that a rigid choice of discipline to address a problem serves to frame the definition of the problem. Examples were given of

concrete steps that could facilitate the interaction of researchers from different disciplines. In addition, the role of scientific panels as quality control mechanisms in the development of policy analysis was discussed. Members of the group expressed their fundamental concerns about ensuring credibility in policy-relevant social science research through institutionalised quality control of the research process. The need to strike the right balance between relevance and quality was also emphasised. After reviewing country experiences, it was suggested that in order to fulfil their quality-control role, scientific panels should keep their distance and avoid any engagement in direct policy recommendations. Finally, the importance of the background of users of social science applications was discussed in detail and the need to introduce learning and self-correcting mechanisms in decision-making structures was identified as a key goal.

International collaboration in social science research

Participants agreed that large-scale comparative studies can be very important for better understanding the context of the introduction and implementation of policies. Comparative studies that can provide useful insights into what makes policy research agendas successful is often lacking in this kind of project, and it was proposed that an inventory of existing studies, networking and management practices would be a useful first step in bridging this gap.

Working group 2. Public consultation and decision making²

Social sciences have society as their object. However, society is a moving target as it is continuously in flux. An important element in societal change is differences in values in function of time, place and habit. For social scientists, it is important to understand how the shift in conceptual issues took/takes/will take place over time and geographical space. Discussions in this working group focused on three topics concerning the role of social science in policy making:

- How can public involvement enhance the decision-making process?
- For what kind of subjects is this “enlarged” decision making necessary?
- What methods should be applied to what subjects?

How can public involvement enhance the decision-making process?

Today, people increasingly want to participate in decision-making debates on topics with potentially significant impacts on issues such as health and the environment. This willingness to become involved is probably due to the growing body of knowledge and to better education. In fact, commitment and consent (whether silent or not) are necessary to achieve effective solutions. Nonetheless, in many issues, people are not fully aware of either the problem or the proposed solutions. It appears that citizens may feel threatened by problems because they cannot oversee the outcome. This was viewed as one of the major risks in effective policy formulation and implementation in areas such as health, environment and society.

There are, however, important questions which need to be raised regarding the appropriate form and content of the debate on larger public involvement in policy making. Who should be involved and in which topics? What is the optimal level of information that should be communicated to the participants in the debate? What is the required level of consensus? What is the role of the different interest groups and the media? What is the relationship to formal, democratic decision making through

political representation or referenda? These are questions that need to be carefully considered in order to enhance public involvement in the decision-making process.

For what kind of subjects is this “enlarged” decision making necessary?

In the context of who should be involved and in which topics, it is necessary to consider for what subjects the “enlarged” decision-making process is necessary.

It is difficult to draw the line between problems which are “public-important” and “less public-important” (e.g. selective breeding is acceptable, while genetic manipulation is contested). Therefore, it is also important to set the criteria, taking into account not only the relative importance, but also the extent to which one is dealing with contested topics.

What methods should be applied to what subjects?

In the enlarged public involvement in the decision-making process, it is of key importance for the social sciences to focus on the dialogue. The design of the participation process, the selection of the appropriate participants, their access to information, the different stages of the process, the “format” of the dialogues – these are all important topics, demanding careful consideration. Some of the major tasks for social scientists include facilitating the discussion in hand and learning how to debate complex issues. A process-oriented approach is necessary to further develop dialogue methods and tools, and initiate dialogue experiments. In that context, engaging scientists in the social debate would enable them to learn how to render uncertainty explicit (defining from the outset, the evidence that needs to be ascertained).

Also, one should be aware of emerging temporary linkages between different stakeholders. Social scientists need to find out which groups are involved in what topics, and what the relationships between these groups are.

In addition to focusing on the dialogue, it is also important to attempt to anticipate future issues in order to have solutions available at the time the issue arises. Often, “new” issues have already been studied in the past: it is important to have mechanisms that allow lessons to be learnt from past contributions. Also, co-ordination is preferred to fragmentation. Spillovers and contributions from other sources can prove useful in dealing with issues and emerging problems, notwithstanding the difficulties involved in applying in different countries or for different issues, best practice developed elsewhere.

With the above issues in mind, the working group formulated the following answers to the guiding questions.

What conditions promote the use of social sciences in governmental decision making and social choice?

A necessary, but not sufficient, condition for promoting the use of social sciences in governmental decision making and social choice is a democracy with open decision procedures. Also, one has to accept that democratic debate is about criticism – this is part of the understanding.

It is equally essential to clearly define the problem in order to ensure that the right question is tackled and to enable fruitful discussion. Good timing is crucial in order to deliver socially based solutions as the issues come up on the agenda.

What are the main obstacles, both within and outside the social sciences, to the use of social sciences for decision making and/or societal debates?

Decision makers often want to have clear “yes” or “no” answers delivered in a short time frame. However, in many cases, social scientists focus on different, often rival, effects and initiate their investigations only at the moment an issue arises. Another problem is that social scientists and policy makers follow different paradigms and approaches, leading to different recommendations and even contradictions.

A last important remark is that social scientists need to show more mutual respect, instead of presenting their colleagues’ work in a bad light. Laboratory research and real experiments are not possible, but more creative and intelligible approximations can serve to shed new light and provide useful perspectives on the problems which need to be resolved.

What are the implicit and explicit motivations and needs of policy makers to turn to social science knowledge?

It is clear that the social sciences can make an important contribution to more effective and satisfactory public involvement in policy making and, as such, can help to strengthen the effectiveness of policy in areas which are difficult to accept from a social viewpoint. Also, social scientists can draw policy makers’ attention at an earlier stage, to the level and substance of possible criticisms and the sense of crisis concerning an issue.

It should be noted that the acceptance of the contribution of social scientists depends on the quality of the conceptual frameworks, the knowledge content and the early identification of problems.

What is the added value of international social science programmes compared to national or local ones?

The best practices of one country or best practices on a particular issue are often difficult to apply in other countries. Therefore, international comparison of issues is not always either possible or relevant. However, international comparison is important for gaining a better insight into the interactions between issues, for better anticipating future issues and for obtaining a clearer understanding of the problem. In addition, co-ordinated approaches and exchanges of experience among social scientists in different countries/areas can feed into a more effective contribution of social sciences to decision making: however, learning from each other does not mean copying from others.

Working group 3. Problem-oriented collaboration between social scientists and policy makers³

In the time-honoured tradition of critical social scientists, the working group first rephrased the four questions before preceding to answer them. The answers to the first two questions were structured to address the following three main issues:

- Funding.
- Training and careers.
- Structures.

What conditions promote the use of social sciences in governmental decision making and social choice?

The first point related to funding. Better long-term independent funding is required, especially for international and interdisciplinary projects. This issue should be linked to cross-disciplinary problem-oriented funding structures. Pilot studies should be encouraged and promoted.

With regard to training and careers, the group focused on the need for laying the foundations of interdisciplinary understanding and co-operation at an early stage, starting with undergraduate curricula. It stressed the need to overcome disciplinary boundaries, not only between social sciences and especially in post-graduate and PhD studies. It pleaded for more co-operative forms of research involving post-graduate students at an early stage in praxis-related and international projects, with the perspective of enlarging the horizon of the social sciences to include the humanities. And, finally, it re-emphasised the importance of career patterns that are better adapted to praxis-related competence (cf. the Gulbenkian and UNESCO reports).

With regard to structures, evaluation procedures (other than traditional peer review) need to be improved; these should draw on input from the various partners involved in a research project and should assess both the quantitative and *qualitative* dimensions of research. Audit methodologies for assessing policy making in the long-term perspective and evaluating new forms of partnership between academia and decision makers are also called for. Intermediate structures between academia and decision makers must be strengthened with increased international, transdisciplinary and pluralistic networking, including emphasis on the role of transnational organisations and programmes. These should take into account the different territorial levels of decision making. Moreover, the definition of the research agenda has to be understood as a societal process.

What are the main obstacles, both within and outside the social sciences, to the use of social sciences for decision making and/or societal debates?

With regard to funding, the main barriers arise from the lack of appropriate funding and infrastructure. In addition, scientific systems remain too nationally oriented.

In terms of training and careers, obstacles include students' somewhat negative perceptions of the social sciences and the cleavages between (social) scientists themselves, together with national funding orientations that negatively determine career patterns. Difficult labour market perspectives and perceptions aggravate the situation. In many countries, competition waged by commercial consulting agencies and the privileged legal profession constitutes a further barrier. Finally, issues such as privacy protection and access to research data can also hinder co-operation.

With regard to structures, the current lack of confidence in the science system, together with a lack of recognition of the fact that social scientists and their partners may be working to different time horizons are also relevant factors. This is aggravated by the dominant economic structure and the accompanying pure market orientation of science production and, finally, by the vested interests of bureaucrats, interest groups and policy makers.

What are the implicit and explicit motivations and needs of policy makers to turn to social science knowledge?

Actual motivations include the search for scientific legitimisation (an “alibi”) for action already decided or taken, as well as attempts to repair damages caused by action taken in the past.

Potential motivations are the desire to develop long-term process visions and organisations and a better understanding of the overall stakes and stakeholders of the transformation process. This may entail a trade-off between pure academic research and training (*i.e.* less “ivory tower”, “excellence”) and greater emphasis on socially relevant issues. Another possible motivation could be to create larger interdisciplinary and transcultural research teams which can retain flexibility while resisting the temptation to become unwieldy and bureaucratic. In addition, a better understanding by decision makers and society as a whole of the fragility of political, economic, social and cultural systems may go some way to improving the problem-solving capacities, and consequently the image, of the social sciences.

What is the added value of international social science programmes compared to national or local ones?

International social science programmes provide a good model and serve to promote capacity and institution building in less-developed countries. They can also provide training for auditing. Nevertheless, issue-driven initiatives are expensive and require political commitment.

International scientific comparisons and exchanges lead to spillovers of knowledge generated by the social sciences to the local, regional and national levels. A good example is the three-level approach taken by the UNESCO/MOST AMPRN initiative: research/policy interface, researcher/policy maker interaction and direct research/policy maker collaboration.

Finally, by bringing together people from different scientific cultures, international programmes promote a fuller understanding of issues at stake and more long-term research implementation processes, thus strengthening interdisciplinarity and international co-operation.

Working group 4. Use of social sciences by policy makers: quality assessment and dissemination issues⁴

The results of this working group were also structured around the four basic questions, although the third question was not discussed. Here, the emphasis was on recommendations.

Recommendations for effective use of the social sciences

Participants in this working group took as their starting point that the social sciences are a reflexive and discursive, but especially also a dialogical, process. This means that the carrying out of social research requires the organisation of dialogue throughout the process. One of the components of this dialogue should be the development of quality standards.

In order to better understand the construction of social science research, it is important to study the processes of agenda setting in the social sciences: Who decides on the themes to be studied? How are the concepts defined? What are the arguments used for the selection of a particular methodology? What place is given to the dissemination of results? And, last but not least, how are the quality criteria being developed?

It is particularly important to pay attention to “blind spots”: scientific and/or political traditions can mean that certain aspects of a problem are systematically kept out of the scope of social research. This problem is closely linked to the question of rendering implicit value systems visible. Will this not lead to innovation in social sciences through the own endeavours of researchers and not only through the imposition of new themes by funding agencies?

Taking the above into account, the following recommendations were formulated:

- It is not only because today it is fashionable to plead in favour of multidisciplinary that this working group stressed the importance of such an approach. It was the deep conviction of the participants that this is one of the best ways to avoid taking a reductionist approach. It should be stressed, however, that while a great deal of lip service is being paid to the cause of multidisciplinary, much less is being done in practice. Among the problems which need to be overcome are rigidities in academic structures and the problems experienced by funding agencies in assessing the quality of multidisciplinary research proposals or research results.
- Organising the dialogue with potential users, people involved in policy making, other researchers in the field (from the same or from other disciplines) requires the early organisation of dissemination initiatives. Again, this is more easily said than done. In some countries, assessment procedures do not value the time spent on dissemination, and it is sometimes not considered as being “true scientific work”.
- Researchers should defend openness throughout the research process: from the voting of the budgets, through the award of research contracts and the carrying out of the field work, up to the delivery and publication of the final report. It would be highly useful to work out a code of conduct for funding agencies and researchers, defining the rights and obligations of both parties, especially in terms of openness towards the other party and, first and foremost, the public at large. Is this a theme for the European research area?
- What about academic freedom? It was (and remains) relevant in times of tyranny and dictatorship, but also under conditions of creeping manipulation of researchers by political authorities and/or funding agencies. How should we react when academic freedom leads to stagnation and lack of innovation? Are lifelong nominations a guarantee of quality? Although the working group was not in a position to put forward an alternative, it recommends that further thought be given to this question.

Obstacles to the use of social sciences

- A first obstacle pertains to the question of the timing of a research agenda compared with the political agenda and the agenda of the public. Does the research correspond to the needs of decision makers (the political world) and of the public? What type of research is being carried out? When will the results be available for outsiders? How can future-oriented agenda settings be conceived in social sciences? Is it a matter of techniques that have to be developed? What is the role of outsiders in defining research themes?
- Research in the social sciences does not follow a single pattern. The gathering of relevant data in ad hoc ways and their interpretation for either short-term decision making or long-term fundamental research into new themes, using new methodologies or in line with new theoretical viewpoints, are just two of the different forms that research in social sciences can take. It is important not only to know that different types of social research exist (and to support them), but also to develop their complementarity. Scientists in ministries should be

able to tap the results of academic research and translate them for use in daily life. This “brokerage” function could give added value to research results.

- In order to get their message across, social scientists need to be aware of the role played by the media; they need to have a clear view of the way in which the media operates, of the role the gatekeepers play and of the interests represented in the media. Too often, researchers behave like old-fashioned craftsmen: proud of their product, they are convinced that it will “sell itself” and needs no marketing.
- Social scientists should be aware of the existence of “networks” of a particular kind: tacit alliances between political and scientific elites which can ultimately lead to the situation where politicians create the scientists they need. It should be stressed – if that is still necessary – that the use of social sciences by decision makers is never innocent. It would be interesting to study the mechanisms used by the political and scientific elites to keep research in social sciences under control.
- From a democratic point of view, inequality of access to the process of social sciences is a cause of concern. Not all groups of society have the same access to funds, or are able to set agendas and use results of social sciences. Social science results should not be appropriated by a limited number of people.

Added value of international social science programmes

- In multilevel governance, different levels of authority can sometimes make up for shortcomings or blunders at other levels. In the field of social sciences, international funding could allow a reflexive criticism of national domains. The working group therefore recommended that a given share of international research budgets should go to themes that are not studied at other levels, to problem areas put forward by groups that run the risk of becoming marginalised (in daily life and/or in setting research agendas), to heterodox methodologies or innovative theories. Can plurality of financing lead to plurality of research? How far can the European Commission, which has only relative autonomy *vis-à-vis* national governments, go in this direction?
- The European Parliament could play a “meta-role”, pointing to the fields in which there is insufficient scientific knowledge for policy making. It could also analyse whether the participation of persons interested in or concerned by the research process is satisfactory, *i.e.* it could combat the “democratic deficit” in this field.
- International science programmes can provide a means of recourse: the wider scientific community could redress shortcomings in the assessment of a particular researcher or piece of research.
- There is a wide scope for exchange of experiences among countries: *e.g.* on the ways in which research themes are defined, on different approaches, on problems related to the dissemination of results. This could be one of the topics for co-operation.

Conclusions

It is, of course, impossible to boil down the results of the debates which took place in the working groups to a set of clear-cut and consensual general conclusions. However, the discussions at the Bruges workshop highlighted the fact that, on the one hand, there appears to be a set of social science issues that constantly repeat themselves: problems relating to insufficient funding, to disciplinary boundaries and to a general lack of understanding between social scientists and decision makers have

been voiced many times in the past. One wonders why these issues are still on the agenda? Is it because the social science system is unable or unwilling to change? Or is it because there are institutional obstacles? In any case, it is striking that, notwithstanding the continuous criticisms, many references were made to “best practices”; that is, examples of good research with a high degree of actual or potential impact on decision making. Does the problem lie in the fact that the social sciences and the decision makers are insufficiently able to learn from “best practices”?

On the other hand, various speakers and members of the working groups touched upon a set of issues that looks like an emerging new perspective to carrying out social science research. Central to this perspective is that the social sciences are regarded not as a set of disciplines but as a *process of interactive and continuous learning*. Applying concepts of organisational learning to: i) the performance of social science research; and ii) the relationship between “users” and “producers” of social sciences knowledge, seems to be a promising way to go. Such a perspective calls for the creation of new intermediate structures between researchers and decision makers. Finally, several participants stressed that the social sciences have to involve not only those who commissioned the research but also the general public.

Transforming the social sciences into a societal process centred on learning, knowledge brokering and public involvement, presents a major challenge. And, if this is the road to take, then funding structures, disciplinary organisations and even the epistemological foundations of the social sciences will also face a huge challenge.

As was noted by one of the participants, the social sciences are far too important to leave to social scientists. Perhaps there is some truth in this statement and a broad societal interest in the social sciences is necessary. In any case, it would appear that understanding the processes that make up the social sciences and improving the quality of the social sciences are matters that should be attracting far more attention from social scientists themselves.

NOTES

1. Chaired by David Rhind. Rapporteur: Anthony Bartzokas.
2. Chaired by Hans van Ginkel. Rapporteur: Peter Teirlinck.
3. Chaired by Ali Kazancigil. Rapporteur: György Széll.
4. Chaired by Notis Lebessis. Rapporteur: Bogdan Van Doninck.

Chapter 3

CAUSAL MECHANISM AND SOCIAL PRACTICES: WHAT CAN SOCIAL SCIENCE CONTRIBUTE TO SOCIAL PRACTICE?

by

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Introduction

The root question

What can the social sciences contribute to social practice? By the latter catch-all expression, I mean to cover everything concerned with the management of social life. What could be managed? Clearly, there are huge differences in scale in the social projects of possible management. These can run from managing a friendship or a love-affair through managing family life to the governance of nations and perhaps the human race itself. The first is in the hands of individuals as such, the second is sometimes handed over to family therapists, priests and the like, the third is the business of parliaments, civil services, despots and secret policemen, and the last, at least in intention, of such eco-projects as those initiated at Rio.

To sharpen up my discussion of what the social sciences might contribute, I will present the analysis in the form of a debate between two points of view, the critical realists and the social constructionists. Two matters will engage our attention:

- From current controversies in social theory, we will examine the metaphysical question that underlies all social science: What is the nature of social reality?
- From recent empirical work on the mechanisms of social change and obstacles to change, we will examine the selectionist metaphor and the reduction theory of the sources of social conservation through revolutionary epochs.

A current controversy

In recent years, the group of philosophers and sociologists¹ who have adopted the phrase “Critical Realist” to identify themselves, have advocated two linked doctrines with which I wish strongly to disagree. In many ways I am in sympathy with much that Critical Realists argue for, but on the matter

of the nature and role of social structures, I believe they have gone very much astray. Giddens's (1984) principle of "double structure", that structured social worlds engender structured people who in their turn engender structured social worlds, can be interpreted in more than one way. It is possible to accept the double structure principle without slipping into unacceptable ontological and causal hypotheses about alleged social entities, such as social structures; hypotheses that distract those interested in social reform from the proper targets of intervention.

The underlying problem is two-fold. What are the proper referents of expressions which purport to denote social structures? Could any of them be causally efficacious? The issue is not at all trivial. If one wants to change the social world, then it would be wise to act upon those "somethings" which continuously bring it into being. When one changes them, one changes everything. The difficulty, of course, is to get some clear idea of what these "somethings" might be. Believing in the transpersonal reality of social structures and taking for granted that social structures could be causally efficacious, reformist-minded Critical Realists have slipped back into the frame of mind that very quickly degenerates into bureaucratic socialism.

Scepticism about the power of governments to change the social world is evident among younger people. While I propose to provide reasoned arguments against the incipient *dirigisme* of my Critical Realist friends, I think it worth remarking that there is a swell of folk intuition in the same direction. Here is a summary impressions of young, well-educated Americans from the *Washington Post* of 30 January 2000.

This disenchanted generation is a volunteering generation. Any in its ranks are civic-minded without being political. There's an abundance of hope and charity, but not much faith in conventional politics. The young are socially concerned, but lack confidence that government or political action can lead to the social improvements they are seeking. (E. J. Dionne, Jnr.)

This expresses pretty much what I would like to conclude from the philosophical analysis that follows.

The contrasting point of view, held, for example, among Social Constructionists, is that there are no such entities as social structures. There are only social processes, continuously renewed patterns of interaction among myriads of human beings, ordered by rules, meanings and conventions. Social Constructionists are scientific realists in that they generally hold that there is something that is beyond the observational scope of any human being, whether lay or professionally engaged in social studies. This "something" is not an entity, but a flux. It can be best thought of as a vast conversation, extending through time and space, the human race talking, writing, phoning, displaying flags, shopping, and so on.

PART ONE. CONCEPTUAL FOUNDATIONS

It is all in the details!

From the point of view of social science, the questions at issue are simply put:

- Are such social beings as educational systems, the Internal Revenue Service, the Royal Family, and so on, thing-like or process-like?
- Whatever they are, could such social beings be causally efficacious, exerting causal influences on the minds, characters and practices of members?

I do not think we can answer this pair of questions easily or by some sweeping general argument. My discussion will be somewhat “nit-picky”. I want to go through the fine grain of these issues to try to see how matters would look if all the bits and pieces that make up these hypotheses were quite carefully scrutinised.

Only then can we come to a judicious answer to these questions. It will not be a yes or a no answer. It is the nature of the question itself that is the critical point; for example, not whether as a matter of fact social structures are causally efficacious but whether it makes any sense at all to propose that social structures could be causally efficacious. I want to try to show that social structures are not the kind of “something” that could have causal powers. I am not saying that there are no such “somethings” as social structures, but they are not the right kind of “something” to do the sort of work that some Critical Realists would like them to do.

The variety of concepts of causality

I want to start by saying something rather general about the range of concepts of causality which we routinely employ. I am presuming a post-Humean consensus in that I do not intend to enter the usual criticisms of the regularity theory once again. There are two main post-Humean conceptions of causality that seem to be in use in both common-sense thinking and in the physical sciences.

Event causality and agent causality

There is *event* causality, where we take the causal relation to obtain between events, each member of a cause-effect pair instantiating an appropriate type. Post-Humeans take for granted that the demonstration of a reliable correlation between types of events raises the question of the nature of the causal mechanism which, when activated by the stimulus event (cause), engenders the response event (effect). The identification of such a mechanism provides the essential ontological link between cause and effect.² Some biochemical processes must intervene between acts of smoking and the growth of cancerous cells in the lungs associated with these acts.³

There is also *agent* causality, characterised by the idea of a continuously existing active being which can bring about events without being stimulated in any way. Its powers are released when relevant obstructions to its action have been removed. This pattern of causal explanation is common both in daily life: “Take away the screen and you can toast a muffin at the fire”; and in physics:

“Remove the support and the body will fall at 9.80 mpsps”. We have a familiar causal story both in common-sense explanations of what happens in daily life and the most sophisticated levels of the natural sciences, invoking dispositions, affordances, powers, potential, charges, fields, and so on.

By and large, agent causality has been defended recently in the context of human action in terms of the idea of persons as powerful particulars. Recent discussions on the philosophy of physics have supported the notion of agent causation as a perfectly viable, indeed *standard*, concept in the physical sciences, that belongs with a family of concepts such as natural tendencies, capacities, dispositions and the like (Cartwright, 1987). If agent causation is a viable concept in the physical sciences, we do not need to defend any special form of the *generic* concept in considering whether it can be applied to people and/or to such exotica as “social structures”.

Kant and the noumenal agent

Much can be learned from what Kant had to say on the subject of agent causality in the human context. Any adequate account of the concept of a person as a rational being in general, requires both the concept of a transcendental source of the unity of an individual’s consciousness, the transcendental unity of apperception, and must invoke the concept of a transcendental ego which has the power to perform unconditioned acts and to make unconditioned choices. Not all our actions need be referred to an unconditioned agent. There are occasions in life, lots and lots of occasions, where we are conscious that a stimulus or occasion that will bring about a response that overrides whatever personal powers we possess. If I am reasonably hungry and there is Tin Roof Fudge Pie on the menu, you can be sure I will have it. However, there are also occasions when we know ourselves able to act contrary to the most powerful promptings of bodily lusts, other peoples’ demands, social pressures, and so on. Kant gives us a criterion for identifying these occasions of moral triumph. They appear to the empirical self as spontaneous actions. We just have the experience of being able to act unconditionally. That is how moments of genuine agency are manifested in the flow of events of which we are aware, and which we could use as evidence to identify ourselves as genuinely agents. This gives human beings an empirical ground for postulating the existence of transcendental egos, which, of course, are not observable. The same transcendental ego was the source both of the unity of consciousness and of unconditioned actions.

The Kantian story is somewhat more complicated than I have presented it. Kant did say that the noumenal is the realm of reason and the empirical is the realm of causality. There are some who will have it that reasons are causes. This seems to me to deprive the concept of causality of determinacy, but I want to avoid getting back into that debate. I will say that often what enables a person to act efficaciously are the reasons he or she has for undertaking some project. But it is a distortion of the concept of “person” to hand back the efficacy to the reasons. Persons use and consider reasons in managing what they do. Reasons belong in the tool kit. For my purposes in this discussion, the fine structure of the concepts of event causality and agent causality are of minor importance. It is the distinction which is going to be doing the work in our investigation into whether or not it makes sense to say that social structures are causally efficacious. In the social world, only persons have originating powers of action. Socially located, that is shared, knowledge of rules, conventions and meanings, are made use of by social actors in creating those streams of meaningful and accountable actions we call social institutions.

The deep question

Are social structures causally efficacious in the event mode, in which case we should look for causal mechanisms as mediators of the action of supra-personal events, or are they causally efficacious in the agent mode? If the latter, we have to satisfy the Kantian criterion of subjective spontaneity and much more for sustaining a claim to identify a social structure as an agent. We would have to satisfy some pretty stringent criteria such as: is the entity in question a continuously active being, exercising its powers only when obstructions are removed, as magnets, gravitational fields, electric charges, and so on, do? Does its action fit the Aristotelian pattern of potentiality transformed into actuality, that is implicit in examples of the agency of particulars and their mode of causality that we find throughout the physical sciences? If extrapersonal social beings are not thing-like, then the question of whether they are causally efficacious things does not arise. The ontological status of social structures is the deep question which must be addressed before the more superficial questions can be answered.

Social beings: thing-like or process-like?

There is no doubt that the vocabulary with which sociologists, bureaucrats and lay folk alike discuss matters involving social structures is replete with nouns: the education *system*, the sociology *department*, *Airbus Industrie*, the *workshop* at the *College de Europe*, the Smith *family*, and so on. Nouns generally refer to entities, beings that survive through time and are marked by discernible identity conditions. But do *these* nouns have that character? Grammar is not the only source of temptations to misidentifying the ontological status of social structures. There are other features of contemporary presentations of seeming social entities that tempt one into entitative thinking. A workshop is presented in a published programme, in which a plan for a diachronic sequence of meetings, addresses, etc., is set out as a synchronic chart. University departments present their form and function in a similar fashion. The American Constitution, as a document, in defining the roles of President, the Supreme Court, and so on, seems to describe an entity that came into being in 1776 and has existed ever since.

However, a moment's reflection shows that beings of the kinds exemplified in the above examples are not thing-like. They are process-like. They exist through time as a flux or flow of events, shaped by the use of a persisting repertoire of rules, conventions and meanings. All that survives of an institution day by day are the rules and meanings. The best working analogue of a social system or a business firm or a university department or an academic workshop is a conversation. Indeed, an academic workshop *is* a conversation.

When a social system is deliberately created in those rare moments when a Constitutional Congress meets, the work is to decide and set out clearly the rules, meanings and conventions according to which the flow of events that constitute the governmental activities of that nation should conform. The gentlemen of Virginia and other delegates to the constitutional congress in the course of which the United States was created debated the rules for the governance of the former colonies as a whole. Thomas Jefferson wrote them down. The process was discursive and the product is discursive, too. There is a document that must be read from left to right. The result has been a continuous flow of talking and writing on Capitol Hill, Washington, DC, ever since. There is nothing thing-like about this at all.

The discursive turn in the human sciences would suggest that the conversation model brings in two levels of analysis. The events in small scale, close encounters among the users of some meaningful symbolic system are ordered by rules of grammar, in the extended sense that Wittgenstein gave to this term, including syntax, semantics and pragmatics, between which Wittgenstein declined to

make distinctions. There are larger scale structures to be discerned for identifying and understanding which we need some such metaphor as story-line and narrative convention. This level of analysis has been addressed by narratologists (Bruner, 1986).

People in groups

Institutions are not only flows of joint human actions, but also comprise groups of people. A workshop at the *College de Europe* could not be a flow of human activity unless there were human beings there to perform their allotted tasks. Unlike their actions which, once performed, cease altogether to exist and are followed by further ephemeral events, the people survive diachronically, at least for some time. Although the population of members of any given institution is actually in flux, it gives the impression of temporal persistence as if the people were the parts of some larger “thing”, tempting worthy commentators like the Critical Realists to fall into the trap of treating institutions as social things. We must reflect on the kinds of groups that can exist, since the temptation to take the thing-like stance can only be blocked by a thorough and careful analysis of the nature of human groupings.

Open and closed membership

In order for a concept to have a determinate meaning, there must be candidate referents to which it applies and some to which it would *not* apply. Groups of people are one set of candidate referents for the vocabulary of social nouns, entities to which the concept of “social structure” might apply. In identifying a group the criteria in use must enable us both to include and to exclude candidate members.

Sociologists work with two main kinds of groups. There are those which are constituted by the use of a classificatory procedure. These groups are sets of entities which are the extensions of taxonomic concepts. “Socio-economic class” would be a case in point. Someone belongs to such a class by virtue of satisfying the criterion in question. The group’s identity as a taxonomic entity is unaffected by the loss or gain of members. It can still be viable if there are no members at all. But if there are members, they must be identical in respect of the criteria for membership of the group, even if they have no interactions at all one with another. A social class does not include all the citizens of a nation state.

Then there are those groups which are constituted by internal relations among the members. “Family”, “government”, “team” would be cases of “structured groups”. Remove or add a member and the group changes. In general, in an institution such as a family or a firm, each member qua role performer is likely to be different from every other with respect to the problems of bringing about social change. The roles of “mother”, “father”, “sibling” overlap but are distinctive. So are “professor”, “lecturer”, “teaching assistant”, “dean”, and so on. The most important ways in which people can be seen as grouped for understanding the concept of “social structure” is the latter form, which I shall refer to as “structured groups”.

So we have a deep conceptual distinction between “the class structure of Victorian England”, say, and “the structure of the Victorian family”. These are non-commensurable concepts, existing in different domains of discourse.

It is important to emphasise that in both sorts of groups, the actual persons constitutive of the membership are a group only in so far as they meet certain criteria, in the latter case, role defining criteria.

It seems to me that the Critical Realists are most strongly tempted by the “structured group” as a candidate for reification into thing-like status as a candidate social being.

The concept of “structure”

By what characteristics do we routinely identify a “something” as a structure? First of all, structures have very different relations to time and space. Some are *entities* maintaining a certain character through time and often through translation in space. They consist of elements which are related in various ways. At least some of these relations have to be invariant under temporal and spatial transformation. So, something that simply disintegrates every time the wind blows does not deserve the accolade of being a structure. In many cases, the elements are entities, persisting things, and in other cases they are events, ephemeral beings. We have synchronic structures that exist wholly at a moment and perhaps endure. We also have diachronic structures that come into being only over time, not all of the components of which actually ever coexist. We must deal with both in the social sciences. For example, a constituted government is a synchronic structure; that is, as a system of roles, it exists wholly at any one moment and persists unchanged during a certain time span. A legislative session is a diachronic structure of events occurring one after the other in a proper sequence defined in terms of event types. Both need human beings as a material substrate to be realised in actuality. Each sort of structure is defined, though never completely specified by the constitution of the state or institution in question.

Microstructures and the internal/external relation distinction

Refinements to this account are possible. For example, in some kinds of structures the constitutive relations must all be internal, that is definitive of the type of being which is to constitute the elements. A commonplace example, in folk and “official” micro-sociology, is the family. It is a structure the constitutive members, such as “... spouse of ...” and “... son/daughter of ...”, and so on, which are defined partly with respect to the relationship in which they stand to one another. There are also the extrinsic relations in which the family appears as an entity, a “something” related internally, that is constitutively, to other institutions. For instance, this family may be part of the congregation of the local Catholic Church. That they live on the seventh floor of a 20-story tower block is probably not a constitutive fact about them, although if they lived on the ground floor or on the top story their location in space might be significant. The interplay between internal and external necessity and internal and external contingency of constitutive relations is important. The observable organisation of the family at Christmas dinner will show features of all four types of relation. Who sits round the dining table at Christmas, and where they sit, is a spatial relationship which is partly accidental but internally definitive of the category of the person who is in that place. That it is a Christmas Festival and not a Beltane Feast or an Id celebration, is reflected in much of what goes on; for example, the structured sequence of dishes at the ritual meal and whether they have turkey, or goose, or lamb.

Institutions

I suppose that most people would reckon that an institution is a social structure. Given that intuition, we can ask what it is that is constitutive of some institution that prompts that classification. What are the elements, the relations, and the invariants? Since roles and rules need people to be instantiated in actuality, one might think that the people are the elements. But, when one thinks this suggestion through a little bit further, it seems obvious that there are very few institutions the elements of which are just this particular group of just these people. It is more in keeping with our intuitions to identify the elements as “roles”, contingently occupied by this or that individual person. The relationships that are constitutive of the institution form a relational net that ties the roles together. An institution does not go out of existence when one of its members is replaced by another human being, provided that role continuity is established. So, the roles are the elements and some of the relations that hold between them will be invariant under some transformations, particularly those wrought by the effluxion of time. One such transformation will be the substitution of different individual people for current role-holders. “The King is dead, long live the King” precisely reflects this identity under transformation rule, displaying the ontological centrality of the role rather than the person who plays it. However, roles may be elemental but they are not agentive. People actively create socially constitutive activities by fulfilling role demands or prescriptions.

There have been some groupings of people into institutions which are highly dependent upon the exact individual who happens to be in command and acting as the architect of the relational structure that holds the roles into a network. For example, the German Third Reich could be a case in point. Take Hitler away and there would not be much of the Nazi regime left. A sociological analysis would show the balance between the generality of Facism as a system of concepts and strategies and the particularity of National Socialism. The Third Reich was a very different kind of organisation from, say, the United States government, where a sequence of individual persons become President one after another, while the relationship between the President, the Congress and the Judiciary, as defined by the Constitution, remains as ambivalent and adversarial in practice now as it was in the 18th century.

Structures may also exist in a more dynamic environment. A rugby match is a role-defined structure of events that evolves during “plays”, occasionally being presented formally with each role-holder, forwards and backs standing in a certain spatial relation to every other at the beginning of each play. Games, such as tennis, deserve the close attention of social ontologists.

The genesis of structures

How are structures brought into being? Answering this question will help to throw light on the nature of the concept of structure from another direction. There seem to be two main ways.

From structure to structure

A piece of machinery, say the engine of a car, is a structure of parts, each having its distinctive role to play in the whole. Engines are brought into being by machinists and assembly-line workers following a pre-existing template, a blueprint. This is itself a structure of parts. To create an engine, the product must be isomorphic with the blueprint, although template and product may be made of quite different materials. The Constitution of the United States is a structured template by means of which the institution of the Government of the United States is generated as a structured product. One imagines that in the early years of the Republic, the people creating that government actually consulted the document to remind themselves what was required in the way of appointments: “How

many judges do we need for the Supreme Court, Thomas? Remind me.” “I think we said six, George, but I will have to look it up.”

Piece by piece

Another way in which structured products come into being is through the necessities required to assemble distinctive parts. Every part of a jigsaw is different and they can be put together in only one way. When assembled there is a new structure, a picture of the Eiffel Tower, say, which was not prefigured in any of the constitutive pieces. A rugby play is a structure of events that is generated by each player doing something different from every other; something which, when assembled with the actions of the other members of the team, creates a structured product, a successful play.

Where is the ultimate source of the product?

Evidently a Constitution locked into a chest, and which everyone has forgotten, has no role to play in the way people bring an institution into being as a structured product and as a process. Sets of instructions for assembling a model plane are not efficacious of themselves. Where are the people in all this? The people play the roles by following the instructions, rules, conventions, and so on, and thus *they* generate the structure. The people are the indispensable creators of social reality. At the heart of our question is another: by what means are generative relations between people and institutions brought into being? Although the people are not the structure, we cannot take the people out of the structural analysis. They are a necessary foundation on which the whole idea of structure rests. But not just as role-holders, also as role-creators, -interpreters, and so on. With no people, there are no structures. This is not just because the institutional roles and so on would lack means of realisation, that is, people serving merely as the substance to which the structures give form, but because there would be no source of power or activity by which they could be generated. In any scientific research enterprise, one must ask above all: “Where is the source of activity?”.

Articulating roles in a formal analysis or constituting moment for an institution is different from the generating acts by which roles are realised. They are generated through custom, legislation and all sorts of activities that people engage in to act out roles. And they are maintained in various ways – by remembering what should be done, by writing down sets of rules and by ratifying statutes, and many other kinds of things.

Structured sequences of acts as institutional products

Diachronic structured sequences of acts are generated by people in accordance with the relevant requirements to produce a strip of social reality. So, too, are synchronic structures persisting invariant over time. Proper names of important social “entities” can be ambiguous between synchronic role structures and diachronic act sequences. What sort of structured being is the Christian Church? Is it the roles of Apostle, priest, lay member, heretic, and so on? Or, is it the Acts of the Apostles, the synods, the masses, the excommunications, and so on? We can take either way. If we are thinking of roles, it is the Apostles – because being an Apostle is a role. If we are thinking of events in a certain sequence, as described in the latter part of the New Testament, it is the Acts of the Apostles. This group of people brought the Christian Church into being as a series of acts. They did so by living out certain roles. A sociologists could focus on the roles or focus on the acts or focus on both together.

From “chaos” to institution

So, somehow or other, the norms and standards we express as rules and conventions by the use of which people engender synchronic and diachronic structures come to be commonly understood. But what is produced by human action will not be a structure unless it is tidy – tidy enough to have an easily recognised form and relatively clearly marked boundaries or limits to the variations in that form that retain the character of being *that* structure. In the 17th century, 60 or 70 people drawn from a couple of villages in England would get together and simply fight all day over a pig’s bladder. Gradually, out of a fairly chaotic and fluid sequence of events, certain conventions became established. Eventually, there was soccer and there was rugby, each a distinct international institution. Conventions and custom harden into rules – although never completely.

Rules and conventions: the propositional expression of institutional “templates”

In giving an account of what distinguishes the institution of rugby from village “battles”, one is very much inclined to use expressions like “rule”, “law”, “convention”, and so on. Reflecting on the foundations of social science, we have to be very careful how we use such notions, in particular in terms of what we presuppose in their common use. When some of us started the anti-experimental movement in social psychology, what we were trying to point to was the extent to which people acted in an orderly and predictable way in creating and maintaining social institutions and carrying on their social lives. They acted in ways that were fairly neatly described by talking about rules and conventions. An experiment designed to elicit causes of behavioural events would necessarily fail to capture the mode of genesis of a social activity as intentional following of rules and conventions. It was easy to fall into the trap of treating rules in too concrete a way, seeing them as forming more coherent systems than further research showed was warranted. It was a further easy step to generalise the concept of “rule following” so that, if rules were not accessed consciously in a certain situation, then they must be being accessed unconsciously. This, too, was a mistake. There are two main sources of the orderliness of role-related, structure-engendering actions.

Following a rule and acting in accordance with a “rule”

Wittgenstein (1953) distinguishes between two cases. There is *following a rule*, the sort of thing one is doing when there is an explicit instruction and one reads or listens to the instruction and does what it says. Then there is *acting according to a “rule”* which is a related but quite distinctive cognitive process. The link is “historical”. In the background of acting according to a “rule”, there was once a time when one did follow a rule. It cannot possibly be right to elide the roles of tacit and of explicit rules in the management of social action. In learning a procedure, there is usually an explicit system of rules – for driving cars, for playing musical instruments – that are lost sight of when the actions become habitual and we say that the learner has acquired the skill. Then the rules are no longer functioning as they did when they were attended to as explicit instructions.

Harold Garfinkel, of ethnomethodological fame, has become very interested in the question of whether any explicit rule system could exhaustively specify a procedure. Some of his weirder experiments recently have been explorations of this issue. His thesis is commonsensical: no amount of explicit rule-following will ever allow someone to accomplish a practical task because there is a huge amount of tacit knowledge of “how things go” without the use of which no project could get under way. In several informal presentations, he has discussed the hopelessness of the task of trying to assemble a garden chair by following the printed instructions alone, bracketing such matters as the rule that wing nuts are tightened clockwise. Obviously, this example is drawn from a real-life episode in

Garfinkel's life, one with which we are all familiar. Recall the problems of following the instructions in a computer manual. Something is often missing. It might be a crucial key stroke or the meaning of a technical term, which everybody who writes manuals knows perfectly well tacitly, but which you don't. It is like road signs in a foreign city, where everybody knows how to get from A to B so the local traffic engineers don't even know they should tell you.

In introducing a more carefully defined paradigm of rule- and convention-based explanations, we have already pre-empted part of the solution to the problem to which this discussion is addressed: where do we locate the sources of activity in the social world, in the rules or in those who use them? The answer must surely be the latter when we are thinking of cases of rule-following. But what about when the phenomenon seems to be a case of acting in accordance with a rule? When someone does something, as we say habitually, where is the source of the action? Is this not just the very case in which it begins to look plausible to hand the efficacy over to someone or something other than the person?

The task/tool metaphor

There are very few activities in which we engage with other people which could be accomplished on auto-pilot alone. Preparing breakfast for the family, running a political campaign, love making, dealing with a difficult and prickly colleague; all these activities consist of implementing over-all schemata, with lots of routine, well-rehearsed component activities needed to accomplish the project. However, all admit individual embellishments within the "outer frame". One of the most powerful metaphors for analysing the inner workings of procedures such as the above, is the task/tool model. The workings of the tools (for example, what happens inside an electric drill when it is being used to bore a hole) need not be consciously attended to, or even known, when putting up a shelf. However, the outcome, the end to which the project is directed, the well-located and fixed shelving, must, at least for planning the job and assessing the outcome, be consciously attended to. It belongs psychologically with following a rule, while the routines involved belong psychologically with acting in accordance with a rule. The necessary role of processes in neural mechanisms, for example the activity in the hippocampus as we find our way around a town, are quite irrelevant to the explanatory analysis of the task. Yet, this organ of the brain is an essential tool in what we are doing.

PART TWO. COULD SOCIAL STRUCTURES BE CAUSES?

The causal efficacy question

So far, the case for a certain interpretation of the nature of social entities has focused on institutions as systems of roles and unfolding episodes of orderly events. These are products, brought into being and maintained in existence by the interlinked psychological processes of rule-following and acting in accordance with a rule. We now have the wherewithal to formulate a question which we can discuss in a sensible manner. We can ask: "Could realisations of social structure either as institutions or as classificatory groupings possibly be causally efficacious?". The trick is to use

humdrum examples such as preparing and serving Christmas dinner to investigate grandiose theses proposed by sociologists like Archer (1995) of causal links between social structures like “the education system” or “the economic system” or “patriarchy” or “international capitalism” and the fates of the human beings who become enmeshed within them. These sociological theses have a political and social edge to them. Reformers are invited by Critical Realists to act upon the *structures* and then, lo and behold, people will be happier and nicer and richer. See, for example, Bhaskar’s (1989) study *Reclaiming Reality*. This only makes sense if social structures can be acted upon and can themselves be causally efficacious.

My problem with all this is really very simple: I cannot *understand* what is being proposed by Critical Realists. What is one supposed to do? What is the status of this “entity”, say “capitalism”, that it might be acted upon, that it in turn might act upon people? What is this “something” that is supposed to be causally efficacious in the human world? Perhaps these wonderful interventions into social structures are supposed to be done in and by Parliament, or by the Russian President? If it were as simple as that, then how do we explain the relative powerlessness of legislation to change what people do? Things happen in spite of what governments try to do. Even if they end up shooting and deporting people, there is overwhelming evidence that macro-intervention does not work. Why? *Because the entities that are the presumed targets do not exist!* Sometimes macro-intervention brings off reforms, but how *exactly* was this done?

I have been through several different cycles of forms of socialism and *dirigiste* policies, and the world went on in pretty much the same way during them. Mr. Blair’s shiny new England was certainly not brought into being by macro- or micro-interventions for that matter. It appeared, somehow, and there it is – we are all enmeshed in it. Around the world, one hears people say: “It would be nice to be in England!” But where are we to site the causally efficacious beings that produced this ever-evolving phenomenon? Parliament? Hardly. International capitalism? What is that? There are only people talking and writing to each other! A few are digging and planting. Some are bending bits of metal. People in these categories are also enmeshed in a web of language and other sign systems as they follow blueprints, mix up doses of pesticides, and so on. To get a feeling of social reality, reflect on what exactly “freeing the Bank of England from Treasury control” involved!

If institutions and episodes are themselves products, perhaps that explains why tinkering with them is pointless. We already have to hand a sketch of a theory of how they are brought into being by following rules and conventions. This will help us to locate the sources of activity. Candidate entities would have to be agents. To be an agent, something must be a particular, something like the earth as the source of gravity or the north magnetic pole on this particular magnet as the source of the power to attract a compass needle. In the physical sciences, a powerful particular will exercise its corporeal powers when obstacles to its continuous activity are removed. Such a particular must exist continuously, and be continuously efficacious if it is to do the explanatory job. What sort of beings could have social efficacy?

We can now go back and look at the types of things that we have left on the agenda. We have asked about roles and institutions, but these are the products of something deeper, layers of social knowledge expressed as rules and conventions. Is a rule or convention the kind of thing that could be an efficacious agent?

Rules and conventions as candidate efficacious particulars

Is a rule or convention something which has the right sort of characteristics to bring something social into being? If it is, under what circumstances would we say that a rule is a continuously existing entity? What are the criteria for identifying such beings? One candidate criterion is that following it brings about the same kind of result in the same kind of context as following the “same” rule did on former occasions. The question of sameness of rule might arise by reason of what we take to be different formulations of “it”. But we know from Wittgenstein’s striking examples of the teaching of arithmetical rules that there is a gap between same rule and same outcome which is to be filled by the intentions of the one who *uses* the rule. It is not the wording or even the historical tradition within which the rule or convention has a place that determines identity. Nor is it outcomes, since the same rule can have different outcomes depending on how it is interpreted. Wittgenstein’s point that rules for justifying and interpreting the uses of rules run out does not mean that the last layer of rules are the active particulars. On the contrary, the regress is closed by a person’s declaration that *this is what I do*. We can see where the slippage is beginning to occur that led to our simplistic idea that rules are efficacious.

If one wants to exculpate oneself from blame for something that one has done, one commonplace strategy is to say: “Oh well, don’t blame me. I just followed the rule or the convention. That was what made me do it”. But in this kind of talk we are in the realm of alibis and excuses, and far from social scientific explanation formats.

People as candidate efficacious particulars

We had two candidates for efficacious particulars: people and rules. Rules have turned out not to be plausible in the grounding role. If we turn to the other candidate, what psychological processes might we want to hypothesise here? Here’s how the argument goes. If it were the case that a rule were the causally efficacious particular in the production of either kind of social structure as a product, then it would not be possible for the people involved to abrogate the rule, to abandon it, to refuse to follow it, to do something different in order to be bloody-minded, and so on. Only another rule would have the power to do that. But there are a myriad ways in which the relationship between rules and people and their actions is weak. If it were the case that the rule were the causally efficacious entity, then people’s own decisions as to whether to carry on following the rule would not be possible, unless that were to be put down to the activity of another rule or convention. In the absence of another rule, the primary rule would just demand conformity. This takes us back once again to Wittgenstein’s argument which says that one couldn’t possibly construct a psychology on the power of rules alone, since that would require an indefinite hierarchy of explicit and tacit imperatives.

A number of philosophers, for instance Charles Taylor and Jean-Paul Sartre, have argued more or less the same thing. In the end the rules run out, and at that point the people come back into the action. The only candidate we have left now is people. People appear as the effective agents who are creating the social world, creating social structures in accordance with the rules and conventions that have come down to them historically. All this higher-order explicit activity is grounded in a personal commitment (tacit or explicit) to the rules and conventions that make that way of life possible. To pretend otherwise is a case of *mauvaise foi*. Kierkegaard (1944) takes the same line in *Either/Or*. One cannot apply the distinctions that mark a moral assessment of one’s activities unless one has committed oneself to a form of life in which those distinctions make sense, and so are constitutive of it.

People are the efficacious particulars in their social worlds.

PART THREE. SOCIAL CHANGE

A test for the plausibility of the above solution might be: see how it would look in a theory of social change. Suppose that this argument, step by step, is more or less right, that the efficacious agents in the social world are people. They are continuously shaping their world in their meaningful interactions with others. They are creating the very social structures in which they falsely believe themselves to be fatally enmeshed. They do this by following the rules of engagement or by acting in accordance with them. To explain why we have the systems of rules and tacit conventions that we do have, we would turn to a historical account of how those come to be what they are.

So, what would we act upon if we wanted to bring about social change? What would be the weak point in a society, the point of application of the attempt to better the human lot? The Critical Realists, believing that social structures are causally efficacious, imagine that there is some way that the social structure can be transformed by legislation or something of that sort. Then, all the rest will follow because they believe that social structures are the causes of everything else. However, the implausibility of this proposal has already been demonstrated. The surviving candidate for the type specification of the relevant powerful particulars are the persons that make up the society, social group, family, and so on. If people are the causally efficacious agents, one might think that the basic reforming act would act on the people in some way. But to do what to them? What could we conceivably do to anybody that would change things? A few well-timed and well-chosen executions perhaps? Setting up a scene for a conversion experience? It sometimes happens. The Christian Church owes a great deal to what occurred to St Paul on the road to Damascus, for instance. But we cannot arrange conversion experiences to order or *en masse*, although sometimes mass conversions do occur. What is left upon which to exercise our reformist enthusiasm?

Changing the tools

You see someone struggling to cut a log for firewood with a tenon saw. You lend him your massive cross-cut and take the other end. In no time, the log is in suitable lengths. In short, we return to the task/tool metaphor for guidance. What were the main tools that people were using to fulfil their roles, to bring about the proper sequence of events to build the hierarchy of episodes that constitute a living society? Rules and conventions. If one's aim is the transformation of society, the place to act is at the point where the people generate the role-performances and social acts that create society as a large-scale property of the flow of acts, of the worldwide, aeons-long conversation. The rules and conventions must be changed and the people persuaded to act according to them.

It is no good talking about taking action on social structure, the economic system, capitalism, the education system, and so on. I haven't the faintest idea how one would do that. So, when I hear my worthy friends making these sorts of statements, then I wonder exactly what do they want people to do. But if it is the grammar of social action and the structuring narratives of social life that are in focus, I can imagine what one might do. Rugby has been changed by changing the rules. So has Lloyds. And so could society.

Rules as tools people use in creating social realities

I know what it's like to change an institution by changing the rules. Let us go back to rugby. Rugby has changed a great deal since I played it as a lad. It is a social institution and it is manifested in episodes including matches. As a social entity, it is engendered by the players following the rules. The structure of the game has changed in the last half century. This has happened because transformations have occurred in the rules and conventions of play, *but how was that done?* At meetings of the International Board of Control. But what went on there? Another game with its rules and tacit conventions!

There are complications to giving a straight-forward *dirigiste* answer to the problem of bringing new rules to bear on the way some social practice is carried on. They arise because of the difference between the way rules that are serving as instructions exist and the ways that conventions and customs exist. Writing down a tacit rule to express a regularity in an episode or the orderliness of some human social interaction one has seen realised by social actors in the world, is not a psychological hypothesis about how the episode was produced. It is a mistake to think that writing down a representation of a regularity in imperative terms is a short-cut to an explanation of it. Only if those rules were instructions could one say: "Now I know why those people did that. They were following an instruction. I saw them reading the guide (etiquette) book, etc." But a great deal of orderly social life is not carried on that way. The people are acting out of habit. We could say they are acting according to a "rule". But that is a useful metaphor, not a schematic explanation. Here, as reformers, we would act upon the people, trying to change their habits by making them aware of what they were doing and opening up a space for agentic action. Anti-smoking campaigns are a case in point, or the "safe sex" movement.

Selectionist explanations of change: the biological analogy

It has been suggested by many authors (for example, van Parijs, 1981) that we should be able to understand social change by creating an analogue of selectionist explanations in biology. What is to be the analogue of the biological gene? For the most part, sociologists, and the rare social psychologist interested in social change, have seen a parallel between the social domain pair "rule/practice" and the biological domain pair "gene/organism". Memes seem to be best identified with rules and conventions, those items with which active agents shape their social behaviour; that is, their practices. The general idea is something which could be seen to serve the same role in social evolution as genes play in the theory of biological evolution; that is, to be replicators in the Dawkins' scheme of replicators and interactors. Practices are interactors realised in social and material environments. We have something like rules or customs which we use to shape our practices. The upshot of living out practices is an orderly social life, since social structures consist of practices. This was strictly a working analogy. Recently Susan Blackmore (1999) has taken up Richard Dawkins' terminology and used it as the basis for yet another reductive account of human social action. In Blackmore's version, memes are represented chemically in the brain and chemical things can happen to them. Change in the genetic component of the organism is ultimately responsible for new organic forms and for new fixed action patterns. A short way with Blackmore's reductionism would be to reiterate the task/tool function and to identify her position as yet another example of the fallacy of mistaking an attribute of the tool for an attribute of the task.

Social selectionist explanations

How do mutant social practices arise? Following the principle sketched in the last section, we can say that they must come from the use of mutant rules or customs in the management of joint action. If social change is to occur, and it obviously does, there has to be a way by which mutant rules and conventions arise. One suggestion is that new rules arise when people try to make sense of the tensions they experience when there is a disparity between their perception of their position in the economic order and their position in the expressive order of honour and reputation. This sort of case would require some way in which the tension felt could be interpreted in some way that would lend itself to an advocacy of rule change. Sometimes the constitutive rule changes are deliberate and themselves managed through the use of second-order rules. Why does Oxford now have about equal numbers of men and women undergraduates? Because a complex system of rules, customs and conventions has been deliberately changed. And, thereby, the people actively implementing these imperatives engender a new social form, a new structure. Nobody acted on the structure!

The idea that comes from the selectionist perspective is to look for sources of rule change. These are very diverse. There are those that come about through changes in the way people work, necessitated by the demands of production during a couple of world wars. Then, of course, there is our old friend, *legislation*. What do legislators do? They change the rules. “Thou dost not suffer the waste of thy talents by compulsory retirement at the height of thy powers” would be a welcome rule change in the United Kingdom. It is no good talking about changing the social structure, changing the morphology of the institutions of education – that is just talk. The way educational practices and institutions can be changed is to change the minutiae of the rules and customs that go into the *genesis* of the practices that are that institution.

Reductons and resistance to change

One last point. It is a very striking feature of revolutions that very often little happens to the texture of social life in the small and eventually in the large. Napoleon soon makes himself Emperor. *Fraternité* may have survived into Imperial France, but not much *liberté* and even less *égalité*. How is it that these large-scale changes, like changing the constitution of India from an Imperial Raj to a pluralist democracy, left everything in the way life was lived pretty much the same? Moghaddam (Moghaddam and Harré, 1996) has introduced a concept of a “reducton”, a minute, unattended social practice too insignificant for commissars, ayotollahs and Parliaments to bother about. For people who are focusing on the role of explicit rules in the way we do things, reductons are invisible.

What are reductons? They can be introduced by examples. How often and with whom does one shake hands? Who sits where at the family table? Do the family members wait for Mother to be served before they start to eat? Does Father say grace? Do men usher women through doorways? These minute patterns of behaviour, unattended practices, seem to be one of the points at which highly resistant bits of the social world keep on repeating themselves. How people greet others, the customs by which marriages are arranged, the patterns of eating and drinking, and a myriad other practices repeat themselves. The political status of India can change, but the customs by which everyday life is carried on remain resistant. These minutiae are reductons, generated by the following of *tacit* rules and in acting according to custom. These minutiae maintain the social order. So, even though I have been arguing for the importance of paying attention to the way in which one might change the rules because new rules could be the source of new practices, nevertheless there is something yet more minute and yet more resistant to change.

Summary and provisional conclusion

Let me sum up this rather complicated and very provisional line I have been taking. I have been trying to identify what it is that bothers me about the enthusiastic and well-intentioned claim by Critical Realists that social structures are causally efficacious and therefore if we want to ameliorate our lives we should change them. The focus is on constituted authorities, economic systems, patriarchy, and things of that sort. To sustain that position, one must have some view about causality, such that entities of this abstract and high-order type, fictions so I believe, could be efficacious, powerful particulars. After the debates of the last three decades, there seem to be two well-established uses for the notion of causality. One invokes patterns of events and the other invokes active agents, powerful particulars. For event causality to make sense, unobservable causal mechanisms must be presupposed. In the case of agent causality, active entities are continuously potent, bringing about effects when obstructions are removed. To assess the Critical Realist thesis, we have to look at their candidate for efficacy in the social world – “social structure” – and see whether it could possibly play the role of powerful particular. Let us take institutions as examples of social structures. On examination they turn out to be very much the product of various kinds of rule-following or of other kinds of normative constraints, whether they are condensed into roles or whether they are in the form of sequences of acts, or both. Rugby, the social institution, and the matches that realise it time and again are products. They are the products of active people fulfilling roles and performing acts. How do they do that? By following the rules and acting in accordance with the tacit conventions relevant to that slice of life.

But now we have to ask: “How is it that people act according to rule?” It cannot be that people are cultural dopes, as Garfinkel called them, and just passive vehicles for the activity of rules. Rules are not that kind of thing for all kinds of ordinary, everyday reasons. If they were, Mr. McEnroe could not have thrown his racket to the ground and shouted four-letter words to the umpire – but he did. Everybody in England drives ten miles over the speed limit, whatever it might be. Rules do not make anybody do anything.

What could be a powerful particular? What could be something that would have the necessary efficacy to play with the rules like that? Looking through all the candidates, we have to come back to the idea that it is people who are the efficacious agents. And that brings us back to rules again because it is rules and conventions that people are using as tools for various purposes. Now, we know how to improve the social world – change the rules and change the customs. But, then it turns out that we are not quite close enough to the ground to achieve our reformist aims. There are all these little things that seem to play such an important role, the reductons. And, how we would change reductons, goodness only knows!

NOTES

1. The group includes Roy Bhaskar, Allan Norrie, Margaret Archer and William Outhwaite.
2. Of course, this pattern is hierarchical since there must be mechanisms by which causes stimulate first-level generative mechanisms and these in turn produce effects.
3. The smokers' proof in the existence of God: if you smoke, it causes your skin to get wrinkly. But if you smoke, it increases the rate at which your cataracts develop. When you look in the mirror your sight is so bad you can't see your wrinkled skin – it must have been a divine arrangement.

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Chapter 4

SERENDIPITY AND POLICY RELEVANCE

by

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I'm very pleased to be here with you today as a participant in this international workshop on "Re-inventing the Social Sciences", sponsored by the OECD. Before getting into the particular issue I have been asked to address – policy relevance and social science research – I would like to say a few words about the workshop series as a whole.

As you know, the OECD decided more than a year ago to hold a series of four international workshops, each looking at the challenges facing the social sciences from different but complementary angles. The Social Sciences and Humanities Research Council of Canada (SSHRC) had the honour of hosting the first workshop, which was held last October in Ottawa and focused on the infrastructure needs of the social sciences (*Social Sciences for a Digital World: Building Infrastructure for the Future*). This proved to be a very helpful event for us in Canada – as I hope it was for you as well. It has already had an impact in some unexpected but decidedly serendipitous ways. Let me give you a few specific examples:

- The Ottawa Workshop gave a final boost to discussions that brought key partners to agree on establishing a network of Research Data Centres in Canada. These centres will enable Canadian researchers in the social sciences to work with data collected by Statistics Canada, without having to go physically to Ottawa. They will also offer training to young researchers so that they can effectively handle and analyse large data sets. We're told that Statistics Canada has collected some of the best longitudinal data in the world – for example, through their Study of Labour Income Dynamics (SLID) – and we're extremely pleased to have them as our partner in this undertaking.
- This event brought new specificity to discussions in Canada around the infrastructure needs of the social sciences and helped build the participation of the social sciences in the Canadian Foundation for Innovation (our national agency responsible for funding research infrastructure).
- The Ottawa Workshop also had a positive effect at a broader level, reinforcing the need for the creation of the UNESCO Institute for Statistics and moving the site selection process forward.

- It made us realise that Canada may be one of the only G8 countries without an archiving system for research data, an issue we are now looking into quite intensely with the National Archives of Canada.

This second international workshop is focusing on another set of equally crucial issues concerning the contribution of the social sciences to knowledge and decision making. I congratulate our hosts on the programme they have organised for us all and thank them for the time and effort they have dedicated to ensuring its success.

My talk today will be quite informal – focusing on thoughts that struck me after the organisers asked me to speak on the policy relevance of social science research. I’m going to start by: *i)* outlining some questions that got me thinking; then *ii)* talk about the genesis of these questions. After that I’ll be: *iii)* touching on some of the myths and misperceptions I think there are about our disciplines; *iv)* offering some suggestions for advancing the contributions of the social sciences; then winding up with a few concluding remarks.

Questions

The first question that struck me from the workshop background material was: “How can we re-invent the social sciences to increase their policy relevance?” That sparked a sub-question: “What does ‘policy relevance’ mean in the case of the social sciences disciplines?”

The more I thought about it, the more I realised that the meaning we ascribe to “policy relevance” depends directly on our values and priorities. For example, policy makers probably tend to think of contract-driven, targeted research that they can commission to help clarify policy issues and options. Researchers, on the other hand, might well say that research results are relevant if they spark a debate about important ideas. And the popular definition of relevant research would most likely be research yielding practical results that are immediately useful for solving “real life” problems. In other words, relevance is in the eye of the beholder. One of our experiences at SSHRC experience illustrates this quite well. After having funded a project investigating the “social significance of lawn ornaments”, we received two completely different reactions. Individual members of the public wrote to complain (on the basis of the project title alone) that this research was a complete waste of money. But manufacturers of lawn ornaments wrote to ask for copies of the research reports as soon as possible to help target their business more effectively.

Clearly, there is no single definition of research relevance and there is no sure-fire way of telling in advance which research is going to be the most relevant. In fact, *all* research breakthroughs have elements of randomness. The chance discovery of penicillin, the Hawthorne effect and the unexpected benefits of Viagra (originally developed as a heart medication) are only a few among untold numbers of examples.

This essential quality of randomness is in fact what led me to pick “Serendipity and Policy Relevance” as my title. I also was drawn to it because I think there is a lack of understanding outside the research community about the unpredictable ways in which research progresses. To build public support, we need to explain the role of “serendipity” – *i.e.* of unexpected, fortuitous discoveries – in the kind of work that we do. The comments and reactions that come my way as President of SSHRC show me that there are a lot of people asking not just what we’re doing but why it deserves to be publicly financed.

Why ask such questions?

Taking things a bit further, I found myself reflecting on what has precipitated this kind of outside questioning of our disciplines and why, inside our own community, we are asking about “re-inventing” ourselves. There are probably many reasons but there are three that immediately jumped out at me.

First, we are challenged by utilitarianism. The social sciences are being challenged to *prove* their value in a world driven largely by “the bottom line” and performance measures geared to the marketplace. In the West, the major preoccupation of the 1990s has been addressing national deficits and debt. Corporations, universities, public services, plus virtually any other sector you can name – everyone has been going through major downsizing and “creative destruction”. In the context of global competitiveness, the mantras are efficiency, profitability and results. According to the predominant wisdom – or bias (depending on your viewpoint) – technological advance is *the* key to improving market share and job creation. The “hard” sciences are seen as the “gold standard” for research. By comparison, the social sciences are seen as falling short, as being relevant for wealth re-distribution, but not wealth creation. There’s a joke that I think captures well the typical perception about our disciplines. A sociologist and a friend are walking down the street when they notice a man lying on the sidewalk who appears to be injured. There is blood on the man’s shirt and his coat has been torn. The friend immediately kneels down to see how badly the man is hurt and how he can help. The sociologist just glances down and says, “Well, it’s very obvious. Whoever did this to the poor guy is a really sick person!”

Secondly, we are challenged to tackle new and pressing issues that are arising in the context of the massive social and economic changes taking place all around us. It has been argued that the worldwide communications revolution we are living through represents the third most important change, not of the century but of the Millennium – after the invention of the printing press and industrialisation. The interdependence of countries is increasing and so are the domino effects of political and economic circumstances and decisions. The pace and pervasiveness of technological change makes our heads spin. This list goes on. Taken all together, these things are exerting tremendous pressures on individuals and families, on communities, on businesses and governments – in short, on the human relationships and institutions at the heart of how society functions. Social sciences research is vital to our capacity for successful institutional adjustment, to help us clarify issues, options and their potential impacts, as well as the values guiding decision making.

Thirdly, we are challenged to make full use of new technology. There are quantum changes taking place in our capacity to digitise – images, books and all sorts of other data – and to access information anywhere on the planet. And just as when the electronic microscope was introduced, we really have no idea where these new capabilities may lead us. We also have the capacity to exchange information at lightening speed and at a fraction of previous costs. Only ten years ago, courier delivery from Montreal to Tokyo cost 35 bucks, falling to 27 five years ago for fax transmission, and then to less than a cent for e-mail messaging today.

New technologies are giving us the capacity to develop exciting new research tools and research infrastructure. On this topic, the Ottawa Workshop explored such things as the potential for creating coherent data repositories nationally and internationally (assuming development of international guidelines and standards), and the potential for conducting a World Social Survey – with people in countries all over the globe serving as “advisors” to the planet. New mass communications vehicles are providing hitherto unthinkable possibilities for democratising information. One example is that all Canadian schools are now linked electronically in a system we call SchoolNet (Rescol in French – which, I was amazed to find out, accounts for one-third of the total French language content on the

Internet). We have the capacity for virtual online interactions in the form of Web research collaboratories. For example, we have Canada's TeleLearning Network Centre of Excellence – an international team of collaborators in a virtual network that is researching and developing new tools and approaches for delivering higher education via e-universities. There's also my favourite example – an English professor at the University of Toronto who put some poetry up on the Web, then got deluged with requests from people asking him to suggest a specific poem to read at a special event like a wedding, a funeral, or what have you. He wasn't sure at first if this sort of thing was really part of his job, but then he decided it was part of using his knowledge to serve the broader society. Who knows? Maybe this is the start of a new service industry!

Confronting some myths and misperceptions (M&Ms)

I referred earlier to the lack of common understanding about how research works and about the definition of research relevance. I think this is in fact only part of the situation we have to contend with. I think there are several myths and misperceptions – I counted at least eight – clouding debate about social sciences and humanities research. Some come from the public, some from within the research community itself. Here's my take on them.

M&M No. 1: If we really believe in responsible spending, we will be sure to make research investments only in areas where key discoveries will occur

This myth is linked to the expectation by a significant part of the public that all research funded with tax dollars should yield direct, tangible results. This ignores the fact that it is seldom possible to predict where or when the real breakthroughs will occur. For those who favour business as the standard of comparison, it's worth remembering that predicting success in the business world is no sure-fire thing either. Discoveries are 99% perspiration and 1% intuition. In other words, whether we like it or not, successful research always involves elements of luck, "craziness" or serendipity, and you never know exactly where you're going to find what you need. Who would ever have guessed, for example, that the answer to the question of how to focus x-rays for extremely high-precision etching of computer chips would come from completely unrelated research into the way lobster eyesight works? Moreover, it was only through blind luck that one of the people working on the x-ray problem stumbled across the material on lobsters.

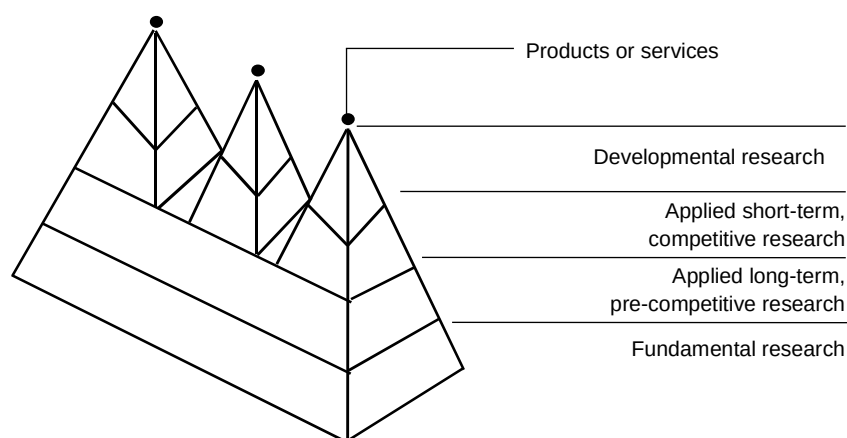
M&M No. 2: Research relevance and research excellence

There are two versions of the second myth. The version out in the general public is that research relevance is synonymous with excellence – *i.e.* research that is relevant is automatically good research; if we focus on relevance, the excellence will take care of itself. The version operating within the research community is almost the flip side – *i.e.* across-the-board demands for research relevance will compromise research excellence and prevent important work from being done (especially basic research). Clearly, relevance and excellence are not the same things, but they are also not antithetical to each other. Both are necessary to keep research strong. It is also important to stress that there can never be a single definition of relevance. To me, in the final analysis, ensuring that research is relevant really boils down to asking whether it is tackling important gaps in our knowledge. Clearly, research addressing gaps in theoretical knowledge – as well as research addressing more applied knowledge issues – would qualify.

M&M No. 3: Research can be neatly divided into distinct categories

A third myth/misperception views research as something static that fits neatly into separate conceptual boxes with labels like “basic (theoretical)” or “applied (practical)”. Or, the boxes may be “curiosity-driven” vs. “policy-driven” research. Now, I suppose some people may be using the term “applied” to mean very descriptive studies – such as doing a poll to get a reading of immediate public opinion on some issue or doing a survey to compare organisational structures. But, in my experience, it’s devilishly difficult – not to mention inappropriate – to try discussing research in such a binary way. There is essentially no research that is not curiosity-driven. Even when researchers are doing highly targeted work, they’re not going to get involved in the first place unless they are trying to answer questions that really intrigue them. Research is, above all, a dynamic process, where theory and practice constantly interact and inform each other. The pyramids model I have to show you (Figure 1) is closer to reality. Here you have fundamental research at the base, then, in the next layer, applied long-term or pre-competitive research, followed by applied short-term or competitive research, then developmental research which is getting more narrowly focused still, ending up with specific products or services. However, even this model doesn’t capture the continual interactivity.

Figure 1. **Research types**



In practice, the flow isn’t this neat or simple. As we all know, something we discover through fundamental research can have immediate practical effects. I’ve done research that I thought at the outset would be highly policy relevant but which in fact didn’t turn out to be policy relevant at all. And I’ve done other research purely out of intense personal interest that ended up having major policy impacts in Canada and even beyond.

My overall point is that talking or thinking about research in such black and white terms isn’t very productive. It creates artificial tensions between research domains – such as “hard” sciences (medical and natural sciences and engineering) vs. “soft” sciences (social sciences and humanities) – when what we really need is to appreciate how all avenues of discovery contribute to our collective power of knowing.

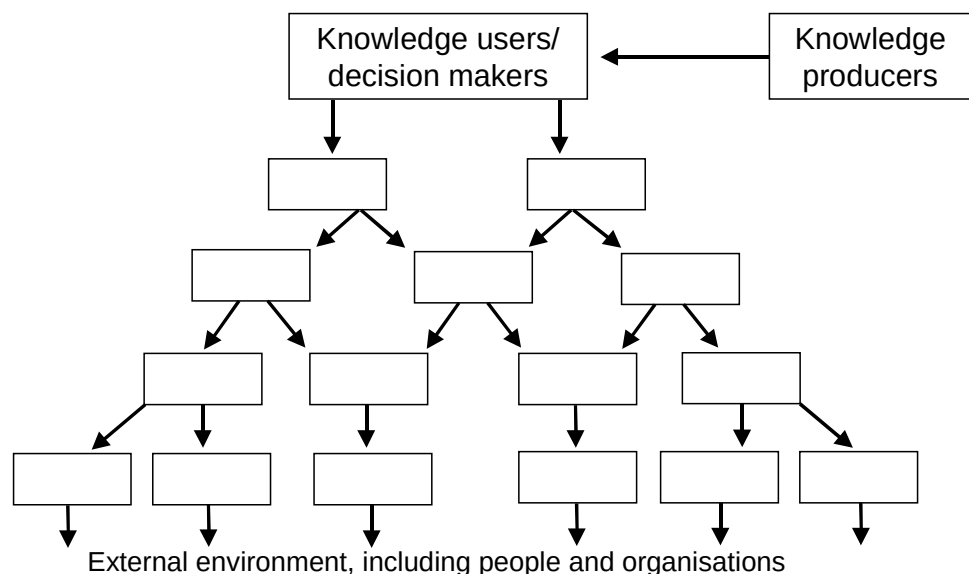
M&M No. 4: Traditionally, most research has been a solitary endeavour

You know, the traditional image we have is of a researcher toiling away by him- or herself, coming out of isolation every once in a while to share what he/she has found out. I guess there is truth to the Chinese proverb that says all life is lived individually. At a metaphysical level, it's certainly the case. But, beyond the reflective time to sort through their ideas or to puzzle over the embedded meaning of data, for example, researchers in the social sciences do not work alone. In preparing for this talk, I looked at an article published in *Nature* that outlined 62 major advances in the social sciences since 1900. And do you know what? Not a single one was a result of solitary research. In fact, 53 of those cited – or over 85% – were attributed to teams of three or more. As researchers, we are all engaged in a process that includes comparing, learning from the discoveries and reflections of other researchers, including those from before our own time. In a very fundamental way, research is, always has been – and always will be – a collective effort.

M&M No. 5: Knowledge transfer is a linear process

Some of it may be because of the limitations of language, but there has also been a tendency to talk about the flow of research knowledge as if it were a one-way, linear process. Figure 2 provides an illustration. According to this model, knowledge producers hand over research knowledge to the chief users or decision makers at the top of an organisation, and from there it filters down through the various internal levels and then outside. I suppose a certain amount of this may have gone on in business in the past or in “command and control” operations, but it doesn't fit what we see happening increasingly – and for the better, I think – today.

Figure 2. **Bi-polar model of knowledge use in a hierarchical organisation**



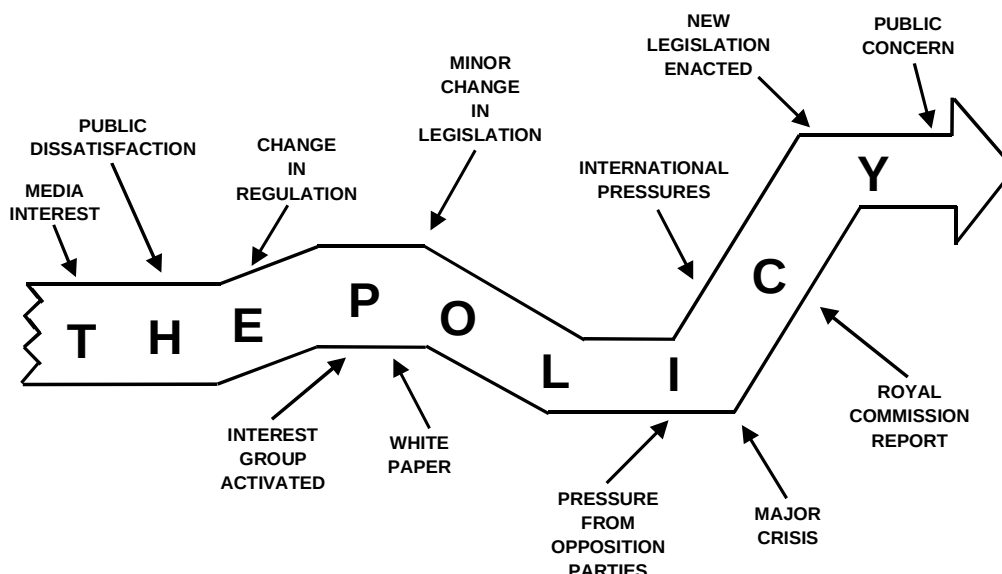
Source: Boggs, J.P. (1992), "Implicit Models of Social Knowledge Use", *Knowledge: Creation, Diffusion, Utilization*, 14(1), pp. 29-62, September. Adapted from Archibald (1970).

More and more, we're appreciating that research users are not just passive recipients of knowledge someone else has generated. Given their knowledge and experience in specific fields of practice, they can bring essential ingredients to the table as partners helping to plan and carry out really well defined research. Since circumstances can vary widely, there is no "one size fits all" model we can pull off the shelf. To be effective, the mode(s) of knowledge transfer or sharing – I'm not sure we've got the terminology right yet – have to take into account the needs, preferences and perspectives of everyone involved.

M&M No. 6: Policy-making is a logical, time delimited process

Like lots of other things, policy making is something that looks a lot simpler from a distance than it does when you get up close. As researchers, we're very aware of all the twists and turns that the research takes and of how no finding is ever the last word on anything. But unless we've been involved in it ourselves, it's easy to suppose that policy making is – or should be – a logical, finite undertaking in which you analyse a particular problem, look at your options, make a rational decision and then stick to it. Well, here's more what it actually looks like. As is shown in Figure 3, policy making is in fact a continuous and messy process. This doesn't describe the exact sequence in every case but it shows how the interactions between media coverage of an issue and public reaction can get pretty convoluted. The government may respond by changing a regulation, then a special interest group might take up the cause, so the government engages in further analysis via a white paper and so on. Even if the issue gets taken as far as the enacting of legislation, this often gets sets in motion another round of public debate – as we've seen happen recently in Canada concerning the issue of gun registration. In short, this myth is really a case of the grass looking greener from over the fence.

Figure 3. Policy making: A continuous and messy process...



Source: Kernaghan, K. and D. Siegel, *Public Administration in Canada*.

M&M No. 7: More policy research automatically means better policy

We're hearing more these days about the importance of evidence-based decision making and, in some quarters, the call for a lot more policy research. It's true that research is very often essential to understand what's happening in a given situation and to help zero in on the most promising ways of responding. However, it's not just a question of the quantity of research. For instance, the United States does approximately 25 times more research than Canada, but does this mean that the United States always has better policies than we do? I think that's highly debatable. To me, the key question is not simply one of how much research we should do but whether we're going about it in the right way. Do we have the right initiator and receptor capacities in both the research and the policy communities? Recognising the different perspectives and exigencies of each, how can we build better linkages between the two communities to facilitate the most appropriate research and the best possible policy decisions?

M&M No. 8: Social sciences training and research yield no tangible – i.e. economic – benefits

One of the myths that gets to me the most is that social sciences training and research may be very interesting but that, at the end of the day, they don't produce anything of any real value. Translation: they don't do anything for the economy. I find this bias especially odd in view of the significant number of business and other CEOs who hail from the social sciences. And we have hard evidence that proves this view to be unfounded. Our Council financed one of the best labour economists in Canada – a fellow by the name of Robert Allen at the University of British Columbia – to analyse data from Statistics Canada on employment trends for graduates in different disciplines. His study revealed that graduates in the social sciences were extremely marketable, landing good, well-paying jobs at the same or better rates than those in natural sciences and engineering. I won't take time to go into the details now but if you're interested, the full study is available on our SSHRC Web site (<http://www.sshrc.ca/english/resnews/pressreleases/allen99.html>).

Other examples: People in the software “game” industry tell me that there is great demand for humanities graduates in the high-tech industry where a mastery of myth and literary archetypes is fundamental for inventing games that sell. Furthermore, research done by Robert Putnam showed that one of the best indicators of how well regions in Italy would do economically was how much “social capital” they had developed over their history. He coined this term to refer to the degree of social engagement and trust within a community and found that it correlates to things like how involved people are in choral groups and other community activities. The experience of aboriginal communities in various countries corroborates this view; namely, that empowering them to build their social capital and take pride in their heritage appears to be a necessary precursor to successful economic development.

Some suggestions for re-inventing the social sciences

Now, I don't have any prescriptions for how to “re-invent” the social sciences, but SSHRC has been experimenting with new approaches in the form of pilot projects and, based on this experience, I've got seven suggestions to offer.

Suggestion One: Nurture serendipity or – as Kenneth Arrow once phrased it at a lunch meeting I was involved in – ***invest in “craziness”!*** Essentially, this means getting out of the ivory tower, taking risks, getting people from different backgrounds to rub shoulders together. This, in turn, can spark some interesting and creative tensions. A person who immediately comes to mind for me here is

Harold Coward, an accomplished Canadian researcher. He started off as a Sanskrit scholar but has become, among other things, a major player in numerous interdisciplinary projects – including large-scale collaborative research looking at the importance of ethics and traditional knowledge to sustainable resource management.

Nurturing serendipity also means finding ways to finance creativity. At SSHRC, we've been experimenting with a programme we call Research Development Initiatives, which includes competitive funding for three-week intensive Summer Institutes on researcher-identified issues. A new targeted theme we'll be launching on Rethinking Productivity grew out of ideas that were first discussed at one such event.

Suggestion Two: Continue moving from a cottage industry mode of research to a more intense collective mode of structuring the research environment, together with the development of collective research tools. The hard sciences have a tradition of making significant, high-profile resources – such as major laboratories and synchrotrons – available to their research teams. Why shouldn't we do the same? We can establish research institutes and buildings to give social science researchers a strong base of support and showcase what they're doing. We can systematically construct large data sets and ensure access to researchers working on various questions – the social sciences equivalent, I'd say, of building a synchrotron.

SSHRC's efforts in this direction include setting up (in partnership with Statistics Canada) the research data centres I mentioned earlier and collaborating with the National Archives of Canada on the establishment of a national data archive. Also, we have financed a large project in the humanities on 19th Century Women Writers of the British Isles. Among other things, the research team has developed new computer software that enables them to tag and analyse a whole range of variables concerning socio-economic circumstances of that time. Such new technologies are opening up a wealth of new opportunities. They are bringing us the capacity to search and analyse massive amounts of data not just in chronological terms, but also according to broader concepts, synonyms, opinions and attitudes about a particular issue, person or set of circumstances. We can only begin to imagine what new powers of analysis we may have down the road.

Suggestion Three: Encourage problem-focused, multidisciplinary research by research teams In making this suggestion, I recognise the essential need to maintain strong disciplinary foundations. While individual disciplines will continue to change and evolve, it seems clear that intensive disciplinary training will always be important for the development of good research scholars. However, it's increasingly apparent that the human behaviours and circumstances we're trying to grapple with don't fit neatly into disciplinary boxes. Focusing on a specific problem and assembling a team that can examine it from various perspectives is often the most productive way to go. And it's often at the boundaries of the disciplines that innovation occurs.

Here are some of the things I've come across in visits to Canadian universities. There's some amazing work going on at the Rogers Communication Centre at Ryerson Polytechnic University in Toronto. For instance, drawing on a mix of expertise from radio and TV arts, journalism, image arts (film, photography, new media) and computer science, they're investigating new ways of digitally storing and accessing music, images and other forms of data. The Eton Chair of Retailing at York University is drawing on researchers from economics, geography, commerce and other disciplines to analyse and predict many different aspects of commercial activity. They are looking into new ways of collecting detailed data (e.g. via satellite imaging instead of traditional surveys) and are exploring the potential of geomatics to help improve management practices through data visualisation.

SSHRC has been using various funding mechanisms to encourage problem-focused, multidisciplinary work. These have included:

- Targeted SSHRC programmes – for instance on Ageing (the first focused research in Canada on the broad social implications of demographic trends) and more recently on Social Cohesion, Challenges and Opportunities of a Knowledge-based Economy, Chairs in the Management of Technology.
- Women and Change – the last in a series of SSHRC programmes to support capacity-building for gender-focused research; recently phased out (after 15 years) but applicants now successfully competing in Standard Grants programme.
- SSHRC involvement in supporting Networks of Centres of Excellence (NCE) and in the creation of the new Canadian Institutes of Health Research (CIHR) – not all of which have been identified yet, but this illustration (Figure 4) gives an overview of the institutes initially proposed.

Figure 4. Initial institutes proposed for consideration by Governing Council of CIHR



* e.g. Ethics Office, Office of Women's Health.

** e.g. Executive Committee, Standing Committee(s) on the key sectors of health research.

Suggestion Four: Promote the involvement of the humanities disciplines in team and interdisciplinary research. As all of us who have tried it can verify, one of the key challenges of interdisciplinary work is bridging different methodologies and terminologies. Harold Coward (the Sanskrit scholar I mentioned earlier) argues that the use of metaphor is a highly effective way to communicate complex ideas or relationships and that this is something in which the humanities excel. I think he's probably right on both counts. In addition, the humanities offer perspectives that can be essential to issues-based research. For example, Dr. Coward and Dr. Rosemary Ommer, a historian, have had funding from SSHRC for major collaborative team research on how to promote better management of the fishing industry in Canadian coastal communities. Humanities expertise was critical to the team's ability to look into how cultural and community values shape decision making. Genome research is another area where humanists are needed, to focus on the various issues revolving around ethics.

Suggestion Five: Encourage the development of new research partnerships and ways of working. This means, above all, getting research producers to bond with users. It means getting them to really take advantage of each other's knowledge and expertise and collaborate throughout, from jointly defining the research needs right through to project completion. Recently, SSHRC launched a new programme – Community-University Research Alliances (CURA) – to encourage researchers to bond with their surrounding communities. The response was overwhelming – 175 applications in the first competition when we had only enough money, originally, to fund eight CURA. (We obtained extra money to enable supporting a total of 24 – still woefully inadequate to meet demand, but we're working hard to secure additional resources.) We're quite excited by the innovative nature of the projects currently underway. They range from work on alternative dispute resolution mechanisms – with researchers from law and other fields as well as mediation experts – to looking at how schools can use museum-based resources to enrich the teaching of Canadian history – with the help of education researchers, museums curators, and so on.

We've also been able to establish a number of joint initiatives with external funding partners. Three examples are the Metropolis project on Immigration (with a total of eight partner departments from the federal government), an initiative with Statistics Canada to fund data-training schools, and a research initiative with the National Cancer Institute on tobacco use.

In our experience, helping research producers to link up effectively with research users is a very good way to promote two-way knowledge transfer. Moreover, the non-academic partners are much more likely to apply the findings from projects they have participated in themselves, because they see the knowledge as being their own (vs. someone else's knowledge that has been passed on to them.).

Suggestion Six: Expand the peer-review process to engage in merit review. By merit review, I mean involving funding partners and the expertise of stakeholders outside the academic community in addition to those from within that community. At SSHRC, we've experimented with this approach on several occasions, primarily in targeted research areas, and find that it can be very effective way to identify the research that satisfies the need for both research excellence and relevance in a particular area.

Suggestion Seven – my last one and perhaps the most controversial: Kill the “bullshit”. Pardon me for being so blunt, but it's really the phrase which I think best covers it. This suggestion really has several sub-points, that I'll try to cover as succinctly as possible.

- The social sciences have to stop complaining – or as someone put it to me more bluntly just after I arrived in Ottawa, we have to stop “whining” about having to justify what we're doing. We have to let go of the “victim” mentality. The old rule used to be: “Publish or

perish”. The new rule is: “Go public or perish”. We’re spending public money and it’s completely legitimate for people to want to know what we’re accomplishing with it. We have to be able to tell them, in language they can understand, what we’re doing and why it matters.

- We have to end the “tradition” of denigrating our social science colleagues when we’re talking to others. Persisting in this habit makes us our own worst enemies. Let me illustrate. Along with the Presidents of the other granting councils, I sit on the Steering Committee for Canada’s Networks of Centres of Excellence programme and have been an observer at the selection committee meetings. When they’re looking at a proposal from a researcher in medicine, the selection committee member from medicine says that the applicant is sure to be a future candidate for a Nobel Prize (even if the member really can’t stand the person). The natural sciences and engineering member argues that the applicants from their fields are all future Stacey Award winners. But when it comes to looking at an applicant from our fields, the member representing the social sciences zeros in on everything that’s wrong with the candidate and the proposal. The other members of the committee naturally think that the social sciences person must be the best judge of what constitutes research excellence in those fields, so guess what? The social science proposal, even if it’s just as meritorious as those from the other fields, is the one that doesn’t get funded.
- We also have to move past the tendency to use unnecessarily obscure and convoluted writing and embrace the “virtues of clarity”. As a respected Canadian expert on polling recently pointed out, a lot of the failures of very good research can be attributed to the inability to communicate. We have to stop being afraid of “marketing” ourselves. This doesn’t mean turning ourselves into the equivalent of snake-oil salesmen. It means being able to use straightforward language to attract attention to what’s interesting and important about the things we’re discovering.

In a nutshell, the social sciences have to face the music of contemporary society and accept that, whether we like it or not, this society is preoccupied with economic and utilitarian concerns. That is not to say that we shouldn’t do what we can to change things. We can certainly be a large chorus of voices presenting other viewpoints with clarity and passion. But things will not change overnight. And in the meantime, we have to be able to cope successfully – *i.e.* get funding and do good work – in the world as it is.

Conclusion

I’d like to end now by reiterating a few main thoughts. Social science research is critical to advancing knowledge and to the public good. We are at an important juncture, both in society and in research. The re-energising economies of the West offer a window of opportunity to boost social science research funding to appropriate levels and granting councils are crucial players, both as catalysts and as champions to challenge and support the evolution of our disciplines. We need to reach out and connect more effectively with the broader society. We need to explode myths and correct misperceptions about the work we do and share with others the unique stories that social science research has to tell about human beings, their institutions and their societies. In short, we need to draw people into the excitement that we feel about the paths of discovery we’re on. I for one am very optimistic. With the right combination of determination and serendipity, I think we may find our way forward into a new Renaissance era.

Chapter 5

IDEAS, INTERESTS, INSTITUTIONS: THE CONTRIBUTION OF ACADEMIA TO THE REAL WORLD

by

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Introduction

In a recent paper entitled “Rethinking the Social Sciences”, Luk Van Langenhove lists the problems and difficulties that the social sciences face today, in particular their lack of unity. He identifies at least four main internal divisions which contribute to their weakness: disciplinary divisions; competing theoretical models; balkanisation resulting from interdisciplinarity; and, finally, dissenting views about which is the “right” methodology.

These questions are not specific to the social sciences: all sciences are confronted with similar debates and conflicts. However, the problem is more acute in the social sciences because there is never, or almost never, a decisive answer to the questions being posed. The so-called “laws” of social sciences, as opposed to what takes place in the “hard sciences”, can change or are susceptible to change due to modifications in the environment or in human behaviour. This relativity makes them appear inconsistent or unreliable and contributes to their bad reputation. Social sciences, more often than not, are regarded as a kind of intellectual luxury: interesting, possibly fascinating, but useless for practical purposes or for the needs of decision makers.

Only those social sciences that come close to hard sciences are recognised as useful tools for decision making. This has been the case, for instance, with economics where models based on the rationality of self-interest have gained recognition by the public, governments and bureaucrats. However, the ever-more abstract – and sometimes rather simplistic – character of the situations modelled by economists have served to raise doubts in some people’s minds as to the actual definition of economics as a social science.

Other social science disciplines are often regarded with contempt, for both good and bad reasons. Indeed, if non-academics are rightly annoyed by some of the sterile fights between opposite schools, they should nonetheless accept that scientific timing is quite different from policy timing. In general, policy makers need advice immediately and have a preference for clear-cut proposals or well-defined alternatives. They want to obtain a good understanding of the chain of events, of the causal linkages –

all things that social sciences can only partially provide. Quite often, the hard sciences find themselves in a similar situation, where they are unable to explain some phenomenon and/or to identify solutions to particular problems. This incapacity to solve some dramatic questions (ranging from cures for cancer to renewable energy) is not perceived as a failure of science in itself, but rather as a temporary stalemate in a continuous and cumulative march towards progress. At the other end of the spectrum, the weaker capacity of the social sciences to explain social reality and to suggest solutions is seen as a testimony of their failure. Contrary to the hard sciences, where there is a perception that progress results from competition, confrontation and falsification of hypotheses, and that there is a cumulative process of change, the social sciences appear to be victims of their own internal fights and contradictions. The price to be paid for these misgivings is high, not only in terms of status but also in terms of funding or, more important, in lack of communication and mutual understanding. Each side develops its own stereotypes, thus contributing to widening the gap between knowledge and decision making. These attitudes pose a two-fold risk: on the one hand, social scientists might cultivate and exacerbate an ivory-tower syndrome, losing track of reality and substituting science with ideology; on the other hand, policy makers might be tempted at best to consider social sciences and social scientists with a benign neglect, at worst to develop institutions using social sciences instruments and tools but which are exclusively preoccupied with short-term, practical, ad hoc solutions to the problems of the day.

Luckily, this bleak state of affairs is neither universal, stable or uniform. First, the status of social scientists might be higher in countries where government officials and policy makers are badly equipped to deal with social problems due to the poor quality of their bureaucracy. In such situations, scientists and academics tend to be highly respected and often become the functional substitutes of a failing administrative system. This was and remains the case in Italy, for instance, where social sciences play an important role in public life. (It has nothing to do, however, with the role of intellectuals in France who use their prestige to step into the political debate, often outside their own field of expertise.) Neither is the low profile of the social sciences a stable phenomenon. When social changes escape the usual frames of references and interpretative models, policy makers desperately search for new tools to interpret and possibly remedy situations whose meaning and directions escape their control. This hails the need for commissioned reports, the involvement of scientists in policy studies, white papers and other surveys.

Finally, the situation differs from one discipline or sub-discipline to another, according to the distance they enjoy *vis à vis* the policy-making world, the fashions of time, or even the actions of the key go-betweens who mediate between these two mutually suspicious worlds. For instance, law and economics are usually better regarded than psychology or psychoanalysis. However, such a perception may change during times of crisis (terrorist attacks, hijackings), when the more familiar tools of management fail to resolve the problem.

These rather sterile misunderstandings are not one-sided. Social scientists bear their own responsibility in this situation. The legitimate claim for independence and autonomy of the scientist must be defended and protected against any attempt by decision makers to control research activities, but it should not be used as an obstacle to evaluation or as a means to pursue irresponsible policies. The equally legitimate willingness to define and build up strong disciplines equipped with specific theoretical and methodological tools, should not transform itself into a battlefield where the fight is less about science than about corporatist interests or egoistic privileges. The need to adopt a language specific to the social sciences or their disciplines should not lead to more jargon than is necessary, as this makes it difficult to communicate with policy makers and with other social sciences.

There is no panacea to address these challenges, but rather the need for scientists and policy makers to be more aware of their mutual interdependence. Let us consider the classical steps of any

decision-making process. These can be identified in five successive phases: problem definition, agenda setting, decision, implementation, evaluation.

Social scientists have usually little to say or do during the two central phases, decision and implementation, except as external observers or analysts or when “the philosophers become kings,” *i.e.* when researchers decide, as sometimes happens, to abandon their position as analysts to become full actors in the process. However, social sciences may play a crucial role in the other phases of the decision-making process. Defining the problem is usually a key element in the successive framing of any policy. For instance, according to the diagnosis of the forest disease (air pollution or other reasons? Industrial or car emissions?, etc.), the content and *modus operandi* of the chosen policy may be quite different in its targets and modalities. Here, the social sciences can play a crucial role, not only because they produce expertise, but – and this is more delicate – because the way in which the problem is “framed” is critical. If social scientists are not involved in the construction process of this paradigm, they not only miss an opportunity but, through their silence or abstention, they may contribute to a mistaken definition of the problem (such as the misuse of demographic statistics in the debate on immigration). To become relevant for policy makers, a question has to be problematic. From this point of view, the availability of information and of qualitative and quantitative data, possibly collected in a systematic and comparative way, is crucial. Comparison is a fundamental incentive for policy entrepreneurs – but it is sometimes too easy to manipulate the data. Social sciences have a primary duty: to collect information and ensure that the methods of collection, aggregation and interpretation are not influenced by the fantasy or the whims of interested actors. This is certainly a difficult challenge which calls for independence, professionalism, institutional strength and continuity, international co-operation and co-ordination. There is no need to say that the social sciences and the institutions which match these conditions are few in the world and, more specifically, in Europe.

Since policy agenda setting depends largely on this preliminary definition, the social sciences should aim to contribute as much as possible to this exercise.

Interestingly enough, one of the most disputed divisions of labour (basic vs. applied research) does not make much sense seen from that perspective. Basic research is a necessity for establishing long-term and/or comparative studies which cannot be subjected to the diktat of day-to-day politics. This kind of research is apparently far removed from pressing social demands – but is often key to a proper assessment of problems. For instance, the crisis of the welfare state requires a deeper understanding than that provided by an analysis of past-year deficits. Only historical, longitudinal and comparative studies are able to provide the necessary depth of analysis.

Mutatis mutandis, one could apply to research the reasoning used by G. Majone in explaining “why democracies need non-majoritarian institutions”¹. In his plea in favour of independent regulatory agencies, Majone emphasises “the tension between the *pro-tempore* nature of democratic governance and the long-term commitments necessary to deal effectively with the environmental risk and other regulatory issues of contemporary society [...]. At any rate, contemporary democracies need politically independent institutions not only to protect basic constitutional values but also at the mundane level of policy making. By definition, the political agenda is under the pressure of short-term considerations and in particular the politician’s desire to be re-elected while many policies can be properly addressed and set up only by introducing long-term perspectives.” Social scientists who, by construction, do not face the same type of constraints can provide knowledge and expertise based on long-term planning.

Nonetheless, it would be improper to confine the social sciences to the realm of basic and long-term research and to disregard their contribution to more short-term and applied research. Not only because in the end long-term studies have to be translated into real policies and concrete terms, but

also because policy options are fixed according to certain points of reference, to particular paradigms. These “policy frames” are constructed by many actors: politicians, bureaucrats, the media and opinion leaders, interest groups, who all choose to construct the problem according to their specific interests. The winning coalition would be one capable of convincing the elites or public opinion that the problem has to be defined according to their proposals. A young French political scientist, Yves Surel, has nicely de-constructed such an operation by looking at the French policy of fixing the price of books. By proclaiming that “le livre n’est pas un produit comme les autres”, the main interest actors succeeded in convincing the government, the Parliament and most of the media that price competition should not apply to the sale of books. Social scientists were invited to produce studies based on data rather than on slogans but their contribution came too late to allow a serious debate on the matter. Price-fixing for books was adopted as the dominant paradigm and the only acceptable solution to the problem.

This example is a clear illustration of the failure of social scientists to make a substantial contribution to policy making, not so much due to a lack of competence but rather because they stepped into the debate too late. In other words, knowledge is not enough; it has to be mobilised and used at the right time or become buried on a dusty shelf.

The contribution of social sciences is not only important at the early stage of decision making, it can be equally crucial in its concluding phase – once the policy is in place, *i.e.* during evaluation. Evaluation is a bit like Mr. Jourdain’s prose: everybody does it without noticing it. By renewing budget appropriations without discussion or, on the contrary, by making budget cuts, policy makers practice *de facto* policy “evaluation”. Most of the time, this evaluation is based on financial constraints (across-the-board cuts), political preferences, or on a clientele-based or ideological bias. Over the past few years, however, evaluation has taken a more systematic and professional direction. Not all policies, but at least some of them, are carefully analysed by *ad hoc* groups of experts according to pre-defined criteria and methods. Again, the role of the social sciences can be decisive at this stage, either by offering the methodological tools and instruments for a systematic and professional assessment or by providing independent experts chosen from outside the policy field or the political arena.

Undoubtedly, the role of the social sciences and social scientists is – or could be – considerable. Unfortunately, their contribution is more often based on the good will of individuals than on systematic co-operation between research institutions and the policy world. The realm of social sciences has remained artificially split by an absurd division of labour: basic research for “serious” academic institutions, applied research for think tanks or a few dynamic academic entrepreneurs.

As I have tried to demonstrate, this division is not only artificial but counterproductive. Policy makers do need long-term research – but academics cannot work only for the next Millennium. In setting up the Robert Schuman Centre in 1993, the European University Institute wanted to launch an applied research centre to overcome the gap between its research activities and the “real” world. As I was responsible for launching this new institution, I argued that, in order to combine the legitimacy of a serious academic institution with the utility of a policy-oriented body, the new Centre should combine basic and applied research. In practice, this was translated by the definition of a research programme and the involvement of inside and outside experts in the chosen fields. In other words, the research agenda was chosen, and not imposed by external authorities or determined by financial incentives. On the other hand, it was made clear from the outset that a key value of the Centre would be *availability*. The nascent Centre would not be able to face any kind of request but would always be ready to advise policy makers in its field of expertise. One example might illustrate this point. When the Centre was launched in 1993-94, it was decided to establish a programme on the working and evolution of the institutions of the European Union. Many theoretical or empirical papers were

produced, a number of academic seminars and conferences organised. Expertise was accumulated from lawyers, historians and political scientists. Given the visibility acquired by the programme both within and outside the academic world, it was natural that the Schuman Centre should be invited by the European Parliament to produce its first report on the reform of the European Treaties,² then to elaborate a proposal on the feasibility of an European Constitution and, finally, an official report on the same topic at the request of the European Commission. In parallel, more theoretical and academic research was going on, stimulating and fertilising the applied work which still has more legal, political and technical constraints to face.

This is only an illustration. The same type of strategy has also been applied to other fields. Needless to say, that it is not always an easy task. Such a strategy has to rely on mutual confidence, stable commitments and dedication of people since this ambivalence requires more time, more diversification, more responsibility. It also needs to maintain a delicate balance between self-selection of research areas, on the one hand, and topics suggested by the “market”, on the other. Academic and research institutions should avoid falling out of the pan into the fire by becoming fully demand-driven and putting aside many of their own values and ethics. Once again, it is not an easy task to strike a balance between these two needs. However, experience has shown that they are more complementary than conflictual – provided that each side approaches the problem with sensitivity, good will and determination.

NOTES

1. European University Institute Working Paper, RSC No. 96/57.
2. *A Basic Treaty for the European Union*, report submitted on 15 May 2000 to Romano Prodi, President of the European Commission, Robert Schuman Centre for Advanced Studies, EUI, May 2000.

Chapter 6

EVIDENCE-BASED POLICY: TAKING THE VISION FORWARD

by

Ron Amann

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Introduction

We are all familiar with the intense competition which businesses now face, and with the often painful organisational changes which must be made in order to confront these new challenges. Customers are much more choosy and assertive. As a result, businesses need to be more “intelligent”, creative and fleet of foot. Traditional hierarchies have given way to new kinds of networking, and against this background the most far-sighted companies have begun to see the management of knowledge as a fundamental source of their competitiveness. To open up their companies and make them more responsive to change, senior managers have sought to embed the sharing of knowledge as a core behaviour, which they formally encourage and reward.

These economic relationships have a political equivalent and they stem from many of the same underlying causes. For “choosy and assertive customers” read “more articulate and less deferential citizens”. For “business decisions” read “government policy”.

One doesn’t need to swallow the whole post-modernist thesis to recognise that there have been huge social changes in Britain over the past 20 years or so: in traditional occupations and the communities which were built up around them, in the structure of households, and in the permanency of employment. So great have the changes been that the statistical categories which government uses to analyse social class in Britain have had to be fundamentally redefined. All this has had a major impact on social and political attitudes. Individuals no longer “inherit” a set of well-established social roles but, instead, are faced with a wide range of choices. Political attitudes and loyalties, too, are no longer “inherited” to anything like the extent that they once were. It is not at all surprising, therefore, that the individual citizen is more focused on particular issues rather than traditional party loyalties, is more demanding about the quality of service received, and is less deferential to authority. Government faces a much more difficult job in satisfying its “customers”.

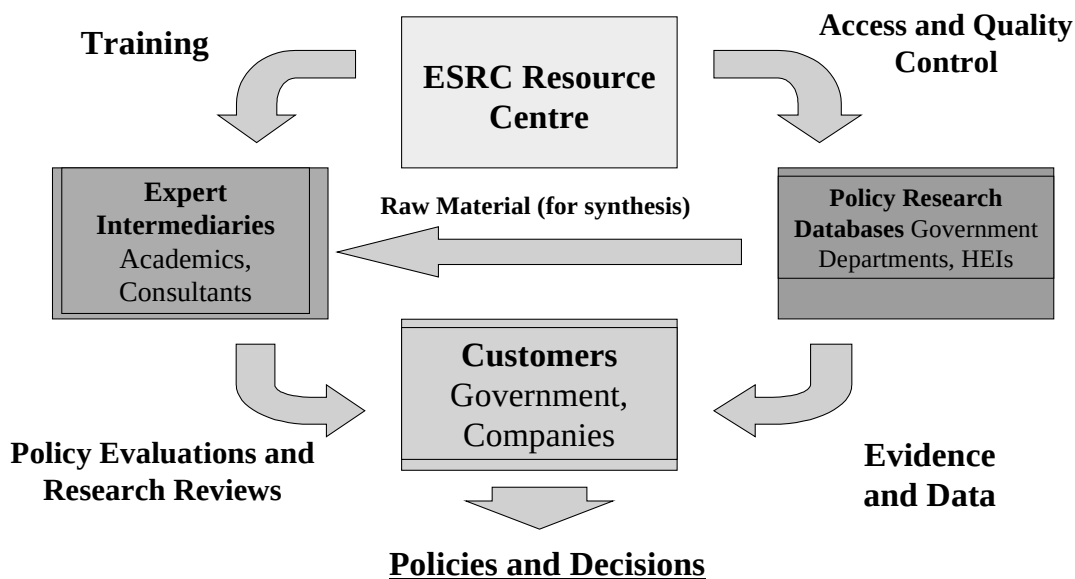
The case for evidence-based policy

Ironically, the reforms in public management of the past two decades, though beneficial in their own terms, have not made it any easier to meet these new and complex challenges. The tighter focus of individual departments on their own objectives and the greater separation of the policy-making function from that of policy delivery have done little to address the longstanding problem of “silo mentalities” across Whitehall. A more fragmented government machine faces a more fragmented society.

The *Modernising Government* White Paper quite rightly picks this up as a central issue. Rather like a major company in relation to a very complex customer base, government needs to have an over-the-horizon capacity to anticipate emerging trends, to make sense of the swirling patterns of current demand and to think and act holistically. In short, policy making needs to be “joined up” and evidence based.

To an extent, government has always used research evidence and one could cite particular examples of good practice in policy making (in areas such as youth crime and employment, for example) where departments have drawn extensively upon their own knowledge and that of outside experts. Distinguished academic specialists undoubtedly have an important role to play, but over-reliance on them can bring dangers since, with the best will in the world, what they provide is one particular interpretation of the available evidence, albeit a very well informed one. In the area of economic and social research, in particular, many “cuts” of the evidence are possible. Is a more systematic approach available?

The new knowledge environment



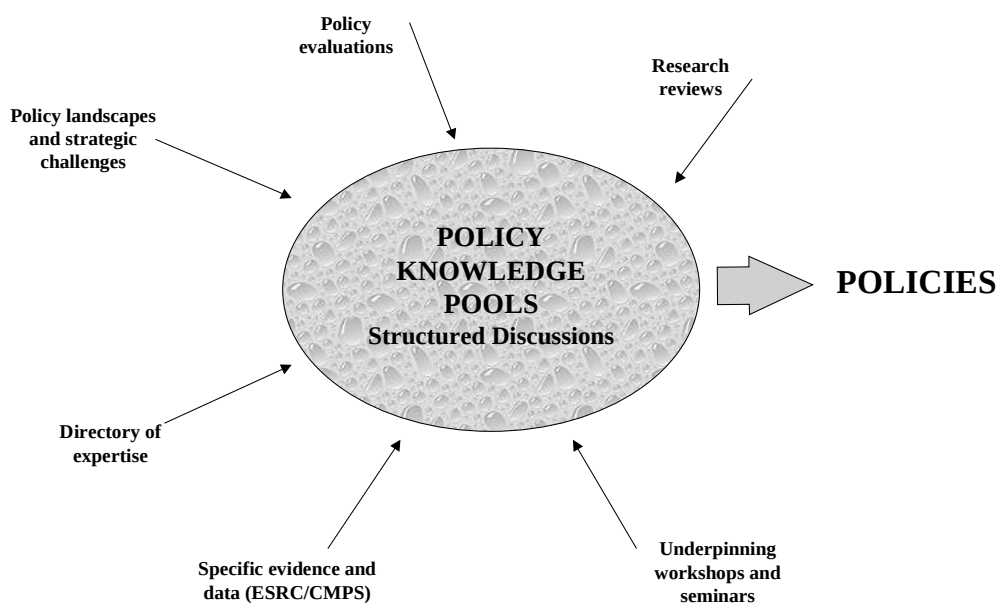
“Evidence-based medicine” provides a possible model. Here, under the Cochrane Collaboration with its nerve centre in Oxford, quality-controlled clinical trial data from around the world are brought together, classified by different areas of clinical practice and used as a basis for regularly updated reviews of research. These reviews in their turn are used in the design of new treatments and protocols. This is obviously a much more comprehensive and systematic approach than one based on advice from individual experts since it provides a structured access to the original sources of evidence.

Clearly, there is no easy “read across” from medical research to social and economic research. Relatively little economic and social research is in the form of randomised controlled trials and therefore quality control is much less straightforward. Instead, there are a large number of explanatory variables; complex causal relationships are typical. These problems are not insuperable, however, and the Economic and Social Research Council (ESRC) has recently taken a decision to create a national Resource Centre for Evidence-based Policy: the first of its kind in the world. The Centre will try to do for the dissemination of economic and social research evidence what the Cochrane Centre has achieved in the medical sphere. It will represent a major new resource for policy makers. Some government departments, notably the Department for Education and Employment, are assembling their own research databases which will complement overall national provision. How can government respond to these opportunities?

New approaches to policy making within government

The Centre for Management and Policy Studies (CMPS), created in June 1999, has a major responsibility for developing new approaches to policy making across government, taking advantage of the rich sources of evidence which will soon become available and making use of the latest technologies. It will seek to achieve an impact not just in an arm’s length way, through developing models of best practice, but through strategic intervention in close partnership with departments.

The governmental interface



This will obviously have to be done in a careful step-by-step way, but the main elements of the overall approach are now becoming clear:

- The creation of high-quality interactive Web sites built around key policy developments (“knowledge pools”) which facilitate cross-departmental participation and into which quality-controlled research evidence is drawn from inside and outside government.
- A Directory of Expertise which identifies individuals who can make an informed contribution to policy discussion and development. This would provide access to individuals who have accumulated past experience and expertise and is not the same thing as an organisation chart of current posts across Whitehall.
- A strategically positioned CMPS Resource Centre which would link with the government library and research and analytical information network, and draw on research evidence from the wider research community (including, of course, the new ESRC Centre when it comes on stream).
- The development of an “architecture” for the government intranet which would support greatly enhanced knowledge sharing across departmental boundaries: in particular, providing user-friendly keyword access to departmental documentation, reports, commissioned reviews of research and policy evaluations.
- A direct link to CMPS’s strategic training provision for the Civil Service, which will make possible the effective dissemination of new thinking.

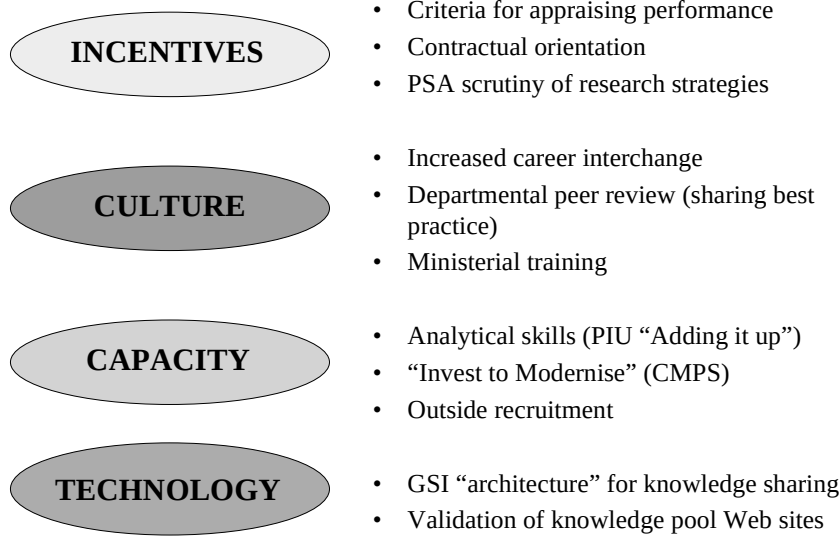
These are the essential building blocks of a new knowledge management system for government. The experience of major companies who have successfully introduced systems like this underlines the importance of reinforcing “virtual” discussions with real ones. Bringing together policy makers from across Whitehall with leading outside specialists in a regular series of policy workshops and seminars will be another important feature of CMPS’s work.

Some wider implications for the modernisation of the civil service

These prospective developments sit well with other key objectives set out in the *Modernising Government* White Paper. In particular, they chime in with the vision of a future civil service which is outward-looking, provides opportunities for a wide circle of staff to take part in interesting and high-quality work, and makes the fullest use of professional specialisms.

The experience of major companies such as BP Amoco also teaches us, however, that the movement towards these desirable new types of behaviour needs to be underpinned by other measures, designed to bring about parallel changes in organisational incentives and culture. For each individual member of staff, the new values need to be built into the system of appraisal and performance management. At the “commanding heights” of government, the new programme of development for ministers and senior officials, organised by CMPS, is beginning to promote a more corporate outlook which cuts across the old policy silos. Of course, these are still very early days but the first signs are encouraging.

Some key issues



Evidence-based policy making and joined-up thinking require a wide range of new partnerships for government, both internal and external. Information should not flow only in one direction. In order to be sustainable, evidence-based policy entails a real meeting of minds and the development of mutual trust. If this were absent, the academic community, in particular, would lose interest and the commitment of its members to engage with policy makers would weaken.

Implications and advantages

Sound and coherent policy

Streamlining impact assessment

Maintaining unity of civil service in devolved environment

Broad participation: exploiting creativity and diversity

Greater transparency and public confidence

Securing prime policy advice role of civil service

The twin driving forces of the *Modernising Government* agenda, on the one hand, and the new sources of research evidence, on the other, provide a unique opportunity for Britain to take a lead in developing a new approach to knowledge management in government, building on the best available experience in the private and public sectors.

Chapter 7

PARADOXES OF SCIENTIFIC ADVICE TO POLITICS

by

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An illusion lost

Although the public controversy over contested technologies, ranging from nuclear power to biotechnology, has been going on for some time, the profound impact it has had on the relationship between politics and science became apparent to the general public only when the debates between experts and politicians began to be widely publicised in the media.

Several factors became visible which contradicted the simpler concepts of scientific expertise and policy making:

- The involvement of experts in political controversy, exemplified by their dissenting views in public hearings or written testimony.
- The legitimating function of scientific knowledge in the political arena.
- Conversely, the de-legitimizing function of scientific knowledge, publication of which threatened to mobilise the public against powerful economic and political interests.
- The vulnerability of politicians and parties which relied on scientific knowledge as a political resource.

These phenomena are interrelated and reinforce each other.

The reactions of politicians and scientists, first to nuclear accidents and later to the perceived dangers of other technologies, reflect strongly held beliefs about the nature of scientific knowledge, of policy making, and of the combination of the two. These beliefs prove to be an illusion. Scientists

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have long been an accustomed sight in high government circles and few would stop to wonder whether this has always been the case. Fewer still would remember that this was considered a dangerous liaison as recently as 50 years ago. At that time, the most pressing issue was the unaccountable, and thus illegitimate, influence of scientific experts in democratic governments.

Within the relatively short time span of roughly 50 years, we have witnessed both the establishment of scientific advice to governments on a large scale and, at the same time, a fundamental change in the perception of science by observers of the new relationship. This is not just an academic issue: the changes that have occurred in the conceptual apparatus and in our perceptions of science are themselves indicative of the process under investigation.¹

Needless to say, a multitude of advisory committees, staff, ad hoc experts and research reports serve to provide the requisite knowledge for political decisions, to support decisions by reference to scientific evidence or to demonstrate to the public that such decisions are in agreement with the state of the art in science (Murswieck, 1993; 1994). The commissioned production of knowledge is now one of the central activities of governments and takes place on all levels, from the top down to subordinate departments in ministries and in parliamentary committees (Peters and Barker, 1993, pp. 1-19, 7). Regardless of differences in the use of scientific knowledge, some common patterns emerge which I will focus on in the following. My interest is in the use of *scientific* knowledge in resolving problems with a scientific component and/or in legitimating the respective decisions (this excludes general policy advice as a problem of communication in governments).

The expansion of the number and kinds of policy fields – itself an expression of the scientification of policy making – has led to a new complexity in the relationship between science and politics and has changed the concept of science. The demand for scientific knowledge in politics does not follow the logic of disciplines. Typically, therefore, questions are being translated into the language of disciplines: they are rephrased and negotiated between scientists and policy makers. Another issue is the choice of disciplinary expertise to which questions are put. Questions may remain unanswered or are answered on the basis of a selection of stocks of knowledge that policy makers are not even aware of. Thus, whether an environmental problem is considered as an issue of individual behavioural change or as an economic cost-benefit calculation makes all the difference. Psychologists will not yield the same answers as economists – and the choice of experts may determine the nature of the advice received. In this process, science is not a fixed entity. The communication between the political and the science systems is one between different rationalities and therefore cannot be considered as unproblematic.

Special interests feature in a number of paradoxes that emerge from changes in the relationship between science and politics:

- A first paradox is the following. By the time that scientific expertise in government has become a ubiquitous feature, the initial concerns about the illegitimate influence of scientific experts have vanished almost completely. What, then, has happened to the original concerns about the accountability of experts? The thesis is that the crucial change which has occurred is the general accessibility, in principle, and factual use of scientific expertise by all groups along the political spectrum. This “democratisation” of expert knowledge has calmed the fears that experts would undermine the democratic mandate.² Thus, the demise of the elite status of scientists (which previously gave some justification to the concerns) goes hand in hand with the democratisation of knowledge in the political arena.
- From this emerges a second paradox. Given the legitimating function of (authoritative scientific) knowledge in politics, the general accessibility of that knowledge has led to a

competition for expertise which intensifies, rather than alleviates, controversies in policy making.

- Finally, a third paradox, or rather a surprising observation, is that in spite of the loss of authority of experts and, thus, of their legitimating value, the arrangement remains in place. We observe specific strategies to cope with the problem of the deterioration of the authority of scientific advice, on the part of both governments and science. However, these strategies are ineffective. In view of this, the institutional interface between science and politics, *i.e.* the advisory mechanisms, becomes a prime site for research.

I will first analyse the causes and consequences of the stated paradoxes and then conclude with observations on the future of the science-politics relation.

Privileged knowledge as a political resource – the recursive model

Although sociologists of science have called them into question since an early stage, the two unilinear models of science in policy making to some extent still dominate perceptions among policy makers and advisors alike.³ This is all the more surprising as the two models represent the two sides of the legitimization dilemma with which policy makers and their experts are confronted in modern mass democracies. In principle, decisionist policy making suffers from a deficit of rationality, whereas technocratic decisions suffer from the lack of legitimating public consent. Current democracies operate on the basis of “two circuits of legitimation of public decisions” (Roqueplo, 1995, pp. 175-182, 186; Ezrahi, 1990). Decisions have to be *rational* in light of existing knowledge and have to be made by representatives of *delegated* power. The legitimating authority for the former is science which brings experts into government, for the latter it is public consent which is normally obtained in elections.

At least three basic assumptions underlying the technocratic and decisionist models do not stand up to empirical test: *i*) the linear sequence of (political) problem definition, (expert) advice and (political) decision; *ii*) the value freedom of scientific knowledge; and *iii*) the disinterestedness or political neutrality of scientists.

If, as Jasanoff observes, neither the technocratic notion of the separation of “truth” from power can be upheld, nor the democratic or decisionist model carry sufficient legitimacy without support from science, this calls for a new conceptualisation of the relationship between science and technology. The model of scientific advice to politics which exemplifies these interdependent processes is close, though not identical, to that described by Habermas as the pragmatist model. In contrast to Habermas’ model, the new model is based on empirical evidence rather than on philosophical reasoning. The following critique of these assumptions suggests that two interdependent processes best describe and explain the constellation in question: the scientification of politics goes hand in hand with the politicisation of science (Weingart, 1982; 1983).

As to the first assumption, detailed studies of decision-making processes show that scientists take part in or have varying degrees of influence on the formulation of the problems put to them. The degree of that influence depends, among other things, on the nature of the problem. At the beginning of the chain, *i.e.* “problem perception, expert advice and political decision”, not only interests and values, but also *knowledge*, play a crucial role. The scientification of politics is evidenced by the fact that many issues on the political agenda are a product of perception through science. For example, the issue of environmental protection was put on the political agenda when scientific knowledge indicated that DDT had accumulated in the food chain (Van den Daele *et al.*, 1979). The problem of ozone

depletion became an issue of international negotiation and agreement only after two scientists, Molina and Rowland, had advanced the hypothesis that CFCs played a crucial role in the destruction of the ozone layer.⁴ The same is true for a host of other issues. In fact, the discourse on *risk*, which since the mid-1970s has been conspicuously tied to key technologies, is in large measure driven by research probing into potential dangers before the background of expectations of certainty (Wiedemann, 1993, pp. 43-67, 57; Weingart, 1991, pp. 5-17, 14). In other words, science increasingly plays a role in defining the problems about which it is then called to give advice once these problems are placed on the political agenda. Science is one actor among many in the political system and takes part in setting the political agenda, either as an interested party or because other actors are interested in the pronouncements of science, *e.g.* the media.

The second assumption of the advisory models, that of value freedom of scientific knowledge, *i.e.* the assumption that scientific fact and political values can be clearly distinguished, is also untenable. There is an obvious connection between a positivist concept of science and a decisionist model of scientific advice in politics. According to this view, “certain” knowledge is brought to bear on the choice of means to the attainment of previously chosen ends. Thus, earlier discussions about the role of science in politics focused on its instrumental function only, *i.e.* its role to provide reliable answers to problems.⁵ But this very utility of scientific expertise makes it an inherently desirable commodity in political decision making. At the very moment scientific experts were admitted to the councils of governments for their instrumental role, they inadvertently assumed a potential legitimating function as well.

Today this seems almost a truism but, in fact, the legitimating role of science in politics is a fairly recent phenomenon, having appeared systematically only with the advent of modern mass democracies *and* a general recognition of the instrumental value of scientific knowledge. Consequently, it is now commonly accepted that different functions of scientific expertise can be distinguished. Boehmer-Christiansen (1995) lists ten different functions, among them: legitimacy, persuasion, delaying or avoiding action, justification for unpopular policies, arbitrating disputes, and clarification of conflicting interests. These functions elucidate the complexity of the relationship between experts and policy makers at the interface between two systems with their diverging logics of operation. However, on a higher level of abstraction all these functions can be subsumed under two basic ones: *instrumental* and *legitimizing*.⁶

The legitimating function is particularly pronounced in debates over issues with a strong scientific-technical content. The protracted debate over the safety and economic feasibility of nuclear power revealed for the first time to the public that scientific experts were engaged to support partial positions of governments and interested industries. As this happened, it also became evident that experts disagreed along the lines of the adversaries in the controversy. The public became witness to specialised academic debates, and to the fact that scientific knowledge could be uncertain and controversial even among experts. Although the United States was to lead in this development, it soon spread to Europe where, initially in Germany, it triggered the emergence of a “green movement” and ultimately of a “Green Party” that became a political force to stay.⁷

Since then, a multitude of scientific-technical issues has captured public attention: the safety of recombinant DNA; the ethics of reproductive technologies; the application of biotechnology in agriculture; the ethical, political and economic implications of sequencing the human genome; the depletion of the ozone layer; the implications of CO₂ emissions for anthropogenic climate change; the transferability of mad cow disease (BSE) to humans; and other less visible ones. In all these controversies, it has become common practice for the adversarial parties, be they governmental or non-governmental groups, to engage scientific experts to present evidence in support of their respective views.

However, if scientific knowledge can be used to legitimate different political positions and decisions, it is obviously not the one-dimensional, “hard” and objective truth leading to a single specific solution. Scientific knowledge cannot be separated as neatly from value judgements as both the decisionist and the technocratic models of advice suggest. The relationship between knowledge and decision making is obviously much more complex: it involves issues such as how problems are framed, which knowledge can be mustered, the stage of certainty, *i.e.* the degree of consensus over knowledge, the ways in which it can be interpreted, the number of answers it provides to the problem posed, and how that knowledge relates to social values and political interests.

If scientific knowledge is linked in any way to “interests” (in policy making), it is evaluated as supportive, contradictory or even dangerous. Knowledge inevitably comes under these evaluative verdicts once it enters the public arena and is considered politically relevant. This is, again, an aspect of the politicisation of science which has become inseparable from the scientification of politics.

The third assumption implied in the decisionist and technocratic models, *i.e.* that scientists remain disinterested in the advisory process and only convey objective knowledge in pure form, is a myth. This is well documented by the many instances in which scientific experts have taken part on opposing sides in controversies in which they had a role as advisors. Sociologists of science have known this for a long time, and, though often by implication, government agencies also acknowledge this observation.⁸ The “interest” of scientists can take different forms, either as advocacy for one position in a controversy or as self-interest in favour of the research community to which the scientist belongs.

To cite the “ozone debate” as just one example, immediately after publication of the Molina/Rowland hypothesis, two coalitions formed, one favouring rapid regulation of CFCs (scientists, environmentalists, consumers, politicians), the other opposing such regulation (CFC producers and consumers, chemical industry lobby groups, scientists and politicians). The core of the proponents of regulation were the few scientists who had published the crucial reports. They became spokesmen and activists on behalf of their convictions even before they could prove their hypotheses. At least after 1986, German scientists also openly took position in the media in favour of regulation. Their opponents among the scientists were not a homogeneous group and their interests for opposing rapid political action on CFCs were diverse. Some downplayed the danger in order to receive research grants to study the problem; others were paid by the CFC producers. When the controversy started, their opposition was equally unfounded by scientific data. The ozone debate, among others, demonstrated the role of scientists as political actors, regardless of the differences in political systems or motives or interests.

Another aspect of this politicisation is the way in which scientific experts are recruited into their advisory roles. The public controversies point to the most visible incidents of the legitimating function of science in policy making. It is these that led Edward Shils (1987, pp. 85-202, 201) to comment: “Advisors are too frequently chosen not so much because the legislators and officials want advice as because they want apparently authoritative support for the policies they propose to follow. It is obvious that in complying with these desires, the legislators and officials are in collusion with the scientists to exploit the prestige that scientists have acquired for objectivity and disinterestedness.”

This is obvious in the German system, which is more corporatist than the US system. Scientists recruited onto the so-called *Enquête* commissions (set up by Parliament) are selected in proportion to the political parties’ share in parliament and, of course, by their choice. In the commissions, they sit together with politicians – thus binding them to whatever compromises are struck. The danger is that their advice may be diluted. The advantage is that, in general, once recommendations are formulated by the commissions, they are translated more directly into political decisions.⁹ This arrangement in itself is a sign of the politicisation of science.

The crucial point about the politicisation of the scientists is the fact that from the outside their positions in a controversy are identifiable and determined by their politics rather than by the available knowledge. Internally, this is inescapable. Through the involvement of the scientific expert in the decision-making process, he inevitably assumes a political role. Or, as Roqueplo put it: "What transforms scientific knowledge into an expert appraisal is its inscription within the dynamics of decision making. Yet this inscription, at least in the case of scientifically and politically complex questions, immediately leads the scientist to express opinions or convictions which (however scientifically founded) cannot in any way be identified with knowledge in the strict sense which science generally affords this term." (Roqueplo, 1995, p. 176). It is a *systematic* result of this coupling rather than the idiosyncratic behaviour of individuals that "experts often fall prey to the temptation to oversell their expertise to provide recommendations far beyond their realm of knowledge" (Renn, 1995, p. 149).

From the above, it should be evident that the "simple models" of scientific advice – the decisionist or democratic and the technocratic models – were flawed from the beginning because of naive views of the nature of scientific knowledge, of scientists' behaviour and, in view of the actual operation of existing institutional arrangements, of scientific advice to politics. On account of the agenda-setting role of scientists alone, the linear conception of the advisory process has to be replaced by a *recursive model*. Instead of the linear chain of "problem perception, expert advice, political decision", the process has to be modelled as a recursive loop. The model, thus, entails the following stages: *i*) the perception of the problem may come either from the scientific community or from policy makers; *ii*) in the political process, it is transformed according to political criteria of relevance; *iii*) as a political programme funding research for further clarification of the initial problem, it is handed back to the scientific community; and *iv*) the scientific community, in turn, executes the pertinent research whose results become the basis for continuous adaptation of the initial problem perception.¹⁰

This is an idealised reconstruction which means that the different stages are not necessarily neatly separated either institutionally or temporally. But, even though this model is drawn from studies of a particular class of advisory processes, namely those which entail policy for science issues, *i.e.* the formulation and implementation of funding programmes for policy-oriented research, the findings are in remarkable accordance with Jasanoff's studies of the advisory processes in the American regulatory agencies (Jasanoff, 1990, p. 234). The recursive nature of the relation between science and politics as exemplified in the case studies on which the model was based underscores the scientification of politics.

The first paradox is thus resolved. The initial concerns about the accountability of experts disappear *because* access to scientific advice has become democratised and the resulting relation of science and policy making appears as recursive and reciprocal rather than linear. However, now another paradox emerges.

The inflationary use of scientific expertise – the democratisation of privileged knowledge

The legitimating function of scientific knowledge in politics as well as the political agenda-setting role of scientists are the main instances which indicate the reciprocity of the scientification of politics and the politicisation of science. These terms denote a dynamic link, however, which is the key to understanding the role of science in present-day politics and some features not normally associated with it. Speaking of, as has become fashionable, a "blurring of the boundaries" or of "hybridisation" is misleading, however, as it incorrectly suggests that the functional differentiation between science and politics disappears. The novel aspect of the use of scientific expertise is the close

coupling of science and politics. This coupling is dynamic in the sense that it is driven from both sides to become ever closer. With this, another paradoxical development emerges.

The legitimating function of scientific knowledge, once discovered, has initiated a competition among political actors for the most recent research results. In regulatory practice, this mechanism was institutionalised some time ago. This is highlighted in regulatory practice which in Germany is proceduralised on the basis of the formula “according to the state of current knowledge in science and technology” (*“nach Stand von Wissenschaft und Technik”*). This means that, in all cases where regulatory agencies and ultimately courts, *i.e.* judges, have to decide on the release of new pharmaceuticals or the operation of new technologies such as nuclear power plants, the decision is based not on normative criteria derived from legal provisions and interpreted by judges but on the pronouncements of scientific experts. The administrative courts in whose jurisdiction these decisions fall have thus, in principle, deferred a large part of the responsibility for these decisions to the respective communities of specialists even though the actual decision rests with the judges. Obviously, the crucial issue lies in who is justified to pass judgement on “the state of science and technology”, and what counts as such in cases where the judgement is conflicting (Hagenah, 1986; 1995).

With the development of nuclear power technology, the arrangement between the legal system and science has changed significantly in several respects. The safety issues connected with that technology have become too complex for courts to judge on their own by simply referring to the textbook literature. Complexity refers, in this case, to the fact that technologies are implemented at a stage when research about their safety, health and environmental impacts is still ongoing and no fixed and consensual standards have been formulated. In fact, this quasi-experimental implementation of new technologies with the implication of unknown risks has become a more common pattern. This has led to a marked increase in the number of experts admitted to and called upon by administrations, and eventually the courts; an observation first made with respect to the regulation of nuclear power but which is probably generalisable to other areas of regulatory practice.¹¹

The same trend is reflected in the emergence of a sizeable infrastructure of expert commissions [*e.g.* reactor safety commission (RSK), radiation protection commission (SSK), etc.], which are supposed to advise the government and monitor research for that purpose.¹² The manifest function of these commissions is to deal with the risks of the technologies they are set up to study. Expertise is used instrumentally. However, the latent function is to absorb uncertainty, *i.e.* to use scientific expertise for legitimating purposes (Krücken, 1996, 179ff., 208f).

The seeming paradox, however, is that the intensified use of scientific expertise has not increased the degree of certainty of judges, administrators and policy makers; on the contrary, it makes them witnesses of the ongoing debates among scientific experts and forces them to choose between conflicting sets of advice. To put it more concisely, the competition for and inherently inflationary use of scientific advice for legitimating (and even instrumental) purposes is self-destructive and de-legitimizing. The paradox arises because, in principle, the competition for the latest, and therefore supposedly most compelling scientific knowledge, drives the recruitment of expertise far beyond the realm of consensual knowledge right up to the research frontier where knowledge claims are uncertain, contested and open to challenge. The dependency of the regulatory and legal system on the progress of research codified in the formula “according to the state of science and technology” dramatises the dynamism which is entailed in the basic mechanism of scientification, namely that “in principle all statements are revocable” (Weingart, 1983, p. 228). In many instances, there is, in fact, consensus over the “state of knowledge”. But the competition between political adversaries for legitimating knowledge pushes the demand for expertise in the direction of yet uncertified knowledge, *i.e.* controversy. The inherent dynamics of this process is exacerbated in policy-making contexts where, due to the nature of the problems at stake (*e.g.* practical problems such as risk management),

facts are uncertain, values in dispute, stakes high and decisions urgent (Funtowicz and Ravetz, 1993, pp. 85-123). The fact that the process is driven from within is the essence of the close coupling of science and politics.

Even in countries which do not have the legal peculiarities of the German system, basically the same mechanism is at work. On taking a closer look, the example of regulatory practices by administrative courts illustrates how, paradoxically, the scientification of politics literally produces its opposite, the politicisation of science.

It should be noted here in passing that it would be fruitful to look at the entire debate on risk and uncertainty in the light of this mechanism. The discourse on risk and uncertainty – so intimately connected to the issue of science in government – is not only propelled by continuous research into potential hazards of technologies. This research constitutes expectations of certainty, reliability and safety. The closer the integration of science into politics, the higher these expectations, and so on. It has not gone unnoticed that the increased expectations posed to scientific knowledge are transferred to the experts who allegedly represent that knowledge and, because they systematically exceed their abilities, have become the main reason for the growing distrust of scientific expertise.

This paradox gives rise to yet another intriguing observation. Given the general recognition of the loss of authority of scientific expertise and, thus, of its function as a political resource, one would assume a renaissance of political decisionism as well as a demise of any technocratic expectations. However, although the naive technocrats may have lost out, the above paradox has not led policy makers to abandon their reliance on existing advisory arrangements nor scholars to change their concepts of science and politics. Therefore, the *stability* of these arrangements and the conceptions of science and politics which support them are surprising and need explanation.

It has long been noted that since science is the only source of privileged knowledge in modern societies, all criticism and counter movements have the existing scientific discourse as their ultimate frame of reference (unless the basis of communication becomes something other than knowledge, e.g. revelation). There is no alternative to using scientific expertise to give political decisions an instrumentally more reliable base and provide them with a higher legitimacy, even if this leads to uncertainty. Thus, the link between science and politics is firmly institutionalised and is not likely to change fundamentally or disappear; any changes will occur along the boundaries between science and politics.¹³

The relationship, or what I would rather term the novel type of *coupling* between science and politics, could be characterised as an unstable equilibrium. The instability results from the interaction of two strategies of both science and politics in response to the paradoxes. One may be dubbed *contraction*; the other, *expansion*. Although the strategies appear to be contradictory, they are, in fact, complementary.

The inflationary use of scientific authority in public debates and the ensuing loss of legitimating power has, of course, been recognised by both governments and the scientific communities. As both bodies have an interest in maintaining that authority, they have both reacted.¹⁴ The debate in German policy-making circles about establishing a National Academy of Science is in large measure motivated, though not publicly, by the fact that the country does not have an institution in its science system that could speak as the ultimate authority. By establishing such an institution, the federal government would introduce a hierarchy within the system which would – hopefully – neutralise the many expert voices in public controversies that are recruited by non-governmental organisations (the attempt has so far failed, for reasons unrelated to the issue in hand).

Another international example of the same strategy is the mechanism of the Intergovernmental Panel on Climate Change (IPCC). IPCC is a consortium of climate-research institutes and policy makers from across the world who, before reporting their research findings and recommendations to the media, reach a consensus among themselves in confidentiality. In this way, the experience of the nuclear power debate where contradicting experts neutralised each other and presented the image of an academic farce is avoided (Elzinga, 1995, p. 228). Here again, the attempt to restrict the amount of expert knowledge available in order to augment its authority and utility is obvious and, up to this point, in the case of the IPCC, has been very successful. In essence, the attempt to restrict the knowledge admitted into the policy process is an effort to *control* the influx of knowledge and thereby the de-legitimizing effect of contradicting pronouncements of scientific experts.

The second strategy of expansion is a response by the scientific community alone. However, it, too, is a reaction to the abundance of scientific expertise in policy making. However, here the issue for certain communities is how to draw attention to their cause. More and more often, the answer lies in overselling to the media. There is evidence that fields of science try to capture media attention, and thereby indirectly the attention of policy makers, by establishing what could be called a “catastrophe cycle”.¹⁵

Physicists have thrived for many years by playing on both the military threat of nuclear destruction and the civilian threat of an end to energy sources. When the latter lost its impact due to the even greater fear of nuclear accidents, the last attempt was to play on the threat of climate change due to the greenhouse effect.¹⁶ It can be demonstrated that the issue of climate change was “captured” by meteorologists who, since that time, have co-operated with the media in monitoring this ultimate global threat. Again, the pattern is obvious. Originally, rather crude extrapolations indicated anthropogenic temperature increases with catastrophic rises in water levels, desertification, storms and the like. Meanwhile, although the models used are still far too simple, the predictions have become more cautious. However, climate research has become a thriving field, and climate change is a new focus of policy making which affects many other areas.

When serious warnings of man-made threats are issued by science, they usually have an immediate impact because of the general credibility of science. However, the paradoxical effect is already becoming visible as the discourse of ever-growing risks and man-made threats tends to be inflationary. The credibility of science is challenged by counter claims alleging that science is speaking in its own interest.¹⁷ Once these allegations have become established as part of the discourse, it will be very difficult to differentiate between reliable knowledge and biased information. And the problem will no longer be one of choosing between different institutions such as science and religion – it will affect science proper.

It is evident that these interacting mechanisms which constitute what I term the *coupling of science and politics* do not come to a stable state. Rather, it is foreseeable that there will be no end to the continued production of knowledge which, in order to capture public attention and support, will be sold on promises and threats, a strategy that could be self-defeating in the long run. Likewise, it is foreseeable that there will be no end to competition among policy makers for the most recent scientific knowledge in search of its legitimating power. This suggests that a closer look should be taken at the *nature of communication* between science and politics and at the *institutional space* in which it takes place.

Advice, intervention, therapy – beyond traditional concepts of science in politics

The situation described above is, albeit in somewhat different terms, the subject of a theoretical dispute in sociology that may be instructive for practical solutions. The number and types of organisations, professions and procedures involved in any kind of advisory function have grown to hitherto unimaginable dimensions. In fact, this phenomenon has led some authors to characterise our society as an “advisory society” (Fuchs, 1994, pp. 13-25). The most surprising fact is that, in spite of the ubiquity of advisory processes, the need for advice has not decreased but, on the contrary, seems to grow continuously. The explanation for this paradox is given by systems theory: advice (and related procedures such as therapy, mediation, expert assessments, etc.) helps to temporarily alleviate the inherent insecurity of communication which lacks any authoritative source of meaning – the fundamental condition of modern functionally differentiated societies (Fuchs, 1994, pp. 67-77). The remedy is temporary only because thus the assumption – fundamentally, communication between different social systems, *e.g.* between science and politics – is impossible since they each follow their own incommensurable rationales. Observers critical of this diagnosis hold that, in spite of the plausible arguments against the possibility of communication across system boundaries, effective mechanisms for the co-ordination of discourses do, in fact, exist (Scharpf, 1993, pp. 57-83). This contradiction is reflected in the situation described above: scientific advice to politics is the object of competition from both sides. Policy makers compete for the “latest” and thus most authoritative knowledge; scientists offer their advice (whether wanted or not), competing for attention. The result is not more certainty in decision making but, on the contrary, the inflation of authoritative knowledge, countered in vain by attempts to restrict the availability of advice by introducing hierarchies of credibility. Evidently, the concept of the advisory process held by policy makers and scientists alike is unrealistic, as are their expectations of its possible achievements. However, neither is the concept replaced by an alternative one, nor are the expectations changed.

Answers and solutions to this situation may be found by looking at structurally similar forms of communication which are apparently successful, and determining what they really achieve and how. Mediation procedures, therapy settings and various forms of negotiation come to mind as models for an advisory process. These different settings share one characteristic: all participants in the communication process have their own views of the world, their own rationales. Any information or knowledge transmitted from one to another is subject to selective perception and the need of having to be integrated into the respective system of meaning. In addition, advice, like therapy and other forms of intervention, differs from mediation and negotiation in one important respect: it is asymmetrical, *i.e.* the advisory situation cannot be reversed. Scientific knowledge cannot be questioned in terms of political decisions, and the information of the client is not taken for granted but interpreted in various ways (Maasen, 2000). In no case can it be expected that questions (*e.g.* by policy makers to scientists) can be answered without having to be rephrased in order to make sense with respect to the knowledge demanded. Likewise, it cannot be expected that the knowledge contained in the advice given will be translated directly into political decisions. What actually happens is termed “irritation”. Applied to the science-policy making interface, the question posed by the policy maker, like the advice given by the scientist, are interpreted in the context of each system. If these interpretations lead to differences with respect to prior self-conceptions, they constitute information that can lead to new strategies, etc. (Willke, 1987, pp. 333-361, 344). In other words, the prevailing expectation of policy makers that questions should be addressed and that knowledge production on which advice is based should be directly applicable to their problems, is mistaken. Likewise, the expectation of scientists that their advice should be implemented directly and in full measure, is equally mistaken. The most that both sides can expect is a discourse with mutually fruitful irritations. It is crucial for the organisation of scientific advice to policy making that expectations are adjusted accordingly.

Does this imply that the effects of advice are completely contingent? Not quite. Advisory arrangements need organisational structures in order to be effective in forcing the kind of systematic “irritation” that leads to productive results without nurturing the expectation of direct determination. The organisational structures such as advisory bodies, mediations and negotiation settings have to operate with different functional rationales and achieve decisions based on negotiated solutions. To negotiate effectively, the people involved have to “step out of their role” and “take the opposite perspective”. The common language of these discourses is the “argument”. This makes it possible to quit one’s role as a mandated representative of a certain group and switch perspectives.

Experiences in these settings can be instructive for the organisation of scientific advice to politics. One is that the expectations held at the time the process is commenced need to be based on an adequate concept of trans-systemic or transdisciplinary communication. It has become fashionable to describe the organisational frameworks in which this type of communication takes place in terms of “blurring boundaries”. This metaphorical terminology focuses on the seemingly heterogeneous composition of the respective bodies and on the orientation towards consensus. However, the term is misleading to the extent that it signals the disappearance of the boundaries between functionally distinct spheres, *i.e.* science and politics. In fact, the specific institutions in which transdisciplinary communication takes place would not exist if the boundaries between them were, indeed, blurred.

The main lesson that emerges from this may appear paradoxical. Instead of striving for agreement of views and consensus in scientific advice to politics, it is important to stress the differences, to mutually understand the system-specific perspectives and their impact on the ways in which knowledge may be used and how knowledge may be implemented in political decision making. Rather than striving to achieve an ever-closer coupling, a more promising arrangement might be to re-establish the institutional distance between science and politics. In that context, institutional arrangements that provide for the particular requirements of transdisciplinary communication will have to be given special attention.

NOTES

1. For an overview from the vantage point of science studies but also in the persistence of views, see Cozzens and Woodhouse (1995).
2. Of course, this is not to say that the problem of accountability has disappeared altogether. There remains a fundamental tension between political power and its legitimation on the one hand and scientific knowledge on the other which becomes immediately apparent in governments' persisting interest to keep expert advice confidential because it is considered a threat to the autonomy of political decision making (Roqueplo, 1995, pp. 175-182, 177).
3. Jasanoff (1990) distinguishes between the "democratic" and the "technocratic" model where in the democratic model legitimacy of decisions accrues from the participation of the populace. The decisionist aspect is only camouflaged, however, since decisions have to be reached by, albeit representative, political leaders. Thus, there is no difference between the "decisionist" and the "democratic" model.
4. The article which triggered the debate was Molina and Rowland (1974), pp. 810-812.
5. Renn distinguishes "enlightenment", "pragmatic or instrumental", "interpretative" and "catalytic" functions, all of which fall under what I call "instrumental". He does acknowledge that policy makers "overemphasise ... expert advice because it provides legitimacy to their decisions and opportunities to use experts as scapegoats" (Renn, 1995, pp. 147-156, 147, 149).
6. These functions of expertise refer to policy making. One could take the position of science, too. In that case, the instrumental function of expertise refers to its uses in obtaining resources for research, the legitimating function refers to obtaining public support and acceptance of research.
7. For one of the early studies in the United States, see Nelkin (1971); for a detailed analysis of the Austrian controversy, see Nowotny (1979); for Germany, see Kitschelt (1980).
8. See Jasanoff (1990) and the literature cited there. Boehmer-Christiansen (1995, p. 195-203) states that "the model underlying much of expert advice in Europe is ... naive, rationalist and far too linear".
9. Grundmann (1997, chapter 6, p. 335) argues that the *political style* in each of the countries, adversarial in the United States, consensual in Germany, does not explain the outcome of the ozone debate because they practically inverted into their opposites during the 1980s.
10. For a description of the reconstruction of four funding programmes in Germany (Environmental Research, Nuclear Fusion, Biotechnology, Electronic Data Processing) and the "War on Cancer" in the United States, see Van den Daele *et al.* (1979, p. 21). For a detailed account of the emergence of the "Programme for the Environment" (*Umweltprogramm*), see Küppers *et al.* (1978).
11. See Hagenah (1995, p. 106) for nuclear power in Germany; DiFabio (1990, pp. 193-227) for regulation of pharmaceuticals in Germany.
12. See Willke (1992) on the increased importance of this knowledge-based infrastructure in the regulation of risk.
13. Although alluding to Gieryn's work, the issue here is not the boundary between science and non-science. See Gieryn (1995, pp. 393-443).
14. There are no reliable data on the numbers of expert advisors in the German Federal Government. In 1983-84, the Ministry for Science and Technology (BMBF) reduced the number of its advisors in

from 1 033 to 540, and the number of advisory panels by some 30% to 63. In 1994, the number of expert advisors was near 300. This does not necessarily indicate that expert advice is consciously contracted in order to augment its impact. Rather, because of the introduction of indirect funding mechanisms, it is diffused to other organisations (Ministry for Science and Technology, 1984, p. 11).

15. Boehmer-Christiansen lists “fusion, many ‘health’ issues, cancer, limits to growth, star wars” as examples aside from the “environmental domain”. “In each case, unsubstantiated promises or threats are made. Global warming is the threat through which global change research is funded.” (Boehmer-Christiansen, 1995, pp. 202, 203, footnote 17).
16. In Germany this connection is explicit: the German Physics Society (DPG) launched a memorandum together with the German Meteorological Society warning of climate change in order to save nuclear power (DPG/DMG, 1987, pp. 347-349). See also Engels and Weingart (1997).
17. The NASA press conference in February 1992 on ozone depletion over the Arctic and its echo in the press is an incident which demonstrates the increased vulnerability of science under the circumstances described. See Grundmann (1997).

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Chapter 8

IN PRAISE OF SPECULATION

by

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Introduction

How can we re-invent the social sciences? The answer to that question depends on a diagnosis of their present situation. Do they offer reliable and useful knowledge, and are they recognised for what they have to offer? Is the presently fashionable notion of evidence-based policy a recognition of the importance of social science or is it a straightjacket for the intellectual endeavours of the social sciences?

Let me turn briefly to the United Kingdom in the mid-1960s, when the social sciences had apparently made it:

There is much (...) wider recognition of what social research can or would do to limit the uncertainties in the midst of which policies must be prepared and decisions taken and evaluated. The area of avoidable ignorance in public administration is more conspicuous.

There is no need to allow the more exaggerated claims made on behalf of the social sciences in order to agree that they are capable of making a far greater contribution to the good government and wise ordering of society than the paucity of the present resources permit.

(*The Times*, 3 June 1965, Editorial on the Report of the Heyworth Committee, which led to establishment of the Social Science Research Council in that same year.)¹

The notion that the social sciences can limit or reduce uncertainties (of various kinds) is much richer than the concept of evidence-based policy. In the first instance, one may be persuaded by the argument that it is *evidently* better to be evidence-based, and ask, rhetorically, who would not want to build on evidence? However, there are serious problems with “evidence”, with “-based” and with “policy”.

These few phrases set out my argument in the first part of the chapter. In the second part, I outline complementary and alternative approaches.

A first round of arguments

It is better to be *evidence*-based, so the argument goes, because common sense can lead you astray. Some things appear to be self-evident: hands-free mobile phones must be safer than hands-on phoning in cars. Campaigns for hands-free phones have already started, while research into the matter is stumbling along and may end up showing that risks combined with routines are located differently.²

This is just one example of how fashions in policy and in management can dominate. Indeed, the movement towards evidence-based medicine partly originated in the need to verify widespread beliefs in the efficacy of certain diagnoses and therapies.

This line of thinking does not simply make an epistemological point. There is a practical and political aspect since evidence is seen as placing constraints on the wishes (and whims) of decision makers (and their clients), and thus society must be better off. In scientific terminology, action should be guided by facts, not emotions.

What about these facts, however? What makes facts “facts”? What is their evidentiary basis? I do not mean to start a philosophical discussion on foundations (and the threat of an infinite regress), but rather to highlight the limitations of the quest for evidence. In particular, what is, and what is not, accepted as evidence. Let me give an example.

In 1996, US Representative George E. Brown, Jr. (Democrat), chaired a working party set up to analyse Congressional hearings and debates on environmental advice. In its report, *Environmental Science Under Siege*, the working party showed how, in the hearings convened by the Republican-dominated Energy and Environment Subcommittee, “again and again, like a mantra, we heard calls for ‘sound science’ from Members who had little or no experience of what science does and how it progresses.” Who can be against “sound science”, you might ask. Wait until you see what is meant. Brown and his working party show that “sound science” is equated with direct observations, rather than models and statistical analysis – let alone theory, which is a term of abuse. The epistemic politics involved are clear when subcommittee members are seen to argue that government should intervene on environmental problems only after incontrovertible direct observations confirm the problem’s existence, and Brown comments that such a standard would make it impossible to prevent environmental damage in advance.

Various moral lessons can be drawn from this example. I use it here to make a sweeping point: policy is about the future and evidence is about the past. This may not be a problem in the courtroom, where evidence is used to identify a culprit and inference or hearsay are not accepted and only direct observations are allowed. In risk assessment, to mention a concrete example, one recurrent problem is that data about failures and probabilities relate to the past, while the assessment is intended to support decisions about the future. One possibility is to modify risk estimates on the basis of expert judgements (if that can be done in a controlled manner).

To be serious about policy requires that one address the future. That is the (polemical) point of my title: “In Praise of Speculation”. Evidence, in its strict sense, is too limited to serve as a basis for policy. One needs diagnosis, inference, judgement – all of which contain an element of speculation.

A second round of arguments

Evidence is never tidy, and it has a history. Its availability is conditional on earlier efforts, and the agendas and politics that shaped these efforts. I have shown this in detail in relation to the beginning

of the debate on the ozone layer in 1974, and its further evolution (Rip, 1992). The “lineage” of the evidence (or its “pedigree” as Ravetz and Funtowicz termed it in their proposal for a characterisation of uncertainty/robustness of knowledge) needs to be kept in view (Funtowicz and Ravetz, 1990).

Systematic reviews and assessments of the state of the art will help to (temporarily) clean up the untidiness and identify lacunae and the need for systematic research. The movement for evidence-based medicine provides a good example of the limitations involved.³

In the case of the social sciences, there is an additional, and key, question: the presentation of evidence and its use in policy will affect perceptions and behaviour, and thus change the system – which might well undermine the value of the original evidence. Such recursiveness is an integral component of social sciences, and has been commented and reflected upon in various ways. For my purposes, Goodhart’s Law is illustrative. As Member of the Board of the Bank of England, Charles Goodhart noted that the indicators used to monitor and control monetary supply would be undermined in their effectiveness since the system would respond to the existence and use (or even the intended use) of such indicators; he elevated his observation into a law.⁴

One can include recursive dynamics in the analysis, for example with the help of “real world” game theory and empirically oriented institutional economics and policy analysis (Scharpf, 1997; Weimer and Vining, 1999). The original notion of evidence as hard facts that can force issues, starts to evaporate, however. Uncertainties will be reduced, but not by hitting actors on their heads with an evidentiary club. To be effective, policy makers must be wily and make use of data on the system as well as on the probable responses of actors.

The issue of recursiveness indicates that, however sound the original evidence, at the very least this problem affects naive notions of evidence-based, *i.e.* the idea of an immediate, unproblematic and unidirectional link between evidence and policy. There are other problems. “Packages” of evidence that can be treated as an independent basis for policy do not exist as such. This is due to the difficulty of packaging research findings into something which looks like context-independent evidence. In addition, there is the general issue of the complex couplings between evidence and policy.

First, there are the phenomena of knowledge creep and decision accretion, which imply that evidence (in policy making) is diffuse and that formal decisions are not independent but rather follow on what was prefigured in interactive processes.⁵

Second, the interactions are not unidirectional, going from evidence to policy (as the so-called linear model suggests). Policy discourse can create linearity after the fact, by referring to evidence as its justification (including chronologically). And (social) scientists can push for a linear model in arguing for the importance of their insights in creating or modifying policy. Elsewhere, I have shown how the evolution of evidence and policy in relation to controversial issues had best been understood as an evolving network of data, interpretations, theories, values, interests and strategic positioning, which eventually stabilises and creates robust evidence and justified policy (Rip, 1986; Rip *et al.*, 1995). This understanding can be extended to the relation between evidence and policy more generally; it is an evolving network rather than the unidirectional relationship suggested by the term “evidence-based”.

Such evolving networks are the carriers (and then the outcomes) of joint – possibly contested – learning. The notion of “learning” is attracting a great deal of interest (*cf.* the “learning” economy), and the possible bias of thinking only in terms of harmonious working towards shared goals is increasingly recognised.⁶ The key points are that joint learning is open-ended (nobody knows the “right” answers yet), that its progress can be traced as increasing articulation and alignment, and that

new forms of (distributed) quality control have to be found. The joint-learning perspective does not, by itself, resolve such issues, but it does indicate the direction in which to go.⁷

In addition, we should recognise how joint learning (and its quality control) takes place in an existing division of labour (between experts, policy makers and different publics) in force-fields of interests and values, and how it is refracted by them. This both enables and constrains at the same time, and certain patterns evolve. Participants at the Bruges workshop were asked to reflect on the question of what are the conditions that promote the use of social sciences in governmental decision making and social choice. These are not simple, isolated conditions that one might try to improve. The use (and sometimes even the development) of social sciences is carried by what Hajer and others have called “discourse coalitions”, for example, about welfare or about the national economy (Hajer, 1995).⁸ Sometimes, such discourse coalitions are in place, and social science and policy making co-evolve productively (within the framework set by the discourse coalition). Where there is no such discourse coalition, or where it exists only fragmentarily, the prior aim might be to work towards a functioning coalition – although this carries the risk of prematurely constraining variety.

With these considerations, I have already broached the third part of my query about evidence-based policy: what about *policy*? Policy is definitely not unitary: there are overlapping arenas, many actors are involved, policy making occurs at several (interacting) levels. From the point of view of policy makers, evidence is one of the resources available to them, or to put it more aggressively, evidence is one weapon in their struggle. If evidence is to help them make their case, then it should be able to withstand criticism. So, there is a shared interest in the robustness of (relevant) evidence.

The net effect is that certain alliances between policy makers and evidence producers become more powerful (see the above discussion on discourse coalitions). And why not? If such alliances are productive, including on the terms of society or the polity, their power is as acceptable as that of a benevolent despot. However, the benevolence of such alliances should be verified; it is not simply a matter of evidence.

The existence of regular channels between social science and policy making creates practical experience with evidence-based policy, and limitations will become apparent. Evidence-based medicine is a case in point, and the backlash which is emerging in the wake of the first round of promises (by medical researchers) and expectations (of policy makers) is an occasion for sobering thoughts. The social sciences have been pressing their case, off and on, and when they “got there”, as they did in the United Kingdom in the 1960s, they had to make their “epistemological confidence” work in practice. A sure recipe for disappointments later on.

The joint learning which occurs (partially, and not always cumulatively) is offset by the promise-disappointment cycles – which are almost inevitable in the real world where one has to sell one’s wares by claiming all sorts of good things for them. A balancing act is involved, and neither policy makers nor social scientists are always inclined to work towards such a balance (or simply do not recognise the need for it).

In summary, evidence-based policy is far more complex than those clamouring its importance would have us believe. We need to be careful, not with the ideal, but with too simple applications. And we have to obtain a more nuanced understanding of what “evidence” can do and what it cannot do, and what this means for the social sciences (and their reinvention).

Complementary approaches

When I criticised narrow versions of evidence-based policy and pointed to the risks of an exclusive focus on such narrow approaches, it was not to do away with evidence in policy, nor to suggest that the social sciences have little to offer. The negative route was followed in order to clear the way for recognising other, complementary, approaches. I arrange them under three headings:

- Distributed intelligence.
- Diagnosis and judgement.
- Story telling.

All three have been part of social science all along (and of knowledge generation, circulation and uptake generally), but they deserve to be discussed explicitly – as well as to be considered in terms of the quality control involved.

The term “distributed intelligence” refers to the fact that relevant information and knowledge are not available as such, but are distributed across places, across actors, over time. There are local efforts to produce and improve knowledge, and additional efforts are necessary to bring these together. Information and communication technologies have increased the possibilities for this. Decision support systems of various kinds are examples, as are databases and their management. The Internet has added a further dimension by creating access to a wide variety of sources of information. The Jeffersonian democracy of the Internet, where anything goes, is good for access (by an increasing number of actors and to more and more sources), but it does create problems of quality and quality control.⁹

The point I want to draw out here is that the phenomenon of distributed intelligence requires synthesis, and synthesis that is relevant to the purpose at hand. For policy making, Jasanoff’s evocative phrase “serviceable truth” comes to mind (Jasanoff, 1990), but the point is general and also refers to the reviews and synthetic pieces produced within a discipline. In relation to policy, the advent of simulation models, and in particular integrated assessment models, is interesting, because there synthesis is externalised and made part of the model structure.

Whether externalised in a model or internalised in the author of a review or in a piece of policy advice, synthesis of distributed intelligence requires competencies. Such competencies have always been valuable, but they have become more important with the increase in sources of information and knowledge, and their more disparate character. In the place of evidence-based policy, one should speak of competence-based policy – and not assume that such competencies will automatically be present.

If one takes the distribution of intelligence seriously, quality control and assurance become distributed as well. There is no longer any obvious centre or epistemic authority. The notion of experience-based expertise is now recognised in medical and health-care research, in response to the increasing political and epistemic power of patient associations (Callon, 1999). In the social sciences, power differentials have always been in favour of the sponsors and commissioners of research, *i.e.* the powers that be. Social scientists sometimes identified with the subjects of their research, but remained part of an overall critical attitude. It is only recently that so-called interactive social research, where subjects, sponsors and researchers interact on an equal footing, has become a real challenge.¹⁰ And it is a challenge indeed, because social scientists rarely have the luxury of working on self-created and/or self-controlled objects of research, as natural scientists do in their laboratories.

Diagnosis and judgement are integral parts of scientific research, even if they are not visible in the “packaged” products that appear as articles in scientific and scholarly journals. Judgement calls are part of the craft of research, as evidenced in decisions to neglect outliers (before carrying out regular statistical analysis) or, its functional equivalent in qualitative research, to highlight some aspects and push others into the background.

The competencies involved can be further articulated with the help of Donald Schön’s concepts of “naming” and “framing”, and Stephen Toulmin’s analysis of diagnosis by physicians (Schön, 1983; Toulmin, 1976). The local, often idiosyncratic, component is strongly present, but there is a cosmopolitan aspect as well. Not in the strong, experimental sense of replicability, but in the “natural history” sense of recognition of recurrent patterns. Replicability has a retrospective and thus conservative bias: the criterion of quality is the reproduction of what was produced in the past. The alternative is not to embrace whatever is out there and glorify it for what it is. That might shade into the impenetrable holism of the New Age. Recognising patterns and building on them for further action is a competence that can be acquired and transmitted.

Quality control remains important, but it cannot be defined in terms of immediate colleagues working on the same self-created objects. Hybrid forums are called for, but the assessment of quality will depend (for its quality) on the extent of circulation across practices that members of the forum have experienced. In other words, it will make a difference whether judgements build exclusively on local experience (perhaps leavened by some reflection), or envision cosmopolitan experience and a cosmopolitan audience as a reference group.

The third element of the complementary approach is story-telling. An orientation towards the future requires forms of story-telling, ranging from social science fiction to claims that behaviour and interactions will follow the same (or a predictably different) pattern as in the past – *i.e.* the regular content of scientific knowledge claims. The recognition that such knowledge claims actually sketch a picture of a future world (or part of a future world) has further implications and does away with simple distinctions between physical sciences, life sciences and social sciences (Rip, 1995).

For my present argument, I note that elements of story-telling are already an important component in diagnosis and judgement: highlighting key features (“characters”) against a background of circumstances, sketching interactions and indicating their evolution over time. What I suggest is to make the craft which is involved an explicit part of social science, and in particular social science in relation to policy and practice. When I say “craft”, I do not mean the craft of capturing an audience and maintaining its attention (although that too is useful), but rather the craft of being persuasive and convincing, in such a way that the convincingness stands up to criticism and attrition. It is an epistemic craft.

Thus, the story-telling I am advocating is controlled story-telling: controlled by evidence, by plausibility, by the problem or purpose at hand, by the actual and intended audiences. A traditional type of scientific argument involves the reader or hearer in the plot just as effectively, but does not recognise (or at least does not make explicit) all the elements that go into the denouement of the plot.¹¹ My earlier criticism of the narrow focus of the “evidence” in evidence-based policy can now be reformulated: evidence is part of the plot – but should not be its master.

By now, the reader may question the plausibility of the story I am elaborating here. I think there is ample historical and philosophical evidence for my views on distributed intelligence, diagnosis and judgement, and even the last point on story-telling. There is also practical experience and reflection which point in the same direction, and there is a definite promise that these broader approaches will help to address the problems inherent in social science's relations with policy.

If we want to reinvent the social sciences, we have to be creative.

NOTES

1. The quote from *The Times* is taken from Alexandra Nicol's history of the debates on, and early stages of, a research council for the social sciences in the United Kingdom (Nicol, 2000). There are many parallels with the debate taking place in the United States on the creation a federal funding agency for social sciences, as analysed by Gieryn (1999).
2. For later reference, I note that this does imply a certain "epistemological confidence" on the part of social sciences. As Nicolas Dodier phrased it, it is the idea of being able to get hold of social reality that is then said to distinguish social science from everyday knowledge (Dodier, 1993).
3. The Cochrane Collaboration is active in collecting and reviewing data on diagnosis and treatment. As van Crevel notes (in a generally appreciative discussion of evidence-based medicine), the relevance of available evidence for use in first-line health care is limited by the fact that much of this evidence does not derive from first-line health-care practice. He concludes that medical practice would become meagre and miserable if its actions were to be limited to evidence-based action (van Crevel, 1996).
4. I owe this example to Keith Smith, Director of STEP, an economics research institute in Oslo, Norway.
5. The terminology, as well as empirical support, derive from Weiss (1980).
6. An example is the draft text for the UK's ESRC Programme (ESCR, 2000).
7. Elsewhere, I have shown how to address this as a design challenge (Rip, 1999).
8. The alliance between econometricians and policy making in the Netherlands since the 1930s has been analysed in these terms by Pesch (1999).
9. There is the further issue of access to databases containing data relevant to the community which provided them. Indigenous peoples have become particularly careful of their rights (Harmsworth, 1998).
10. See, for example, the theme issue of *Science and Public Policy*, June 2000.
11. This point has been made in some detail by Markus (1987). For the social sciences, there is greater acceptance of the storied character of their work and presentations, but this is often taken as a shortcoming, in particular in comparison with the natural sciences.

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Chapter 9

SOCIAL SCIENCE AND SOCIAL POLICY AT A CROSSROADS

by

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Introduction

From its inception in the 19th century until modern times, the relationship between social science and public policy has been discussed on an almost permanent basis, albeit with changing intensity. The most intensive discussants were not the policy makers, but the social scientists themselves. Different stances were taken, ranging from contributing to social reform (“involvement”) to complete abstention (“aloofness”) from societal issues. Examples include: Marxists, pragmatists, the Chicago School of Sociology, Keynesians, the Frankfurt School and structural-functionalists (Koenis, 1991; Bulmer, 1984; de Wilde, 1992).

In the western world, reform-oriented social science flourished in the period following World War II, *i.e.* between 1945 and the 1970s. During the era of the welfare state, there was a widely shared belief, not only among scientists but also among policy makers, that social science contributed effectively to the solution of social problems such as unemployment, poverty and lack of social security. After the student revolts at the end of the 1960s, this belief gradually crumbled and fell out of favour with the collapse of Communism in 1989.

Recently, the debate has been infused with a new impulse:

- First, on the basis of administrative science research, a number of – to a certain extent solvable – technical problems were signalled in the relationship between social science and policy.
- Second, the Millennium has acted as an impetus for forecasting big “new” social problems which can only be solved or dealt with the help of the social sciences.
- Third, the lack of inspiration for how to modernise huge, bureaucratised post-war social institutions, such as social security systems, health-care systems, labour market systems and educational systems, has led to a renewed plea from politicians for contributions from social scientists.

- Finally, the transformation of national economies into global, knowledge-based economies, calls into question the traditional boundaries between knowledge production in the academic vs. the non-academic worlds. A new mode of highly competitive, non-traditional knowledge production is arising in the “knowledge economy”, posing a number of challenging issues for the social sciences in the years to come.

In this chapter, I focus mainly on the question of whether the social sciences – theoretical as well as applied social sciences – as they stand today are in a sufficiently strong position to reconquer their influence and effectiveness in the policy field, particularly in the area of social policy. By influence I mean, their contribution, preferably direct and based on evidence, to the decision- and policy-making process. In this respect, I take as a starting point that among social scientists themselves there is currently a great deal of uncertainty and doubt as to the appropriate role of the social sciences in policy making. The following statements, based on a recent debate among American scholars in contemporary sociology, clearly illustrate this tendency:

- “Sociology does have a substantial impact, but is generally not well understood.
- It might have an impact, but the media and other institutions distort its effects.
- Considering the way the field is currently structured and/or functions, it is precluded from having an impact; sociology has “gone astray” (Weinstein, 2000).:

I shall try to answer this question from both a theoretical and an empirical angle, linking as far as possible to the new impulses for debate outlined above. I will first highlight the possible contribution of social theory by briefly describing some interesting contributions by modern and post-modern scientists to the solution of social problems. I will then focus on two empirical contributions, specifically in the field of knowledge-utilisation research recently initiated by UNESCO-MOST, with respect to social policy and to the *Human Development Reports* published by the UNDP.

I will conclude by discussing some recent proposals formulated with a view to improving the interlinkages between social science and (social) policy. These include: *i*) creating intermediary institutions between science and policy; and *ii*) viewing social scientists not exclusively as problem solvers but rather as mediators. My conclusion will be that in order to regain substantial influence on social policy development, social science and its practitioners will have to play at least two explicit, albeit supplementary, roles at different levels of society.

The current debate¹

Administrative science research has mainly looked to “knowledge utilisation” (KU) or the impact of social science in the policy field. One of its most outspoken representatives is Harvard professor Carol Weiss. The greater part of KU research was carried out in the United States in the late 1970s, early 1980s and late 1990s. The model on which it is based stipulates that there is a “customer” (the policy maker) and a “supplier” (the researcher). The problems which can arise between the two parties concern under- and non-utilisation of knowledge and are caused by non-compatible characteristics of the two worlds. Possible areas for friction concern problem definition, culture, role and accountability and time frame. KU research is mainly concentrated on characteristics of users and researchers, characteristics of the studies and dissemination mechanisms. The outcome of KU research with respect to the utilisation of social science involves, among other things, delivering factual information, signalling new social problems, evaluating policies, increasing the status of the policy agency (Cross

et al., 2000). Learning to speak each other's language may go some way to solving some of the problems which exist between policy makers and researchers (Newby, 1998, pp. 10-15).

The next impetus for debate came from the Millennium. The prestigious Gulbenkian Commission first produced a report in 1996 (Wallerstein, 1996). The Commission analysed and diagnosed the historic development of the social sciences and its fragmentation into sub-disciplines. It called for greater inter-disciplinarity through the creation of integrated research programmes, recommending that researchers with different backgrounds be brought together around specific urgent themes, mandatory double tenures for professors, etc. Subsequently, Professor Wallerstein, chairman of the Gulbenkian Commission, published two pieces of work in which he stated that we are going through an important stage of social transition which will bring to an end the confidential world as we know it. This will have far-reaching consequences for the social sciences, which, in his view, remain dominated by the West (Hopkins and Wallerstein, 1997; Wallerstein, 1999).

One of today's most striking issues, and one in which social science is currently playing a key policy role, is the debate on the "third way", formulated by the well-known British sociologist, Anthony Giddens (1998). Developing his own specific blend of social theory and subsequently translating it into practical policies, Giddens has turned the "third way" into a powerful instrument in the hands of social democrats and social liberals. The "third way" "refers to a framework of thinking and policy making that seeks to adapt social democracy to a world which has changed fundamentally over the past two or three decades. It is a third way in the sense that it is an attempt to transcend both old-style democracy and neoliberalism". Using this tool would lead to a society in which positive welfare would replace each of Beveridges' negatives with positives: "In place of Want, autonomy; not Disease, but active health; instead of Ignorance, education, as a continuing part of life; rather than Squalor, well-being; and in place of Idleness, initiative" (Giddens, 1998, pp. 26, 128).

The last new impulse that I will describe here is the advent of a new knowledge mode, closely related to the knowledge-based economy. This new mode deviates widely from the more classical mode of knowledge production, monopolised by universities. The new mode of knowledge production has been initiated primarily in the applied technical sciences (chemical engineering, aeronautical engineering, computer science), but it will also have a strong impact on the social sciences. The main differences between the new and the traditional modes are:

- A problem-oriented context replaces the former academic context.
- The orientation shifts away from a disciplinary orientation to a transdisciplinary one.
- Heterogeneous organised forms in the place of homogenous forms of organisation.
- Hierarchical structures become non-hierarchical, flexible and temporary.
- Social accountability and reflexivity replace academic quality control.
- The university focus is replaced by one based on multiple institutions and bureaux (Gibbons *et al.*, 1994).

Because social science, in principal, has more affinity with the classical mode, catching up with the new mode of knowledge production in a timely way will represent a greater challenge for the social sciences than for science.

Sociology and social policy

Until recently, only very few sociologists, as far as I know, wrote monographs about the relationship between social theory and social policy. One was the British sociologist Robert Pinker.² Pinker demonstrates that, throughout history, whenever there was a good chance for sociology to actively contribute to the formulation of social policies, sociology always took second place to economics. This was not only the case in the 19th century with the dominance of political economy (Mills, Ricardo), but also in the 1930s (Keynesianism, Beveridge reforms), and again on several occasions since World War II (Chicago School of Economics, neo-liberal reforms).

It is in this respect that social policy developed as an applied social science. Traditionally, theoretical sociology had no strong interest in finding solutions to social problems. The objectives of sociology were primarily to analyse and subsequently describe and explain social facts and social problems. Pinker points to four 19th century “godfathers” of sociology, Durkheim, Spencer, Marx and Weber, and shows that they were not particularly interested in using sociological knowledge to solve social problems. Both Spencer and Marx sharply criticised programmes of social reform. For Durkheim, social reform was primarily a moral rather than a political or economical problem. Weber was more interested in the processes of bureaucratisation in society and in discussions about value-free science (Pinker, 1971).

An interesting question is whether Pinker’s findings are applicable to modern social science or whether the situation has changed in a positive way in the meantime. As I stated before, the relationship between social science and social policy has been discussed almost continuously throughout its history.

Let us look a bit more closely at some well-known and outspoken representatives of modern social theory, namely Giddens, Bauman, Beck and Sen. I have chosen these authors because of their possible relevance for social policy. All four are outspoken and productive social scientists at the eve of the Third Millennium and all four have clear ideas about social policy. Moreover, their approaches have much in common. First, they point to fundamental changes in society. We no longer live in modern societies, but rather in late-modern or post-modern societies, characterised by insecurity, new risks and the decline of traditional time and space dimensions. As a consequence, the role of the state has moved away from guaranteeing social security or welfare to one of enabling individuals to take care of themselves. Individuals in western societies cannot fall back on traditional values and norms, but need to develop “social reflexivity” to allow them to cope with new insecurities and new risks. Another much used term for this is “agency”. Not only do individuals need to develop agency, but according to these scholars, so do institutions.

Our four authors not only pay a great of attention to analysing, describing and explaining social problems, they also work hard to describe and recommend therapies. Agency and social reflexivity, for instance, are part of their recommendations. Beck and Bauman go a little bit further in pleading for the end of the work society. Beck promotes a citizen income for active citizens who not only carry out paid labour but also remunerated citizen work.

For Sen, the development of personal freedom is primordial. Freedom is the ultimate goal of human dignity; to reach it individuals have to strive to realise intermediate objectives such as political freedom, economic opportunities and security (Bauman, 1999; Beck, 1999; Giddens, 1994; Giddens, 1998; Sen, 1999).

Although the four social theorists offer interesting social insights to policy makers and politicians, their therapies remain rather abstract and speculative and are, perhaps with the exception

of Sen, not based on empirical findings. Nevertheless, they have all had a strong influence on public decision making. Giddens is one of the top advisors of Britain's Prime Minister, Tony Blair. Beck takes part in a key German neo-liberal think tank. Baumanns' influence is more indirect; he produces remarkable books with adverse insights. Finally, Sen, from the onset, has been an eminent advisor to the UNDP Human Development Program.

Compared with the four "godfathers" introduced above, one might conclude that the four contemporary social theorists are more explicitly interested and involved in policy making. Nevertheless, as was the case with their historical predecessors, their theories and ideas are largely speculative and time-bound in the long run. It is remarkable that they seem to operate far from practical social policy. Their generic therapies are not, or at least not yet, part and parcel of applied sociology or, in our case, social policy.

Empirical contributions

I will now shift my attention to two empirical contributions, both initiated by international organisations. First, I will discuss evaluative impact research, and particularly the recent international comparative project by Professor Carol Weiss from Harvard University into the knowledge utilisation of social science in practical social policy. This project will be carried out under the aegis of the UNESCO/MOST Programme. Then, I will go deeper into the meaning of the kind of applied social science undertaken in the framework of the afore-mentioned Human Development Programme. The main question here remains the contribution of social science to (social) policy making.

Research use and the UNESCO/MOST Programme

Research into the factual use of social science by policy makers offers a more concrete picture. One disadvantage of this type of evaluative research is that it reduces the problem to technical questions. Nevertheless, knowledge utilisation research is necessary to demystify a debate which is possibly too loaded with ideology and, at the same time, to obtain a proper insight into the use of social science in evidence-based policies.

As has been said, a record of more than 25 years of knowledge utilisation research has produced many valuable insights into the relationship between social science and policy. It has become obvious that until recently social science has only rarely been used in an instrumental way. Contrary to economics, social science findings are only exceptionally used as direct evidence for policy measures. Instead, social science knowledge usually trickles slowly through policies and society. Weiss speaks in this respect of a conceptual use of social science (Weiss, 1999a, pp. 194-205). In this trickling down process, social science knowledge has to compete with all kinds of other knowledge inputs in policies since the public policy process is based on four interacting factors: interests, ideologies, information and institutions. In practice, this results in four kinds of possible utilisation: instrumental, conceptual, symbolic and to provide legitimacy for political action.

In addition, during this process social science knowledge is transformed into practical, usable knowledge and adapted to existing ideas (Beck and Bonss, 1989). For Giddens, this implies a reciprocal relationship between social science and society which he typifies as "dialogical". That is, social science not only studies and analyses the daily life of people, it also influences people's lives (Giddens, 1982).

Returning to social policy, substantial differences in knowledge utilisation exist across countries.³ Key factors in this respect are: the openness of the political system to outside information, the level of functional specialisation in the policy arena, the importance of the bureaucracy as the venue for major policy decisions, and the educational and professional background of policy makers (Weiss, 1999a, p. 202).

For example, in my country, the Netherlands, direct – evidence-based – influence of academic research in the field of social policy is limited. However, at the national and local levels, a substantial group of intermediary “social scientific” organisations has gradually been created by the authorities to support both politics and the administrative bureaucracy. These vary from so-called planning offices, statistical bureaux, think tanks and (governmental advisory) councils to research institutes which are internal or narrowly linked to the government. Although it may not be primarily direct, the influence of this organisations on policy making does exist and is substantial. For that reason, they can not be neglected in the policy making process.

One might conclude that the context in which this policy influence occurs is very important. Therefore, UNESCO’s recent initiative to initiate, in close collaboration with Professor Weiss, an international comparative evaluation study into knowledge utilisation focusing on those factors that improve use of research in social policy, is both appropriate and timely (Weiss, 1999b). The study aims to develop a better understanding of the factors that enhance wise use of research results in the making of social policy. The key question is which factors promote, and which factors block, research use? Four categories will be considered:

- Characteristics of the research and the researchers who conduct it.
- Characteristics of modes of dissemination or linkages between researchers and the policy arena.
- Characteristics of potential user groups.
- Characteristics of the political domain into which the research enters.

The research methods will be mainly qualitative: desk research, document studies and interviews with policy makers, politicians, researchers, disseminators, funders, etc. The study will be carried out in 2000/01 and more than 20 countries are participating. Research teams have been set up in Asia, Latin America, the United States and Europe. Examples of proposed case studies include:

- Evaluation of the Comprehensive Child Development Program (CCDP) (United States).
- Evaluation of 25 years of research in the field of social disability insurance (the Netherlands).
- Evaluation of research utilisation in local development programmes fighting extreme poverty (Mexico).
- Evaluation of a community health workers’ programme in Ceara (Brazil).
- Evaluation of the linkages between social research and educational policy and reform (the Philippines).

In addition to the comparative study by Cross *et al.* (2000), which focuses on migrant policies, this new study will produce a number of interesting best practices, not only from Europe, but also from countries in which the social sciences still have a weaker institutional base.

The UNDP Human Development Reports

The eleventh UNDP *Human Development Report* was published in June 2000. The main theme of this year's report is human rights and human development. Previous topics covered include: people's participation (1993), gender (1995), economic growth (1996), poverty (1997), consumption patterns (1998) and globalisation (1999).

In my view, the relatively short history of the *Human Development Reports*, published by the UNDP from 1990 onwards, can be viewed as a successful example of applied social science in the field of social policy.

The reports form a balanced mixture of statistical time series and thematic qualitative material. Although the theoretical underpinning is limited, the combination of statistics, policy deliberations and policy recommendations and actions is convincing. The big advantage of these reports over the national accounts is that all the countries of the world are included in the framework of a global overview.⁴ The countries are grouped into three broad categories: low human development countries, medium human development countries and high human development countries. Human development is seen as: "a process of enlarging people's choices... by expanding human capabilities and functionings. At all levels of development, the three essential capabilities for human development are for people to lead long and healthy lives, to be knowledgeable and to have access to sources needed for a decent standard of living".⁵

The hard core of the reports is a number of indices, such as the human development index (HDI), the gender-related development index (GDI) and the human poverty index for developing (HPI-1) as well as for industrial countries (HPI-2) (Table 1).

Table 1. **HDI, GDI, HPI-1, HPI-2 – Same components, different measurements**

	Longevity	Knowledge	Decent standard of living	Participation or exclusion
HDI	Life expectancy at birth	1. Adult literacy rate 2. Combined enrolment ratio	Adjusted per capita income in PPP USD	--
GDI	Female and male life expectancy at birth	1. Female and male adult literacy rate 2. Female and male combined enrolment ratio	Female and male earned income share	--
HPI-1	Percentage of people not expected to survive to age 40	Literacy rate	Deprivation in economic provisioning, measured by: 1. Percentage of people without access to water and health services 2. Percentage of underweight children under five	--
HPI-2	Percentage of people not expected to survive to age 60	Functional literate rate	Percentage of people living below the income poverty line (50% of median disposable income)	Long-term unemployment rate (12 months or more)

Source: www.undp.org.

An extensive interdisciplinary team writes the reports, with the help of external experts and consultants. On the basis of the statistical material, the most recent reports conclude that although from a global perspective there has been growth in the number of democracies, economic differences between and within countries are sharpening, with far-reaching (global) social consequences. Therefore, “social policies are even more relevant today to make globalisation work for human development and to protect against its new threats” (UNDP, 1999). In this respect, the *Human Development Report 1999* constructed an insightful balance sheet of human development for the period 1990-97 (global progress vs. global deprivation) with respect to the following indicators: health, education, food and nutrition, income and poverty, women, children, environment, human security.

In sum, the *Human Development Reports* form a valuable and at the same time powerful example of applied social science in the field of social policy. Not only are social problems signalled, analysed and described, but relatively strong policy recommendations and proposals for action are put forward. Although the theoretical basis of the reports is limited, their statistical evidence is, as stated above, impressive.

The future of social science with regard to social policy

Referring again to the debate about the future of sociology within the American Sociological Association (ASA), one gets the impression from a number of the contributions that the problem is mainly one of communicating and understanding: if sociologists could avoid jargon, they would easily win the interest of policy makers and the public. This stance is more or less in line with Carol Weiss’ trickle-down outlook. For example, in his contribution, Harvard professor William Julius Wilson describes the way in which his (at the time) best-seller *The Truly Disadvantaged* (1987) became a big hit: “*The Truly Disadvantaged* convinced me that it is possible to write a book that is, on one hand, accessible to a broad, educated public audience and, on the other hand, seriously engages or attracts the attention of the academic community, including the academic research community” (Wilson, 1998, p. 435).

Wilson used that first experience during the writing of *When Work Disappears* (1996):

“I therefore made a conscious effort to avoid using academic jargon. I kept the number of tables to a minimum. And I used a special style of footnoting that would please those who just wanted to follow the general arguments, but would not discourage those who were interested in the technical issues not discussed in the main text”. (Wilson, 1998, p. 437)

Although not completely irrelevant, this view mainly concerns the *form* of the message and not the *content*. In this respect, it does not meet the new challenges of social science described in the Introduction to this chapter.

Social science has to find more fundamental solutions if it is to succeed in regaining its former influence on different levels of the policy-making process. I have described some new contributions by important social theorists and two empirical contributions. Compared to the contributions of the so-called “godfathers”, the first conclusion to be drawn might be that current social science in the field of social policy doesn’t have a bad record at all. Not only do social theorists offer interesting new viewpoints, the empirical contributions are also worthwhile. Nevertheless, as I have already stated, especially among the theorists, there remains a gap between the “diagnosis” and the proposed “therapies”. This presents a real problem for the social sciences, one which needs to be bridged as

quickly as possible. Relating the empirical findings of impact research and the UNDP time series will provide a partial solution. However, it is not sufficient.

In principle, the gap between “diagnosis” and “therapy” in social science is largely caused by the existence of the so-called “epistemological dilemma”; that is, the antithesis between the science-oriented quantitative approach and the more qualitative cultural approach. To overcome this discrepancy, a third, more synthetic, perspective is needed.

In this respect, at the societal level one can point to the creation of intermediary organisations that bring together in a practical way social science and (social) policy. The UNDP team that produces the *Human Development Reports* is one such intermediary organisation. But one could also imagine the establishment of think tanks, planning offices, and network organisations. It is important that these organisations take an independent – but rather a partisan – stance *vis-à-vis* both policy makers and social science.

Such intermediary organisations could fulfil a number of tasks and provide solutions for many of the more technical problems and tensions which exist between the academic and policy cultures. Examples include: conflict mediation between contract researchers and policy makers, quality control, the reuse of social science data, the construction of relevant interdisciplinary and comparative databases and, finally, monitoring and dissemination of knowledge and research. In *Building Bridges*, Cross *et al.* (2000) develop a tentative organisational outline of the ideal intermediary institution (“facilitator” or “mediator”) on the basis of comparative research into best practices in a number of European countries:

- Financial and organisational independence.
- Important in-house(support) skills.
- The institution should be at the heart of a network and policy actors.
- The institution should serve as the secretariat for policy advice councils (Cross *et al.*, p. 11).

Creating intermediary organisations at the macro level will not suffice to allow social science to respond to the global challenges it is facing. The role of social scientists also needs to change; they, too, should take the opportunity to act as intermediaries or mediators. One of the main reasons for seriously considering such a role is the idea that social reality is no longer completely “knowable”. We are living in a culturally pluralistic society in which it is impossible to apply exclusively top-down solutions to social problems – it has become essential to take the users’ or consumers’ perspective into account. Social scientists, on the basis of a communication-theoretical perspective, thus have an important task to undertake in supporting citizens’ attempts to create their own sustainable solutions to the social problems they face in their own lives. One example of this consensus-building, bottom-up approach is the practice of “Alternative Dispute Resolution” in the law field (Peper, 1998). In their role as mediators, social scientists should not only carry out research, but should also play a role in the development and application of social science knowledge.

This might seem a more modest role for social science and social scientists than that played during the heyday of the welfare state. However, it is important to understand that 21st century society is a market society in which there is less need among policy makers for social science than in the past. It is a fact that: “Under the aegis of the new global elite, a new cultural order is being created. In market society, the leading science is the science of markets – that is to say, economics: not political economy, not even ‘economics’ in its sense of public house keeping. Rather, it is the stripped-down

economics that is interior to market society – that concerns itself only with the internal dynamics of markets, and not with their conditions of existence, with what is outside the markets” (Connell, 2000, pp. 291-296). In this context, more than ever before, there is a need for critical social science; that is: “Intellectual projects that concern themselves with what lies beneath, beside, and beyond the market. The future of sociology, if it is to escape marginalisation and slow decline, is to be reconstituted as a democratic science, as the self-knowledge of global society” (Connell, 2000, p. 294).⁶

It is my opinion that, in this way, social science will not only avoid a decline in its policy influence, but it will be able to better position itself to cope with the upcoming challenges of the new century.

NOTES

1. See also OECD (1999) and UNESCO (1999).
2. Pinker (1971). Although not a monograph, see also Bulmer (1986).
3. Cross *et al.* (2000) provide an overview of “best practices” in a number of European countries.
4. To date, some 260 national and sub-national *Human Development Reports* have been produced in 120 countries.
5. See www.undp.org.
6. See also Mangabeira Unger (1987).

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Chapter 10

FROM SCIENCE/POLICY INTERFACE TO SCIENCE/POLICY/SOCIETY DIALOGUE

by

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An old problem in new clothes

The selection and use of knowledge for decision making can be seen as an old problem in new clothes. Since ancient times men – seldom women – of power had advisers. These could be priests or astrologers, claiming the ability to decipher the will of God(s) or stars, philosophers knowledgeable about human nature, military strategists familiar with weaponry and combat techniques, engineers able to develop technologies of many sorts and, more recently, economists assessing production factors and monetary values, natural scientists inquiring into physical or ecological processes, policy analysts, experts in international relations, etc. In other words, advisers have always been the “holders” of specialised forms of knowledge regarded as (potentially) useful in decision making.

One of the new components in the current relationship between knowledge and decision making is the paradox (Weingart, 1999) of science’s increasing legitimating function for political decisions while its own legitimacy as the source of “truth” is decreasing. A second element of novelty is the partial shift of both knowledge production and decision making from the public to the private sector, while the problems facing society remain public ones (*e.g.* health and environment protection) or impinge upon the private life of individuals (*e.g.* reproductive choices, privacy). A third element of novelty is the spreading of participatory approaches that may either enrich or further “destabilise” the already vulnerable relationship – and contested boundaries (Jasanoff, 1987) – between science and policy making.

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Complexity and democracy

Two main groups of factors contribute to the new relationship between knowledge and decision making. One is the complexity of contemporary societies, which are characterised by socio-economic interdependence at multiple levels and by the behavioural, ethical and institutional challenges which are being thrust upon us at unprecedented speed as a result of accelerated technological change. Such complexity increases the uncertainties (scientific uncertainties, as well as uncertainties over the competencies and capabilities of various organisations and – as a result – uncertainties over policy outcomes), and the sense of insecurity of significant sectors of society. This lack of certainty is at times reinforced by the failed attempts of our political and technical elites to keep “everything under control” (Funtowicz and Ravetz, 1993; Lianos, 1999; Liberatore, 1999; Wynne, 1987).

A second group of factors relates to the changing democratic set-up. While traditional democratic institutions and procedures are spreading (sometimes through a rather “mechanical” transfer process) to countries which previously experienced totalitarianism, these very institutions and procedures are also being challenged. They are challenged, for example, by citizens’ disaffection (as illustrated by the decreasing participation of voters in elections), by the decisional weight of actors (*e.g.* international financial institutions) which cannot be held accountable in strictly democratic terms, and by inefficiencies (for instance, in terms of the time involved in taking decisions or the ability to deal with complex and controversial issues – the totalitarian solution of “simplification of complexity” through the abolition of pluralism not being an acceptable option). The current scholarly and policy debate on governance¹ can be regarded both as an effect of these changes and an attempt to identify forms of pluralistic and accountable decision making in a situation where it is increasingly difficult to identify “who is governing”. In our interdependent world, multiple levels (from local to international) and actors (including “non-governmental actors”, such as corporations and many scientific organisations) of governance are at work.

The first group of factors leads to an increased – and often controversial – search for knowledge(s) as a support for decision making; this can explain the first component of the paradox mentioned earlier since the search for (specialised) knowledge cannot be avoided – in spite of the controversies undermining its “truth”. The second group of factors leads to a quest for other forms of accountability and, sometimes, for other forms of pluralistic and democratic participation – the third element of novelty mentioned earlier. This development includes the possibility for holders of non-official, or even dissident, scientific theories and other forms of knowledge to demand the right to be heard. It in turn explains the second element of the above-mentioned paradox, since pluralism of knowledge contrasts with attempts to claim that only one “truth” exists (while not necessarily contrasting with the possibility to set criteria enabling one to discern which theories or results are more robust). Both groups of factors lead to an important outcome: the expansion of the previously relatively closed networks which provided expert advice to decision makers – both public and private – to more open knowledge networks serving as input to public debate and deliberation. In the following sections, I reflect on the scope and implications of the new relationship between knowledge and decision making.

Re-focusing the science/policy interface: from technology to quality of life

The scope of the contemporary interface between science and policy has been mainly related to the regulation of technological risks, ranging from nuclear weapons and energy, to other (*e.g.* biological) weapons, chemicals, transport (from ships to planes and high-speed trains), biotechnologies, reproductive technologies, genome mapping, information technologies. The establishment of technology assessment (TA) procedures and organisations is both a result and an

indicator of this focus, as is the rich body of literature on risk assessment and management and the (technology-related) regulatory initiatives that have been taken to control environmental emissions, cope with accidents, ensure that products are appropriately labelled, etc.

These technological issues, far from remaining purely technological, concern areas such as agriculture, food production and consumption, environment, health, industry, reproductive choices, trade, welfare. In other words, they affect all areas of public and private life; thus the scope of the science/policy interface goes far beyond technology regulation. Indeed, we can say that the “scope” of the current research/policy interface is “quality of life”. Inevitably – at least in democratic settings – this involves an increase in the number of bodies claiming stakes, relevant knowledge and involvement in the public debate. This broader participation is illustrated by the increasingly visible involvement of non-governmental organisations (NGOs) in such varied decision-making procedures/forums as urban planning, national and international regulation of biotechnologies, international environmental agreements, reform of social protection systems, migration policies, world trade agreements, and so on. The NGOs claim to voice public interest and concerns, and while such a claim is often criticised as being non-legitimate (in the sense that the NGOs are not elected representatives), they do indeed provide a mouthpiece for proactive sectors of society able to organise themselves around a certain issue. One of these organisational aspects relates to the ability to develop and mobilise “counter-expertise” (as opposed to government or “mainstream” expertise) in order to challenge policies and – in some cases – propose alternative approaches.

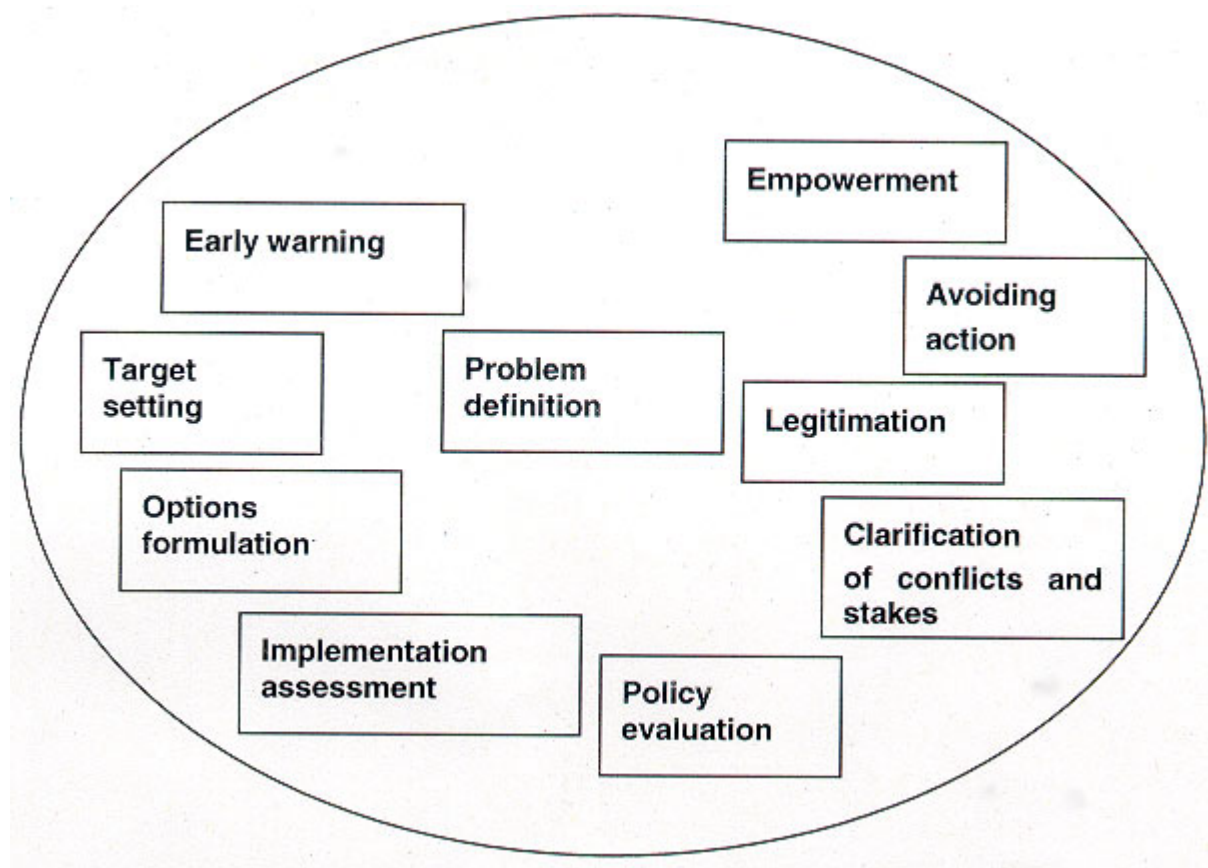
While the research/policy interface is expanding both its thematic and participatory scope, the production of science and technology is increasingly led by the private sector – either through direct spending by business or through government-financed RTD carried out by companies (Caracostas and Muldur, 1998). This does not necessarily mean that science and technology have been fully “privatised”. The rapid spread of innovations which can be marginally modified and shared at low or no cost partly mitigates such privatisation (as in the case of “shareware” and “freeware” diffused by individuals or by software companies who no longer attempt to patent products that can be easily modified). However, the increased role of the private sector involves some tricky issues regarding the incompatibility of objectives (profit maximisation vs. provision of science as a public good) and the related setting of priorities, diffusion mechanisms, and so on. Cases like the debate on the patenting of human genome fragments or the appropriation of genetic resources indicate that conflicting private and public objectives can be indeed very difficult (in the first case, probably impossible) to reconcile. In this context, it can be noted that public research is challenged both by developments in the private sector and by pressure from organisations voicing public interest. In other words, public research becomes one of the suppliers – rather than “the” supplier – of research that can be relevant for policy making and can have important societal implications; private sector research is at least as important as public sector research. This sometimes means that not only citizens, but also public agencies may find it difficult to access relevant information in view of regulatory and other policy activities.

Going beyond a simple “demand/supply” model

On the basis of the above discussion, identifying what and whose knowledge is sought, selected and used in policy making is a far from simple exercise. We can first note that various forms of knowledge – natural and social science knowledge, technical knowledge, practical knowledge – can contribute to different policy and socially relevant functions: early warning, problem definition, target setting, formulation of options, implementation assessment, evaluation and empowerment of social actors in the policy process (Figure 1). Examples range from early warning on such diverse issues as the impacts of climate change or the conflicts that can arise from political and social instability, to the assessment of the severity or time horizon of these and other problems, the design of policy options

and instruments, or the development and use by NGOs of specific institutes and think-tanks as mechanisms of empowerment. Other functions identified in the literature on social studies of science include legitimating policy choices, delaying or avoiding action, clarification of conflicting interests (Boehmer-Christiansen, 1995).

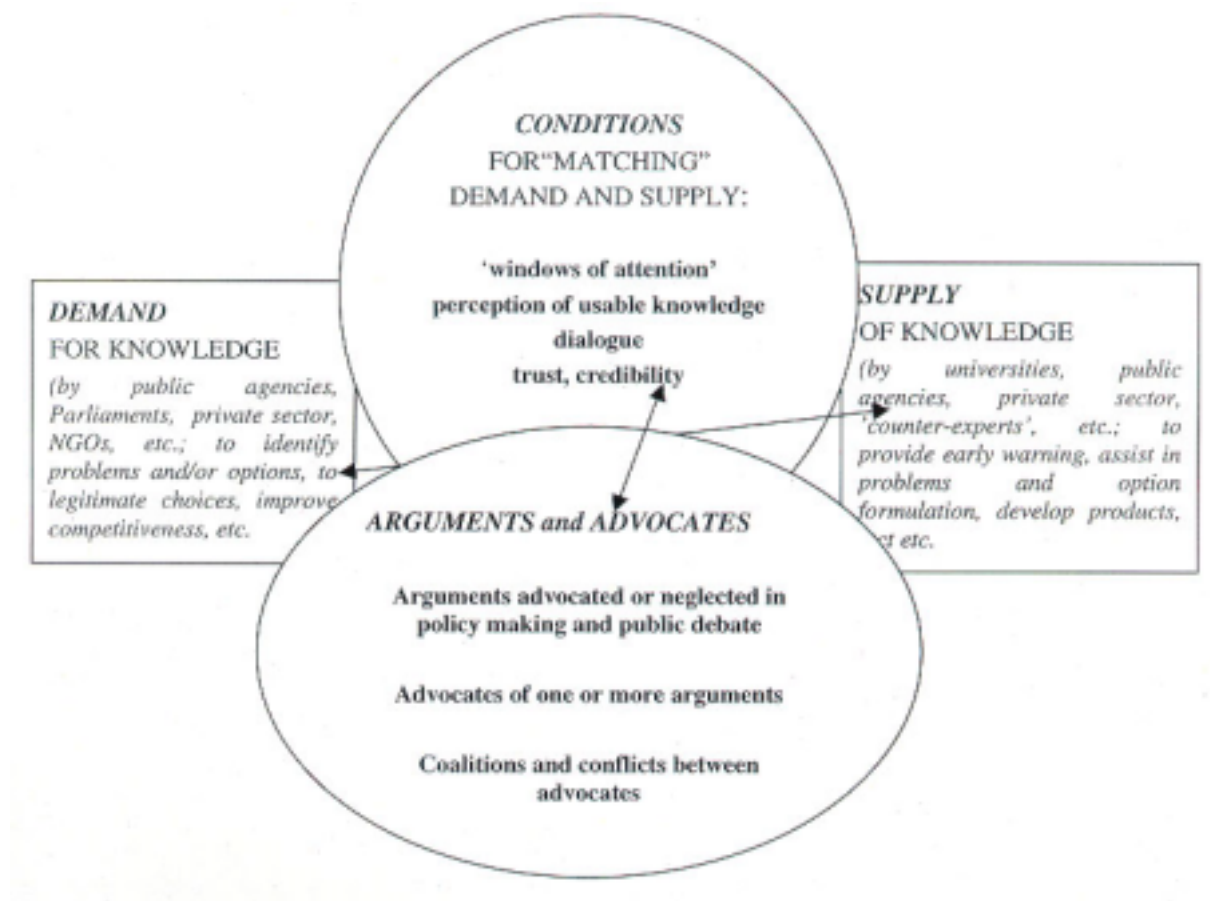
Figure 1. **Some policy and socially relevant functions of knowledge**



Not all forms of knowledge are relevant or useable for policy and social choices. Good-quality scientific findings may be very important for the advancement of knowledge, but only remotely relevant for the policy and social debate. Many research results, available technological know-how or insights from experts may be disregarded in spite of their potential relevance to a particular problem. In other words, knowledge “supply” can go unnoticed. At the same time, policy and social “demand” may have a need for data or methods that are either not yet available or are unconfirmed and/or controversial. For knowledge to be meaningful and useable, there must not only be a supply and a demand but also suitable conditions. These include: “windows of attention”, a perception that available knowledge points not only to (unmanageable) problems but also to (potential) solutions, as well as forums and procedures for communication and dialogue. Forums and procedures are of crucial importance: they are necessary not only to ensure that information on supply and demand(s) is shared, but also to develop – and test the degree of – trust and credibility (*e.g.* whether the knowledge is of good quality, whether policy makers are “properly” using knowledge, both aspects of which need to somehow be made accessible and accountable to citizens) which will allow the “matching” of supply and demand. To this still incomplete picture of the relationship between knowledge, policy making and social debate, we need to add the actors involved, and particularly the ways in which such actors

develop and use evidence and argument to support “their” definition of the problems and options, to persuade other actors to join them and form coalitions on the basis of a plurality of (often controversial) knowledge (Majone, 1989). Figure 2 provides a simplified illustration of the interfaces between research, policy and society.

Figure 2. **Simplified model of the interactions between research, policy and society**



A more accurate, although not fully comprehensive, “policy communication model” has been developed elsewhere (Liberatore, 1999) to account for the communicative interactions that do not simply “surround” but explain the way in which certain problems are formulated, options identified, actions implemented and lessons learnt. Such a model suggests that under conditions of scientific and organisation uncertainty (that is, under the conditions that apply to many issues in policy making and the public debate), the specific forms of interaction between the actors involved in the development, selection and use of relevant knowledge determine the way in which a problem is defined and the responses to/lessons drawn from it.

Public spaces and participatory approaches

What are the procedures and forums that are used and/or could be used to confront various sources and types of evidence and arguments, develop shared meanings, manage conflicting

perspectives and interests? Who participates, or should participate; in other words, who are the so-called “stakeholders”? And is participation good *per se*, or is it only good under certain conditions?

Democracy has been called a system of government by discussion and whether one focuses on “formal” or “substantive” democracies – or “direct” vs. “representative” democracies, the importance of expressing, circulating and debating ideas is a common feature, which is usually enshrined in the legal framework. Parliaments have been a primary institutional forum for organised and pluralistic debate, and parliamentary hearings and inquiries have provided the means to include inputs from specialised knowledge and selected “stakeholders” in the political debate between “majority” and “opposition”. Some governmental hearings and information campaigns – at national as well as local levels – have served a similar “involvement” function with a view to implementing policy decisions (especially when it is anticipated that such decisions are likely to give rise to controversy and protest). Other institutional “spheres” for public debate include referendums, electoral campaigns and political party gatherings. In contemporary democracies, those institutional spaces are witnessing a certain amount of disaffection by citizens and in any case they are by no means the only spaces for debate. The media are frequently counted among the main actors in the “public space”,² and this is indeed an accurate reflection of society if the media are considered in their multiple roles as channels of communication between other actors in society as well as actors themselves with their own stakes and language. NGOs, social movements and local communities are among the “civil society” actors that not only claim access to institutional forums for public debate and deliberation – and to the media – but themselves organise forums for debate. In some cases, business (in addition to lobbying relevant political institutions and securing access to – and often control of – the media) organise consultations with local authorities and communities to debate the siting of industrial installations or other developments that could come up against resistance. The scientific community sometimes “opens its doors” to public debate through publications addressing the educated layman and discussion forums with policy makers, the wider public, etc.

In this abundance of public spaces, it is necessary to ask who has an interest in – and the resources for – participating in debate. An interesting classification of potential “holders” of stakes, resources, etc. – that is, persons and organisations possessing some quality or resource that entitles them to participate – has been recently put forward (Schmitter, 2000). According to this classification, participators can hold rights (citizens), and/or spatial location (residents), knowledge (experts), share (owners), a stake (beneficiaries or victims), interest (spokespersons). In the context of our focus on the science/policy/society interlinkages, it is worth recalling that knowledge-holders are not only official experts, but also social actors (ranging from business to NGOs, practitioners and traditional communities) able to organise and voice the inputs from other forms of knowledge than the official one.

Last, but not least, we need to ask whether participation is good *per se*. A first obvious answer is that “cosmetic” participation – *i.e.* participation organised merely to “sell” decisions which have already been taken – can generate even more disappointment than that caused by blunt “technocratic” or “decisionist” approaches. This is due to the expectations raised and the resources (time, organisation, etc.) invested. In addition, if certain participatory methods are taken as “surrogates” for – rather than assisting and complementing the workings of representative institutions – this could give rise to the risk of anti-democratic “populist” developments.³ The “positioning” of the actors participating in the policy and social debate is also an important factor: if such positioning is imposed on participants, it can deprive people of selfhood; if it is actively and positively defined by the participants themselves, those involved can negotiate their positions, establish new storylines, etc. (Harré and Van Langenhove, 1998). On the clearly positive side, genuine participatory methods can contribute to “creative politics”, enabling the generation of innovative alternatives in a context of pluralist debate and negotiated conflict resolution (Burns and Ueberhorst, 1988). With special regard to the relationship between experts and other members of society, participatory practices can help to

share the definition and management of a problem, mobilise resources of local and/or practical knowledge and understanding which can act as a complement to the specialised knowledge of experts (De Marchi and Ravetz, 1999).

The role of the social sciences

What can the social sciences offer in this context of change and challenge? In order to respond to such question, it is useful to distinguish between the different and possibly incompatible types of social science “supply”. First, it is important to acknowledge that not all social science (and the same applies to the natural sciences) is policy relevant and useable in public debate. Some areas of “basic” research can be crucial for the advancement of knowledge in domains where policy and public attention simply does not exist, but where a need for information may arise when it is perhaps too late to obtain a robust understanding. Second, policy relevant research should be distinguished from policy-driven “consultancy”. Policy and social relevance may call for analysis of a broader or more medium- or longer-term nature, compared to the short-term and narrow “terms of reference” required to assess the specific impacts of a regulation or the cost/benefit ratio of a new tax. Third, policy and social relevance need to be distinguished from “marketing” relevance. Looking for ways to make certain technological products more acceptable in the eyes of the public is not the same as understanding the issues and identifying possible options to address the linkages between science and society, including the nature of risk perception or lack of trust in science.

Bearing these distinctions in mind, we can now turn to the genuine contributions that the social sciences can make to policy making and the public debate. I propose two related, but distinct, types of contribution: “content”; and “process”. “Content” contribution relates to the examination of social behaviour and perceptions, cultural norms and values, institutional dynamics, economic processes, the relationship between the social world and the natural environment, etc. “Process” contribution relates to the understanding and facilitation of methods and procedures that can enhance policy making and public debate. These methods and procedures can include mediation, conflict resolution, policy exercises, extended peer review, focus groups, dialogue workshops, participatory integrated assessment, etc. While the “content” type contribution is too broad and diversified to be reasonably addressed in this chapter, a few example of “process” contributions developed in the European context are offered below.

Examples of “process”-oriented social science in the European context

Developing dialogue methods and tools

Within the research programmes of the European Commission’s Research Directorate General, some research projects and networks have been established that are directly relevant to the development of methods and instruments for enhancing the interface and dialogue between research, policy making and citizens. Two main types of research initiatives can be mentioned in this regard: the projects and networks that focus on the development of participatory approaches; and the projects and networks that analyse current participatory practices in view of diffusing them when/where suitable.

Within the first type of initiatives, and taking examples from the “Environment” research programme, one can mention the research project “Ulysses” (Urban Lifestyles and Integrated Environmental Assessment). “Ulysses”⁴ explored the dynamics of public and policy debate on the relations between personal lifestyles and global climate change by setting up “focus groups” of citizens and a number of “policy panels” in selected European cities and exposing them to the use of integrated assessment models.⁵ One of the conclusions is that while formal models can be one of the

sources of knowledge that can inform and enhance public debate, their utility is diminished if they are not developed with such use in mind. This does not mean that all models should be designed for use in public debate, but some could and should be. More generally, the use of information technologies can offer a useful instrument – but only if the appropriate conditions are in place (*i.e.* to avoid rejection by those unfamiliar with the technology).

Concerning the second type of initiative, analysis of current participatory practices is focused, for example, on the projects and networks of Local Agenda 21 (LA21). These include the “Transition to Sustainability” project, co-ordinated by T. O’Riordan (O’Riordan and Voisey, 1998), and the “Sustainable Communities” (SUSCOM) concerted action, co-ordinated by B. Lafferty (Lafferty, 1999), both supported within the Environment Research Programme. Research shows that “top-down” decision making is increasingly being challenged and that effective dialogue between citizens and policy makers is necessary in order to be able to respond to a call for more accountable decisions. Knowledge and expertise, including practical knowledge of citizens as well as scientific information, can provide useful inputs to such dialogue. For this to be the case, knowledge relating local and global aspects (*e.g.* the local and global dimensions of technology development, environmental protection policies, etc.) is of particular value. In addition, research on “participatory governance” and on the role of “innovation systems” in fostering new development models – both of which involve dialogue between knowledge holders, policy makers and society – is pursued in the key research action “Improving the Socio-economic Knowledge Base”.

Experiments in dialogue

A number of initiatives have been or are being implemented to improve the research/policy dialogue in the European Commission.

The “Kyoto Process” research/policy workshops (European Commission, Research DG, 1998a; 1998b) gathered researchers and policy makers working on climate change issues to discuss some of the topics “on the table” – these topics were jointly selected through previous consultations between researchers and policy makers – such as policies and measures, flexibility instruments, verification aspects. After Kyoto, an additional workshop provided a forum for dialogue between researchers, policy makers and socio-economic stakeholders (*e.g.* business, environmental NGOs, representatives of local authorities) on aspects of implementation of the Kyoto Protocol and related EU policies.

With regard to the setting of agendas for science and technology policy, the European Technology Assessment Network (ETAN) was established to promote communication and debate at the European level between researchers and policy makers on science and technology policy topics.⁶ ETAN selected a number of topics – ranging from ageing, to climate change, intellectual property rights, gender balance in research policy, etc. – for which working papers were produced by independent experts, and seminars with policy makers and stakeholders were convened.

Finally (at least as far as this chapter is concerned, but other examples could be given), a series of “dialogue workshops” has been recently launched in the context of the programme on “Improving the Socio-economic Knowledge Base”. The “dialogue workshops” start from the assumption that social science research can play a constructive role in understanding socio-economic-political changes, identifying opportunities and risks, assessing the feasibility, acceptability and impacts of different policy options, and so on, if it enters into sustained dialogue with those who are at the same time potential users of research, actors of change and holders of important forms of practical knowledge. In other words, research should not only aim to “communicating its results” to the people “outside” the research system, it should also “listen to and learn from” the experience and concerns of the various social actors. The “dialogue workshops” series intends therefore to target multidirectional

communication – as opposed to unidirectional diffusion of information – in relation to a number of different, but related, issues ranging from work and welfare, to citizenship, regional development, globalisation, etc.⁷

Problems and prospects

Some rather “practical” conclusions can be suggested on the basis of the examples discussed in the last section above. These examples point to some “capacity building” efforts in relation to science/policy/society dialogue. These efforts have both strengths and limitations.

Their main strength relies in the understanding that dialogue linking researchers, policy makers and citizenry is not only necessary but requires a proactive approach: such dialogue will not “happen” by itself. In addition, it is increasingly understood that unidirectional communication (*e.g.* dissemination of research results to potential users) is not sufficient, and needs to be complemented – or replaced – by multidirectional communication (*e.g.* in terms of a joint definition of the issues, the development of a shared language, etc.). The goals of such an exercise are to both develop new methods and tools and obtain a better understanding of current practices.

In terms of weaknesses, most of the dialogue experiments presented above consist of workshops. While workshops provide feasible and often fruitful occasions for dialogue, they remain “just” workshops; other mechanisms and processes need to be worked out for continued and sustained interaction between researchers, policy makers and citizens. In addition, some old, but continuing, problems need to be carefully followed. For example, the time lag between knowledge “supply” and social and policy “demand”, the difficulties of dealing with uncertainty (scientists often “blame” policy makers for looking for “certainty”, while they are criticised in their turn for not being sufficiently “transparent” about the degree of “robustness” and uncertainty of their work).

Future mechanisms for dialogue will thus need to:

- Become more diversified (*e.g.* initiating face-to-face as well as IT-based forums).
- Pay greater attention to issues of timeliness (*e.g.* being able to benefit from “windows” of policy and social attention to certain problems).
- Be more explicit about the way a topic is addressed (including joint definition of issues from a “demand” and a “supply” perspective, clarification of the scientific uncertainties, etc.).

This is an important task at both the European level and at other levels of knowledge development, decision making and citizens’ debate.

NOTES

1. For a synthetic collection of scholarly analysis in the European context, see Liberatore (2000); concerning the policy debate, again in the European context, the European Commission announced a White Paper on governance [*Official Journal of the European Communities*, SEC(2000)901/2].
2. For a discussion of the media as part of the “public space/sphere” – defined as the common space where members of a society meet to discuss matters of common interest – see Edwards (1999).
3. Meny (1998) usefully distinguishes negative and positive populism: the first leading to exclusion, nationalism, xenophobia and denial of pluralistic values; the second providing legitimacy to a democratic system as “government of the people, by the people, for the people”.
4. On “Ulysses”, see the chapter by Kasemir, and the project’s Web page: <http://www.zit.th-darmstadt.de/ulysses>).
5. On integrated assessment, see Bailey *et al.* (1996), Sors *et al.* (1997) and Rotmans and Vellinga (1998).
6. See the chapter by Kastrinos for a more detailed discussion of ETAN, and the ETAN Web page: <http://www.cordis.lu/etan>.
7. For further information on the “dialogue workshops”, refer to the section on “socio-economic research” on the Web page: <http://www.cordis.lu/improving>.

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Chapter 11

IMPROVING PROCEDURES FOR CITIZEN PARTICIPATION AND STAKEHOLDER INVOLVEMENT

by

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Introduction: the need for public consultation

The severity of citizen protests against the WTO agenda at the Seattle meeting has caught many policy makers ill-prepared. There were many factors that contributed to the derailing of the negotiations. However, gaps between views of many negotiators, who saw the Seattle talks essentially as a technical trade discussion, and views of many citizens, who thought that basic issues of social and environmental concern were to be decided without sufficient democratic control, contributed to the disaster at Seattle.

In a similar vein, the wave of consumer opposition to genetically modified food has recently reached new heights, spreading from Europe to the United States. Europeans' resistance to the use of biotechnology in food production was intensified by an ill-advised public relations campaign conducted by the American Monsanto Corporation. One of the reasons Monsanto's effort to win over European consumers backfired was that the debate about genetically modified food coincided with the scandal over *bovine spongiform encephalitis* (BSE, or "mad cow" disease). In the BSE case, the European public was outraged at institutions that tolerated an agricultural system in which normally herbivorous animals were fed butchers' by-products and that then failed to monitor this system rigorously.

Both cases show that it is increasingly dangerous for decision makers in public policy and business to make complex strategic choices without more adequate public consultation. They may easily miss dimensions of a problem that are important to the public – to the point where they may be surprised by public outrage. This increasing need for public consultation is part of a larger pattern of change in modern societies. Ulrich Beck has pointed out that we are moving into an area of "reflexive modernisation", where governments become facilitators between divergent interest groups, rather than being powerful decision makers in their own right. Frances Fukuyama has stressed the general shift from formal organisations of the past to the increasing importance of informal networks for shaping our societies of the future. And Tom Burns, Carlo Jaeger and Angela Liberatore (see also her contribution to this volume) have argued that even parliaments are in need of increasing their contact

with non-organised citizens in order to continue playing a decisive role in this constellation of competing networks.

In this situation of “reflexive modernity”, expert knowledge becomes more relevant but at the same time less sufficient as a basis for complex decisions which are acceptable to the public. Meaningful processes of public consultation or stakeholder participation have thus to achieve an integration between expert knowledge and citizens’ and stakeholders’ views. Some procedures of this type are available today.

Procedures for public consultation are available

As one example of public consultation procedures for complex policy problems, the “IA focus group” method is discussed in this section. The IA focus group approach was developed in the EU-sponsored ULYSSES project (4th Framework RTD Programme, Environment and Climate, Human Dimensions of Climate Change) and the Swiss CLEAR project. IA focus groups allow to integrate expert knowledge with public consultation processes. While focus groups are widely used in marketing and public opinion research (Morgan and Krueger, 1998), the ULYSSES and CLEAR groups were specially adapted to be useful as part of integrated assessment (IA) procedures. Integrated assessments strive to provide more useful information to decision makers than can be achieved with traditional disciplinary research. They aim at producing composite pictures of complex decision situations rather than highly detailed but unintegrated pieces of information (Weyant *et al.*, 1996). The ULYSSES and CLEAR researchers adapted focus group methods in several ways in order to make them useful in the context of integrated assessment. This includes a longer and more structured discussion process, which allows participants to explore current research findings (usually through interaction with computer models) after responding spontaneously to environmental issues. Participants are also given the opportunity to summarise their views themselves. The resulting focus groups were called IA focus groups to distinguish them from other types (Kasemir *et al.*, 1999).

ULYSSES and CLEAR tested IA focus group designs for the example of climate change and energy use issues in seven metropolitan areas – Athens, Barcelona, Frankfurt, Manchester, Stockholm, Venice and Zurich. As a single group may be biased, several focus groups were conducted in each area. Including pilot groups, approximately 600 people from across Europe participated in these groups. In order to conduct focus groups with a diverse composition with respect to age, gender, income, educational level and attitudes toward the environment, the potential participants were carefully screened. Quotas were established for manual workers and college graduates; those who felt that environmental problems were important and those who did not; and those who favoured environmental regulation and those who did not. Each IA focus group consisted of about six to eight people.

The members of each group met with moderators on five separate occasions, each session lasting about two and one-half hours. The sessions were much more structured than those of conventional focus groups, in which participants engage in a rather free-wheeling discussion about some new product or videotaped speech. Indeed, there were three distinct phases to the focus groups conducted by ULYSSES and CLEAR.

The first phase entailed the spontaneous expression of participants’ feelings about climate change and energy use, *e.g.* by producing collages on how their home region could look in 30 years for business-as-usual or for a reduction of energy use by 50%. In the second phase, participants were exposed to expert opinion on the focal environmental issues, *e.g.* by assisting them in their own interactive exploration of scenarios generated by computer models of climate change. In the final

phase, the participants were asked to summarise their views themselves, *e.g.* by producing written reports guided by a list of questions by the moderators.

The sessions were analysed in a more structured way than is usual with focus groups. One option that was found to be useful is to videotape the group discussions, to selectively transcribe them, and then to scan the transcripts for discussion sequences relating to the topics of primary interest with the help of software that performs qualitative content analysis.

Besides developing and testing the IA focus group methodology, findings of ULYSSES and CLEAR pertain to the views of ordinary European citizens on climate change and energy use. These results include the following (for a more in-depth discussion, see Kasemir *et al.*, 2000). The European citizens who participated in the focus groups often saw potential climate change *impacts* as very frightening. Expectations of the deterioration of basic living conditions around the world, ecological destruction and danger to future generations made a wait-and-see policy unacceptable to them. They adopted an ethical rather than an economic approach to framing their discussions of climate impacts. Sometimes an economic framing of climate impacts was even met with open hostility.

In contrast to impacts, *mitigation* measures were readily framed in economic terms by the participants in these groups. While most participants were supportive of small increases in energy prices, they usually rejected large ones. Participants generally saw large reductions in energy use as more desirable than business as usual concerning energy use. Such a low-energy society was often associated with a relaxed lifestyle in an intact natural environment. Many of the people participating in the focus groups wanted to reach this goal without excessive increases in energy prices. They tended to feel that the development of innovative, energy-efficient products is crucial for making this goal feasible and also thought that researchers and firms should assume responsibility for it. In summary, these findings suggest that climate policy will only be acceptable to most Europeans if it focuses on developing low-cost options for substantially reducing energy use.

Conclusions: overcoming barriers to effective public consultation

While there is a clear need for public consultation on complex policy decisions, and procedures like IA focus groups and others are available, at the moment their potential is not used to its full. A couple of problems in the practice of social science, as well as in science policy, currently act as barriers to progress in public consultation. Concerning social science itself, Luk van Langenhove has discussed some main problems of today's social sciences in the material distributed before this workshop. According to him, these are a lack of unity within the social sciences, a lack of quality control for social science work and a lack of generative power of social science research.

As the question of how much the social sciences are able to generate relevant new insights into policy-relevant questions is the underlying topic of most of this workshop and as one of the other sessions is specifically focused on issues of quality control, here I want to make some remarks on the lack of unity problem. It seems that the NIH syndrome (for Not Invented Here) is especially strong in the social sciences. The NIH syndrome designates the tendency of many organisations or networks to disregard innovations not made "in house" and to prefer re-inventing the wheel to using the work of others. In the spirit of this workshop, where provocative questions rather than ready answers are aimed at, I want to suggest that we as the social science community are not doing a good job of building on each others' work. We should devote more effort to applying methods developed by others in more depth, so as to really be in a position to critically appraise methods and results reported by our colleagues. This would be important, for example, for developing more reliable methods for public consultation. In principle, research programmes like those of the EU, where not single centres but

Europe-wide networks of researchers are supported in order to develop new insights together, are good starting points for overcoming the social sciences' NIH-problems.

Finally, concerning science policy, the tendency to concentrate funding only on the pilot study stage is a major barrier to the development and application of more reliable procedures for public consultation. In the natural and engineering sciences, the division of labour between the public and the private sector can, in simplistic terms, be described as the "R" of R&D being funded by public sources and the "D" by the private sector. However, not much resources for development of social science innovations can be expected to come from the private sector. If policy makers want improved methods for public consultation, they should be ready to increase funding of the "D" part of social science research. This would improve not only the conditions for collaboration between different research teams, supporting the chance of more adequate quality control, but lead also to better possibilities for interactions between researchers and users of public consultation methods. As again Luk van Langenhove has pointed out, science policy should better support social scientists in their collaboration with industry, governments and civil society. This is especially relevant for the further development of public consultation methods, which cannot be successfully be developed in the ivory tower, but need to be co-designed between researchers and users. Apart from increased funding for such collaborations, it is to be hoped that, in the future, meetings on the interface between social sciences and decision making will increasingly include participants from governments, industry and civil society, and not only researchers and science policy representatives. This would help to move forward in the present situation where there is a clear need for improved public consultation in decision making and where some procedures for this are available, but where the NIH syndrome in social science practice and inadequacies of science policy concerning support for researcher-user collaboration have to be overcome, in order to make such procedures more useful in practice.

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Chapter 12

SCIENTIFIC RATIONALITY, PUBLIC VALUES AND DEMOCRACY: THE FAILURE OF GENETICALLY MODIFIED FOOD AND PATENTING DEBATES IN THE UNITED KINGDOM

by

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Introduction: technology and the role of ethics

Technology is one of the biggest shaping forces in contemporary society and is posing some of today's most crucial policy questions. Over 30 years ago, the Church of Scotland saw its growing impact. Technology was compared to a pan of water about to boil over, a powerful force but lacking direction in terms of wider societal goods and harms (Robertson, 1968). In 1970, it set up the Society, Religion and Technology Project (SRT) to address the ethical and social implications of technology. At that time, technical progress was the dominant paradigm. Few associated technology with having a significant ethical dimension. In recent years, ethics has emerged as a central issue in science policy, as well as in civil society, in such diverse fields as genetically modified food, human genetic information, cloning, patenting, power generation and the uses of the Internet.

What is the relation of ethics to the social sciences in policy making? There has been a tendency for the social science discourse to take insufficient account of this ancient and important discipline. Some schools of economic thought regard ethical and value questions as non-quantifiable externalities and are apt to marginalise their impact and importance. Alternatively, sociology or social psychology frequently address what are ethical questions but tend to treat them within the terms of their own disciplines. As a result, ethics has often not been considered on its own terms. This chapter analyses the role of ethics in policy in the context of two recent European cases where the ethical dimension of biotechnology was seriously underestimated, namely gene patenting and genetically modified food. In elucidating these issues, it is argued that ethics has a vital role alongside the social sciences in contributing to public policy.

The SRT Project is one of several institutes in European churches focusing on social issues, but the only one to specialise in technology. It has developed an approach of direct engagement with leading practitioners in key fields of technology, setting up interdisciplinary working groups in which technologists are exposed to ethics and the social sciences, and vice versa, over significant periods of time. One of its strengths is in taking specialists of all three disciplines out of their respective peer

groups and having to defend their views and analyses to a wider critique than each would normally experience. This has proved a very effective model, going beyond the limitations of technology foresight exercises, traditional ethical committees or social science survey methodologies, and to some extent bridging some of the gaps between them. Many of the findings of this chapter are derived from a five-year study on the ethics of genetic engineering in non-human species (Bruce and Bruce, 1999). The patenting case study analysis comes from the work of an European churches working group on bioethics (European Ecumenical Commission for Church and Society, 1996).

Scientific rationality and biotechnology

The first point is the dominance of scientific rationality as the discourse within which biotechnology policy has been driven, in government, industry and scientific communities. This is illustrated in two case studies.

Biotechnology patenting

The dominance of scientific rationality was a key factor in almost ten years of policy controversy over the EU Directive on biotechnology patenting, which was eventually passed in 1998. This legislation was originally seen by the European Commission (EC) and the European Patent Office as a purely technical legal instrument. Its purpose was to extend and harmonise national patent laws to cover biological material. Such material had previously been generally regarded as unpatentable because they were “products of nature” and not inventions of industry. The European Parliament rejected the original Directive in 1995. Under pressure from its own bioethics advisory group, as well as from green NGOs and the churches, the EC reluctantly admitted that the ethical dimension had assumed much greater importance because biological material and living organisms were involved. A few specific issues of concern to MEPs were granted as exceptions but the basic objections to patenting genes and living organisms were not countenanced. The Directive implicitly regards the promotion of the competitiveness for the European biotechnology industry and academic communities as the supreme ethical value (European Commission, 1998).

When the directive passed to member states for comment, the UK Government held a single and hastily organised “consultation” meeting in autumn 1997. Invited industry and NGO spokespeople made statements but there was no effective dialogue. There was no real attempt to invite participation from the general public at this or indeed any previous stage. The UK Government duly accepted the bio-industry perspective and rejected all other views expressed at the consultation. The United Kingdom held the EU Presidency at the time and used its political influence in the European Parliament to promote the industry position on the Directive. Subsequently, the Directive has been challenged legally by the Dutch Parliament. Several other member states are now giving a belated expression to the widespread feeling among the general public that genes and living organisms should not be patented. The Directive stands as a testimony to the dominance of the value judgements of one powerful interest group against the broader concerns and largely unarticulated values of civil society.

Genetically modified food

The unprecedented consumer and supermarket revolt against genetically modified food in the United Kingdom in 1999 represented the downfall of this imbalance of power. Some have sought to dismiss the public reaction as hysteria stirred up by sections of the media, prompted by environmental and other NGOs. Others have ascribed it to an expression of what might be termed Post-BSE

Syndrome – a deep public aversion to risk and distrust of science and its regulators in the light of the failures over BSE. These were undoubtedly factors, but most of all the GM controversy represents a failure of the UK and EU governmental and regulatory systems and the scientific community to take proper account of public values, especially in relation to food. The issue of GM food has indeed become the touchstone for a set of deep value questions arising in the public consciousness concerning nature, science, genetics, policy making and control.

The UK GM food regulatory system was inclined institutionally to take account only of certain sorts of arguments. The primary goal was to press for the rapid commercialisation of GM technology, to ensure that the UK biotechnology research base was translated into a competitive stake in an expanding GM crop market. Industry was putting pressure on the United Kingdom and the EU to relax the precautionary regulatory regime. Although the 1993 Polkinghorne Committee examined ethical issues of GM food, its primary focus was on the presence of human or animal genes in food. It was not asked to look at plant or micro-organism genes – which are the main applications being researched and implemented – nor at the generic question of switching genes across species (Ministry of Agriculture, Fisheries and Food, 1993). From this point onwards, government and food industry publications asserted that genetically modified foods did not raise fundamental ethical objections, despite the fact that many of the most important questions had simply not been examined (Ministry of Agriculture, Fisheries and Food, 1995; Food and Drink Federation, 1995). This presumption led to a series of misjudgements in food safety and labelling.

In food safety regulation, the key doctrine was that GM foods were “substantially equivalent” to their non-modified versions. It was assumed that the scientific judgement that as long as a foodstuff produced by genetic modification was shown to be indistinguishable from a normal food, this would satisfy any public concerns. Similarly, the labelling of GM foods was only mandatory if a scientific test revealed the presence of the added DNA or the protein it produces. Both assumptions were seriously mistaken, because no account was taken of the very different way in which the public evaluates what is “acceptable”. For the public, risk is inextricably bound up with the wider set of criteria and underlying values. For instance, neither substantial equivalence nor labelling by contents offer any choice or reassurance to anyone who believes that mixing genes is ethically wrong or anyone who is concerned about the environmental risks while the GM crop was being grown. The two key concepts on which the safety of GM foods were assessed proved irrelevant for many of the UK population, because scientific rationality was presumed over and against other values.

Ironically, the policy was undercut by the UK company Zeneca, which voluntarily labelled its GM tomato paste on the basis of consumer advice, and the product sold quite well. Matters came to a head when GM soya and maize were allowed into the United Kingdom by the regulatory system, with no segregation or labelling, and without any public debate. Once it became generally realised that everyone was being forced to eat GM food, with no tangible benefits but the possible risk of unintended effects, there was a wholesale rejection of all GM foods, including the tomato paste.

Lessons to be learned over scientific rationality

The dominance of scientific rationality over wider ethical values

The root problem in both the patenting and GM food cases was the presumption by the principal actors in government, EU, science and industry that scientific rationality, usually expressed as cost-benefit analysis, must be the primary method for evaluating non-human biotechnology. Over many years, a set of structures and systems of decision making had been set up which found little or no place

for matters of value rationality. This meant that a range of substantial areas of public concern were effectively eliminated from serious consideration, with disastrous results in terms of policy.

The most basic of these is the intrinsic ethical issue about whether it is right to mix genes across species which do not normally mate. This is widely seen to be unnatural, a step change from selective breeding practices. Advocates of organic and other alternative forms of agriculture present the GM route as another example of the high-technology approach to agriculture, and intrinsically unhealthier and riskier than what it proclaims as more natural methods. Both these value judgements stem in part from a concern that human beings are intervening too far in nature and do not understand as much as they claim to do. This is also expressed in public perceptions of risk to the environment and human health, as discussed below.

There is also an underlying concern about who controls the direction of biotechnology and for whose benefit. The corporate interests of multinational companies was seen to dominate food production in unacceptable ways. While it is true that this point was frequently expressed by groups with deep political agendas of their own, there is little doubt that the public at large feel disenfranchised from the directions of biotechnology and food production, and share a concern that global forces will erode this still further.

Lastly, there are concerns for the voices and needs of the global poor. This was one area where the EU, government and industry made an appeal to intrinsic ethical values, in the claim that GM crops are needed to “feed the world”. This claim to the moral high ground was, however, profoundly undermined when it emerged that the main beneficiaries of the GM soya and maize seemed to be corporate seed and chemical companies, and not the hungry of the world. However much altruism may have motivated the individuals and or even organisations who made these claims, our study found that they were rarely substantiated in reality (Bruce and Bruce, 1999, pp. 177-178, 279).

Value rationality in science and patenting

These value-based concerns about genetically modified food reflect basic values in the population as a whole. These were marginalised by the dominance of scientific rationality within the regulatory and policy-making bodies. Indeed, the principal actors in biotechnology policy tended to dismiss such questions as irrational, emotional or the special pleadings of single interest groups. There is a deep inconsistency in this attitude. Our analysis of the ethical and value assumptions underlying both proponents and opponents of biotechnology led us to the conclusion that powerful values underlay policy makers just as much as critics (Bruce and Bruce, 1999, pp. 81-84, 105-109). This is a criticism of the positivism of both science and patent law. We discovered that intrinsic values were held by practitioners of both disciplines which may be no more “rational” than those of their opponents. The problem was that, unlike their opponents, they tended to be unaware of these value judgements or of the constructions of reality which they were placing on the issues involved.

For example, genetic engineering is based on the value assumption that it is valid and permissible to identify the function of genetic sequences, isolate them and then exchange them at will without any regard for relationships among species. This is an ethical judgement, not a matter of scientific fact. This value was allied to the commercial value of the promotion of the competitiveness of the biotechnology industry as a key potential earner of national wealth. Similarly, as currently practised, biotechnology patenting assumes that the protection of the commercial interests of the inventor is, with a very few exceptions, supreme over considerations about the nature of biological material and living organisms. Thus, it presupposes that, if an industrial use can be found for something biological, the normal distinction in ethics between a living organism and inorganic matter is largely irrelevant.

These insights challenge the frequent presumption of both scientists and patent lawyers that their own work and conclusions are objective, but that the opinions of objectors represent emotional and irrational attitudes. Ethical study reveals that both are driven by powerful underlying values. It is important to distinguish between the technical practice of science acting within its own terms of reference, where it is important to be as objective as possible, and the claim that this practice and its results are thereby isolated from any framework of value assumptions. This takes scientific reductionism beyond its proper limits and makes it an ideological statement, which is a dangerous path to follow. Indeed, on many occasions the claim of objectivity has been used as a tool of power, making a false appeal to the prestige of science in order to promote what were in fact the value judgements of people or their organisations.

Bringing ethics and social science together

In so far as social sciences follow a positivistic approach, then ethics might make the same judgement upon them as on science and patent law. The social sciences are not necessarily free from claims of going beyond their disciplines. A positivistic “social science rationality” can also exclude certain areas of value rationality from its own discourse. The President of Iceland’s opening address to this workshop indicated that the ethical and religious dimensions need to be taken more seriously. Ethics involves a different means of discourse from the social sciences. Its approach to sources – schools of ethical thought, authoritative texts and traditions, narratives, expert and lay perceptions – is perhaps unfamiliar to many in the social sciences. Yet, at many points it overlaps with the social science discourse. This is particularly illustrated in connection with risk perception, which is a thread running through many areas of current policy debate.

Ethics in risk perception and the social contract

Public risk perception was first recognised as a crucial factor in policy making in the context of nuclear energy, and many of the same phenomena are being repeated with biotechnology. The scientific calculation of risk is of no avail if the risks and benefits do not seem to add up within the very different evaluation of risk of the average consumer. In the worst cases, the two constructions of risk are so far apart that dialogue is nearly impossible.

Mobile phones and GM foods represent contrasting examples of risk perception of relatively remote risks. For mobile phones, benefit and convenience are generally seen to override the health risks. For GM foods, similarly remote risks dominate the perception, not least because there is no tangible benefit to the consumer.

The adoption of any technology can be seen as involving an invisible social contract. In return for certain benefits, people may be prepared to accept a certain level of risk from a new technology, provided it meets certain criteria. These include such factors as:

- *Ethical challenge*: whether the proposed activity challenges fundamental ethical values.
- *Familiarity*: how familiar the activity is to our own experience; how far we understand it.
- *Comparison*: whether something similar has gone wrong before, or has proved reliable.
- *Control*: how much we feel ourselves to be in control of the risk.

- *Trust*: if we do not control it, how much we trust those who are responsible; whether we share their aims and motives, or feel that their interests may cloud their judgement about risk.
- *Immediacy*: whether the impact is immediate, tangible (and potentially avoidable), or hard to detect, insidious, difficult to know it was happening or to avoid it.
- *Frequency*: if every fifth aeroplane crashed, we wouldn't fly; since accidents are very rare, most people are prepared to take the risk.
- *Magnitude*: we tend to be more averse to rare events with large consequences than the same number of harms happening frequently over a longer time.
- *Voluntary or imposed*: whether or not we chose the risk, which also depends on the benefits.
- *Benefit*: whether we or society stands to gain a clear personal benefit from taking the risk.

These are a mixture of ethical values, social constructs and semi-quantitative evaluation. Of these, only the magnitude and frequency are calculated in the standard scientific risk calculations. Yet if a technology does not meet most of these criteria, it is likely to present problems of acceptance by society, provided that society has a way to articulate its misgivings. Food technology is acutely vulnerable in this respect and, in the case of GM food, it failed to meet most of these criteria. Few ordinary people see much to be gained from improved production efficiency or the share price of seed companies. If GM offered a marked improved nutrition or quality of food, attitudes might be different. Unmodified food has always been available and is presumed to be tolerably safe and so, people argued, why take the risk? In the UK case, the result was predictable, as indeed the Church of Scotland and others had warned on several occasions.

These social conditions of risk intermingle with the sorts of factors identified in both social sciences and ethical analysis. Risk aversion has been much studied by social psychology, and the social context of different stakeholders by sociology. Ethics can elucidate the underlying moral insights about risk in relation, for example, to unnaturalness and human intervention, which are factors in other issues beyond the GM food debate. Ethics can also identify the range of value judgements affecting different stakeholders which might lead to different perceptions being held. For example, environmental risk of GM crops can be perceived quite differently in such different geographical, social or religious contexts as the United States, the United Kingdom and southern Africa, as a result of a different value context regarding food production and the environment. Ethical insights have also identified the value basis behind the precautionary and reactive approaches to risk management (Bruce and Eldridge, 2000).

Ethics in public policy debates

The ethical dimension has an important role in opening biotechnology to wider public debate, in seeking to ensure that "the public" has been heard on "expert" issues, and not just special interest or different power groups. The revolt against GM food in the United Kingdom during the first half of 1999 was a resurgence of popular perception and a rejection of the scientific rationality of the government expert, in a rather anarchic fashion. For the future, it is necessary to redress the balance from closed expert committees to public engagement in a more constructive manner. The social science monitoring of "what the public thinks" should not, however, be seen as the complete alternative, for several reasons.

First, the social sciences and ethics are complementary to scientific expertise, not a replacement for it. Scientific expertise is essential to clarify the questions and the state of the art, even if its assumptions and constructions may need careful scrutiny. The three are mutually complementary. Second, an ethical view of human nature and diversity cautions against our tendency merely to replace one set of experts by another. If we remove the current “experts” or power base from the room, it leaves it open for any other group to put their bias on the issues instead. Their power base and aims may be no more desirable than the ones they seek to replace. In the UK GM controversy, for example, the current opinion-forming power seems to be held largely by the media, the supermarkets and green organisations. This is arousing much concern, because these groups seem to be posing as many problems of unaccountability to the public as the bio-industry did.

Even countries with a tradition of openness like Denmark have not found a completely satisfactory way to achieve true public consultation with a whole population. There is no simple answer to this. Our own experience and that of several other groups working in the field of public ethical debate suggests that ethics has an important role in helping people give substance to the ethical concerns which they have, and to see these in the context of the other values and beliefs affecting the issue.

Conclusion – the role of ethics

This chapter has given examples of failure in public policy in both the United Kingdom and the EU which stemmed in part from ethical dimensions which policy makers and also conventional social science analysis had largely missed. The danger signals were picked up by value-oriented organisations, like the churches and green NGOs, but not in general by social analysts. Even the large field of social analysis on risk had failed to appreciate the importance of the value dimensions in GM risk. We have also shown how ethics may be a partner in multidisciplinary understanding of a complex issue such as risk and in public participation on “expert” issues of modern technology.

The importance of the ethical dimension in the social science engagement with public policy issues can therefore be summarised as follows:

- To clarify the underlying ethical values involved in the issues examined by social scientists.
- To expose the underlying value assumptions of the different stakeholders, *e.g.* the “objective” experts such as scientists and patent lawyers, the alternative visions of the objectors, the particular ethical values which are being given priority attention in government policies.
- To help the public recognise the key ethical criteria which motivate the positions of different stakeholders.
- To help members of the public articulate their own value priorities.
- To help scientists, social scientists and policy makers recognise and admit to their own value assumptions.
- To encourage scientists and social scientists to take account of values from alternative sources and discourses which they would not normally do.

The role of ethics in public policy is thus to reveal the value assumptions underlying the proponents and opponents of public policy measures, and to set these against those of the general

population, insofar as these can be discerned. It is a matter of debate whether ethics is another discipline within the social sciences or something quite separate. That depends upon one's definition of what constitutes a social science. Either way, it is a neglected question which, as the above examples serve to show, we would be foolish to continue to neglect.

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Chapter 13

REALISING THE FUTURE: ON COLLABORATION BETWEEN POLICY MAKERS AND SOCIAL SCIENTISTS TO FACILITATE SOCIAL CHANGE

by

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Many of the most eminent issues that confront our society, and thus policy makers, are of a social nature. Stopping racism and genocide, preventing war and nuclear-arms races, facilitating the integration of nations in Europe, of Eastern and Western philosophies, of Muslim, Jewish and Christian religious groups all over the world, and of Protestants and Catholics in Northern Ireland, wrestling with the social implications of swift technological and biotechnological advances, only begin to hint at the many pressing issues that beg the help of the social sciences. While the rapid and dynamic changes characteristic of an increasingly globalised society make these issues more threatening than ever, social sciences heretofore have not contributed as much as needed towards the understanding and facilitation of social change. The purpose of this chapter is to elucidate the nature of many contemporary social issues, to illustrate how social sciences can be reformed to help address these issues, and to encourage collaboration between social scientists and policy makers towards the realisation of social goals.

The nature of “glocalisation” and the dynamics of social change

The rapid technological advancement experienced during recent decades has been largely facilitated by disciplinary specialisation. In addition, in order to compete with this lightning-quick progress, professionals are under pressure to become increasingly specialised. With this self-perpetuating cycle of increasingly narrowed fields of expertise, few people have pursued a broader understanding of the relations between specialised disciplines (breadth) and the fundamental assumptions upon which they are based (depth). Furthermore, a positivistic and reductionistic paradigm has dominated science and society for decades, resulting in a severe neglect of the dynamic social realm. The pendulum swing in this direction has resulted in many of the most pressing social issues and problems with which our world is now faced.

Imminent social issues are even threatening the pace of technological and political advancement. For example, geneticists are warning and pleading with lawmakers to severely restrict the availability and application of genetic technologies, because our society is not sufficiently advanced in our

understanding of personal and social aspects of human nature. Similarly, processes of political and economic integration are strongly chained to the resistance of people whose identities are enslaved to the ideology of nation-states. Weidenfeld (1995) addresses the immanent dangers of continued neglect of such social-psychological issues with regard to the success or failure of the European Union:

The current ambivalent public opinion toward the integration process does not ease the realisation of a new reform but makes it, under closer examination, even more pressing. If the citizens are not won over to the concept of Europe, the Union will be threatened by erosion from the inside. (p. 14, my translation)

These and other social-psychological issues need to be addressed by improving our understanding of the relationship between individual psychology and the processes of social communication. Weidenfeld's suggestion for gaining citizens' support for European integration reflect the importance of social cognition and perception:

Europe cannot be constructed against the interests of its nations. However, the opposite is also true: Without European problem-solutions, national interests cannot be protected. Nation and integration may not be positioned against each other. Only if the European and the national moment can be constructively linked, will the potential for, the acceptance and the legitimisation of effective policy formation be available. (p. 14, my translation)

Perceptions of the social realm, such as the meaning of cultural integration, are highly influenced by processes of communication, and it is to this domain that we need to turn to understand the dynamic nature of our social reality.

Communication and social change

Globalisation and its concomitant localisation, also known as “glocalisation” (Beck, 1998), are largely products of increased communication. Increased speed and quantity of communication are the results of technological advances, culminating in the Internet and the World Wide Web. Technological advances enable communication to take place not only more rapidly, but also between a broader, more diverse range of communicators, accelerating social processes which otherwise occurred more slowly and enabling others that were previously impossible. While the rate of development is dependent upon technology, the directions of development are the consequences of the *content* of our communications. In order to address the dynamic and complex issues with which we are confronted in the global era, it is important to understand how the basic building blocks of globalisation – our communications, our language – shape how we think and act.

The true nature of social sciences

The social domain is not a fixed, static object, the properties of which social science should aim to “reveal”. Rather, social and psychological aspects of life are continuously (re)constructed by individuals embedded in social contexts. These social contexts are composed of all aspects of culture: roles, implicit norms, explicit rules, symbols and acts that we imbue with meaning. These ideas and meanings are co-created through social interactions. They are characterised both by the continuity provided by a shared past (including the shared tools developed, *i.e.* language and other symbols) as well as the uniqueness of the communicating individuals and their context (time, circumstances, goals). Therefore, every communication and interaction shapes the way we are.

In attempting to understand ourselves and our society, we (social scientists and lay persons alike) impose upon events and situations a selected reasoning structure through which we make sense of events and situations. Any such structure will emphasise some events or facts and downplay others; some events or “facts” will be ignored – not necessarily purposefully, but because the rational structure is an idiosyncratic sieve that selects some elements and fails to capture others. Every rational structure entails basic assumptions that determine what the relevant “facts” are and allow a coherent, cohesive story to be told (*i.e.* meaning to be constructed). In social science, one fundamental assumption consists of the nature of people’s purposes or goals. These may be psychological, economic/material, genetic/biological/evolutionary, social/moral, and so forth. This assumption influences the kinds of categories we build – distinctions with which we make some properties salient (and meaningful) and others less so.

Based upon these fundamental assumptions, we make sense of our own and others’ actions. In assuming a *homo economicus* framework, scientists divide people into socio-economic categories: lower, middle and upper class become the most salient characteristics and are used to explain motivation and behaviour. People’s actions are interpreted as aimed towards acquiring the largest portion of limited resources for themselves. Within an anthropological framework, people are sorted into cultural groups and presumed to be motivated in accordance with their “ethnic identity”, aiming to protect their cultural symbols and language. Frequently, the fundamental assumptions of several paradigms are combined in explanations: men and women (biological framework) are said to compete for a greater share of political influence (economic framework). These frameworks usually remain tacit, and we are commonly unaware of their fundamental assumptions.

Research in the social sciences: How theory influences experience

Perhaps most impressive is the fact that we actually internalise various thought-categories and their explanatory mechanisms and come to understand ourselves in accordance with them. For example, vestiges of Freudian psychology still thrive in Western societies and are prominent in individuals’ explanations of their own and others’ behaviour. “I was *repressing* my feelings of guilt” and “He must have an inferiority complex because of the way his parents treated him when he was a child” are variations of commonly heard explanations. Similarly, Abraham Maslow’s motivation theory enables people to explain that we are devoting less time to our families not because we are being neglectful, but due to our need for so-called *self-actualisation* in our career or hobbies. Not only do these different explanations affect the way we think about our actions, but they also influence our corresponding emotions: the way in which a behaviour is framed influences whether we feel guilty or proud about it. Furthermore, these varying conceptions determine which actions we strive towards and which we encourage in others. In summary, the story we tell, the framework we impose with its tacit assumptions, influences our cognition, emotion and behaviour.

The interaction of language, thought and social interactions

As we have seen, the framework we adopt determines the basic categories we employ and the kinds of questions we ask in our attempts to understand humans and the social realm. The categories in which we think are of a dialectical nature, such that one category, *X*, can exist only when one can conceive of another category of *not-X*. For example, if everything in the world were shades of red, we would no longer have a word for “red” (nor could we conceive of the concept of redness). Hence, we understand and define the phenomenon *red* by all that which is *not-red*. While such dimensions of diametrically opposed categories are necessary for cognition, precisely these distinctions enable conflict to arise. Particularly in Western rationality (as distinct from Chinese rationality, for example),

that which is not conceived to be *X* is conceived to be *not-X* (a conclusion of the law of non-contradiction that is fundamental to Aristotelian logic). In his renowned *Clash of Civilizations*, Samuel Huntington (1997) describes this phenomena with respect to conceptions of identity:

In the post-Cold War world, the most important distinctions among peoples are not ideological, political, or economic. They are cultural. Peoples and nations are attempting to answer the most basic question humans can face: Who are we? And they are answering that question in the traditional way human beings have answered it, by reference to the things that mean most to them. People define themselves in terms of ancestry, religion, language, history, values, customs, and institutions. They identify with cultural groups: tribes, ethnic groups, religious communities, nations, and, at the broadest level, civilizations. People use politics not just to advance their interests but also to define their identity. We know who we are only when we know who we are not and often only when we know whom we are against. (p. 21)

Although this kind of distinction is most common in at least Western cultures, the construction of out-groups (delineating “who we are against”) is not the only way to define oneself. One alternative to defining one’s in-group by forming an out-group is to emphasise the distinction between one’s (or one’s group’s) past and one’s envisioned future. Such a distinction suggests a progressive character of the group which is welcomed, because people like to perceive of themselves and the groups with which they identify as positive and improving. In addition, it is less aggressive and less prone to instigate conflict.

The interplay between social science, policy and social change

In order to fundamentally change the way we think, feel and act in situations, it can be necessary to fundamentally change the way we conceive a situation. Changing our conception can entail altering the dimensions, or framework, according to which we structure the situation. Such changes are not of a quantitative but of a qualitative nature. A new story is told. New metaphors are developed. Creativity is demanded.

Entrenching the status-quo: A “real-life” example

To illustrate the fundamental change of thinking demanded for true social change, I will recount an experience at a recent conference in Washington, DC, sponsored by the National Science Foundation. Researchers specialising in the topics of racism, prejudice and stereotyping, as well as educators, were invited from all over North America to organise a new grant proposal for projects to promote tolerance. Countless money had already been invested in similar aims, but each new hate crime, incidence of genocide or other racial conflict resulted in an outcry from the public and politicians: How can it be that we are so technologically advanced, but still have such basic social problems? My partial answer to this justified query is a result of my observations at this “high-level” conference. The large majority of intervention programmes aimed at reducing or preventing prejudice are structured as follows. Researchers or educators commonly show children pictures or films, or read stories, about White people, Black people, Asian people, and other racial backgrounds. Each of these racial backgrounds is shown as different but good. In assessing the efficacy of such intervention programmes, researchers or educators usually present the children with Likert scales on which they are to rate, from 1 (“not at all”) to 7 (“a lot”) questions such as:

- How much would you like to be friends with:
 - a) a White person?
 - b) a Black person?
 - c) an Asian person?
- How much would you want to live next door to:
 - a) a White person?
 - b) a Black person?
 - c) an Asian person?

It is no wonder that such costly intervention programmes have failed. Not only do they fail to change our way of thinking, but they further entrench racial categories as the dominant cognitive structure for understanding social situations and for explaining behaviour. If our goal is to prevent racial prejudice, we must first stop making racial categories the most dominant constituents in our cognitive structure. We must stop talking about and analysing (scientifically or otherwise) predominantly in the categories of White, Black, Asian, Indian, etc., and thereby granting these categories extraordinary importance and meaning. These categories are no more “natural” than those which distinguish between people with attached vs. unattached earlobes, or between various eye or hair colours. Such differences should not be ignored where they are relevant; on the contrary, I encourage open discussion. However, race and ethnicity are not – and thus should not be studied as – correlates of intelligence or other personality characteristics. Preferable ways to understand and explain human behaviour might be in terms of people’s cultural development, level of thoughtfulness, wisdom, creativity, etc.

Using language to facilitate social change

In his widely read *What is Globalisation?*, Ulrich Beck (1998) describes the character of the relationship between policy and social science that has existed heretofore, a relationship which has perpetuated and entrenched classical ways of thinking rather than facilitating change:

This organisational scheme [of the nation-state] is not only externally valid, but also internally. The internal space, as distinguishable from external individual communities, is subdivided into inner totalities. On the one hand, these are thought about and analysed as *collective identities* (classes, estates, religious and ethnic groups, distinct ways of life for men and women). On the other hand, they are theoretically conceived and differentiated according to the organism-metaphor of social systems, separated and ordered into the individual worlds of economics, politics, law, science, family, and so forth, with their “logics” (“codes”). The internal homogeneity is essentially a creation of state control. All sorts of social practices – production, culture, language, job market, capital, education – are normed, influenced, limited, rationalised, and at the very least labelled, according to a nation-state scheme. The state pre-determines a territorial unit as a ‘container’, in which statistics on economic and social processes and situations are systematically collected. In this manner, the categories of the state’s self-observation become categories of the empirical social sciences, such that the social sciences confirm the bureaucratic definitions of reality. (pp. 50-51, my translation, emphasis in original).

The understanding, the promotion and the guiding of significant social change entails fundamental alterations in the ways we conceive the world. The current pattern is that policy makers ask old questions phrased in the traditional categories of thought. Then, social scientists adopt these structures and study the social world accordingly. Instead, policy makers and social scientists should co-operate in forming the kinds of questions that enable us to understand the fundamental and dynamic changes that are characteristic of the glocalisation process, and indeed to guide and shape future changes toward the realisation of our goals. According to Beck, in the process of globalisation, the most important task of social sciences will be to create and develop alternative ways of thinking:

The globalisation debate in the social sciences can be understood and developed as a fruitful debate over which fundamental assumptions, metaphors of the social realm, which *units of analysis* can *replace* the nation-state axiomatic. (p. 53, my translation, emphasis in original)

This creative task should be done in collaboration with policy makers. Rather than “passively” describing the current state of affairs (how things are), as if they were static, social scientists should accept their inherent influence upon the social realm. Together, policy makers and social scientists should carefully decide upon social goals and then pursue the question of how to achieve these goals. The realisation of these changes often entails creating new ways of thinking and talking about the world that are based upon qualitatively different fundamental assumptions.

Restructuring the social sciences

In order to understand and guide the dynamic and fundamental changes of modern society, it is necessary to overcome the limitations inherent in the reductionistic disciplinary approach that is currently dominant in science. While specialisation has certain advantages, tackling modern social issues necessitates a broader, more holistic and systemic view of the processes and forces involved in social change. The facilitation of a broadened perspective entails overcoming the walls of the individual worlds with their own “logics” and “codes”, as phrased by Beck above. The fundamental assumptions, theoretical approaches and methods of the various disciplines of the social sciences should be pooled to promote an awareness of these assumptions that are inherent in various approaches and thereby to locate possibilities for fundamental changes. As suggested by Bekemans, Fiorentino and Van Langenhove (2000), researchers could adopt a problem-solving orientation. Social scientists from diverse social science “disciplines”, theoretical frameworks, cultural backgrounds and methodological training should work together with policy makers to address social issues. Furthermore, the research process should not be conceived as being of a linear nature, but rather as entailing many feedback loops, in which the goals, fundamental questions and their assumptions are repeatedly critically examined in light of advanced understanding of the dynamics of social change.

Conclusion

In studying people, social scientists select a rational structure with which to explain human behaviour, but they also simultaneously influence it by constructing or (implicitly) validating selected ways of thinking and understanding. We come to see ourselves and others according to these structures and their tacit assumptions about our goals/aims. Even when social scientists assume the contemporarily dominant framework(s) of their own culture, we are not “passively” observing but actively entrenching, validating, perpetuating the *status quo*.

Social scientists cannot be “objective” because language is not “objective”. Language is a tool that enables us to (re-)structure our understanding of the world and to interact socially. Because all steps of scientific methods are imbued with language, social science is necessarily subjective and inherently political. Social scientists and policy makers can act most responsibly and best facilitate social change by collaborating to educate an awareness of the fundamental assumptions incorporated in frameworks, to actively choose our goals and to co-construct a framework to facilitate their realisation. Doing this responsibly entails educating ourselves, thinking critically and cultivating an openness to re-defining goals at any point of the journey.

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Chapter 14

A ROBUST RESEARCH/POLICY INTERFACE: INTERNATIONAL MIGRATION AND SOCIAL TRANSFORMATION IN THE ASIA-PACIFIC REGION

by

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The theme of this Second Workshop on “Re-inventing the Social Sciences” is the contribution of the social sciences to knowledge and decision making. The central focus of the Bruges Workshop was on the knowledge generated by the social sciences and the ways to improve and enhance the contributions of social sciences in decision making in different sectors of society at the local, regional, national and global levels.

In their background document on the Bruges Workshop, Van Langenhove and his colleagues note that:

A lot of researchers have not been sufficiently diligent in doing research that is relevant to practitioners and policy makers who in turn have not always been sufficiently discerning in distinguishing bad research and unreliable findings from high-quality research. These problems have to be confronted more imaginatively if social science researchers, practitioners and policy makers are to serve the public more effectively. (Van Langenhove *et al.*, 2000, p. 3)

Those making presentations to Working Group 3 on “Problem-oriented collaboration between social scientists and policy makers”, were charged with illustrating how social scientists were engaging significant policy domains in ways which ensured that the findings of their research would make a valuable contribution to policy debates, and thus serve the public more effectively.

This chapter outlines briefly one “success story” in the interaction between policy makers and social science researchers. The story relates to an innovative network of researchers and policy makers with a common interest in understanding better the forces underlying international migration – a process that is transforming societies everywhere. The Asia-Pacific Migration Research Network, one of a number of international initiatives sponsored by UNESCO’s Management of Social Transformation (MOST) programme, has been developed with the specific objective of “developing understanding of the long-term role of migration and ethno-cultural diversity as major factors of

transformation of the societies of the Asia-Pacific region, in order to provide a base of knowledge and analysis for forward-looking policy making” (Castles, 1995, p. 3).

The discussion is presented in three parts. The first outlines three contexts within which this robust research/policy interface is situated: a policy context, a social science context and a research context. The second section details the specific objectives of the APMRN and provides a brief overview of its structure and operation. The third section contains some specific examples of the research/policy interface that has been facilitated by the APMRN. The chapter concludes with some observations on the ways an international social science programme has facilitated the building of linkages between researchers and policy makers. The APMRN, at root, is all about building relationships through deepening our understanding of the research/policy interface, promoting researcher/policy maker interaction, and fostering researcher/policy maker collaboration.

Contexts

Policy

International migration is the only demographic process that is essentially defined and controlled by policy. Analysis of international migration *requires* researchers to engage policy discourses, especially if you live in a country like New Zealand, where successive governments have actively encouraged immigration of certain groups by explicit policy interventions. In other countries, such as Norway, where there are no explicit policies to encourage immigration as such, there is considerable debate about the consequences of this process for the transformation of Norwegian society – many countries are immigrant destinations without having explicit policies to attract migrants.

Population movements across national borders are at the heart of much contemporary debate about social transformation. They will become even more important as increasing numbers of societies develop demographic conditions termed sub-replacement fertility and negative natural increase. Population movement is going to drive much more social and economic change in future, and this process will be a focus of much robust research/policy debate.

Social sciences

The late 20th century saw the state of the social sciences reviewed extensively by UNESCO’s Social Sciences secretariat. In their introduction to UNESCO’s *World Social Science Report, 1999*, Kazancigil and Makinson (1999, p. 14) note that “the main challenge that the social sciences are to face in [this] century is to bridge [the] dichotomy between the intellectual and professional cultures ... and to transform [the debate between them] ... into a factor of strength and further advancement”.

The social sciences remain the cinderella sciences, at least in the minds of many politicians, business people and members of the public. As Van Langenhove (1999, p. 45) observed in his assessment of the social sciences at the end of the 20th century, the view that the social sciences are irrelevant, incomprehensible, low quality or simply wrong is “often shared by ... those with responsibilities for funding social science research”.

New Zealand’s Minister of Research, Science and Technology, the Honourable Peter Hodgson, expressed similar reservations when he announced the government’s vision for science and technology in March 2000. He observed, with regard to the social sciences:

The three problems [associated with social research] are insufficient academic depth, insufficient public engagement and insufficient co-ordination. The three problems are of course interrelated. They are however, resolvable. From my end, I have an obligation to produce systems that allow researchers to better co-ordinate their efforts, be it operational research within the silos of departments of state, academic research in universities, or social research now being more actively contemplated by industry, especially primary industry. I don't yet know how to do that. If you do, let me know ... I believe that if we can have a better co-ordinated approach to social research, we can look forward to resolution of academic depth and insufficient public engagement. (Hodgson, 2000, p. 7)

The series of workshops on "Re-inventing the Social Sciences" are designed "to stimulate change and progress regarding key aspects of social sciences and their use in the policy-making process" (Van Langenhove *et al.*, 2000, p. 2). In this regard, it is appropriate to review some very positive developments with regard to problem-oriented collaboration between social scientists and policy makers that have emerged as a result of innovative developments associated with UNESCO's Management of Social Transformation programme, especially the quite robust research/policy interface that surrounds the debate about migration and social transformation in the Asia-Pacific region.

Research

The policy/research interface under discussion in this presentation is the long-term role of migration and increased ethno-cultural diversity as major factors in the social transformation of societies in the Asia-Pacific region. The last two decades of the 20th century saw massive transformation of the Asia-Pacific region, and one of the most significant elements in this change has been a substantial increase in both internal and international migration. As a consequence of this recent migration, there has been an unprecedented increase in ethno-cultural diversity in many Asia-Pacific countries, and this is a major factor in social and political change.

Migration has significant effects on social relations, political behaviour and collective identities in both migrant-sending and -receiving countries. In many countries of the Asia-Pacific region these effects are not well understood because the dominant perspective in both research and policy has been on short-term labour market and migration-regulation issues. Emerging trends of longer-term settlement of former labour migration and refugees in several countries makes it important to find ways of recognising the rights of such groups and facilitating their economic opportunities and societal participation. At the same time, many migrations remain temporary in character. Protecting the rights of temporary migrants and safeguarding vulnerable groups such as women and children is essential for the improvement of human rights regimes.

The Asia-Pacific Migration Research Network (APMRN) is a response by researchers, policy makers and international organisations to a perceived need to better understand the contemporary migration process in the Asia-Pacific region, with particular reference to establishing an improved knowledge base for policy formulation. Adaptive policy making in this area requires an improved knowledge base, cross-national research collaboration, and improved analytical and theoretical approaches.

The APMRN: an overview

The APMRN is one of several international networks that owe their origin to UNESCO's endeavours to improve the transfer of policy-relevant information on critical social processes to national and international agencies seeking to design and implement effective solutions for sustainable and equitable development. The APMRN was established in 1995 in partnership with the UNESCO-MOST programme and has been linked most closely with the programme's theme: *Management of change in multicultural and multi-ethnic societies*. The project also had clear links to the other two key themes underpinning the MOST programme between 1994 and 2000 – *Cities as arenas of accelerated social transformation*, and *Coping locally and regionally with economic, technological and environmental transformation* (Castles, 1995).

The APMRN is based on collaboration between academics, policy makers, NGOs and other persons interested in international migration in 12 countries in the Asia-Pacific region. In 2000, the network included universities and other research bodies from Australia, China, Indonesia, Japan, Korea, Malaysia, New Zealand, the Philippines, Singapore, Thailand and Vietnam. Pacific Island nations are included through the multi-campus University of the South Pacific with its headquarters in Fiji.

The APMRN's secretariat is based at the University of Wollongong, Australia, initially in the Centre for Multicultural Studies, now in the Centre for Asia-Pacific Social Transformation Studies (CAPSTRANS). At the national level, there are key contact agencies and individuals as well as national networks in some countries. The APMRN has run a major international conference since 1996 on an 18-monthly basis, and this provides the main forum for disseminating research findings and stimulating cross-national discussion about critical policy issues. The national networks, where they have been established (*e.g.* in the Philippines, New Zealand and Australia), provide important links between policy makers and researchers. An example of a national network's activities is provided in the next section of the chapter.

Objectives

The specific objectives of the APMRN are to:

- Carry out comparative research projects on social and political dimensions of migration and ethno-cultural diversity.
- Develop research capabilities in the region and enhance the theory and methodology of migration and ethnic relations research, through exchange of ideas, international seminars, training for researchers, and graduate programmes for future researchers.
- Involve potential research users (especially national policy makers, inter-governmental organisations, non-governmental organisations and community organisations) in all stages of the research process, including research design, empirical work, analysis and dissemination of findings.
- Provide advice and consultancy services for policy makers.
- Assist in raising the quality of international migration data collection, storage and analysis, and encourage and facilitate data-sharing among countries participating in the network.
- Establish migration research across the region as an ongoing part of dealing with change.

In order to achieve these objectives, four stages of development were identified for the network:

- Establishing the network (1995-96).
- Developing research capabilities in the region (1996-97).
- International comparative research projects on social and political dimensions of migration and ethno-cultural diversity (1998-2002).
- Exchanging information on findings, policy development and improvements in the management of migration and social change (2000-04).

The network's activities were reviewed as part of the MOST programme's external evaluation and audit in 1999, and the APMRN was considered to be an exemplar of UNESCO's work in seeking to bridge the gap between research and policy.

APMRN-sponsored activities: some examples

The APMRN has stimulated interaction between researchers and policy makers in most of the countries involved in the network. Four examples will be outlined briefly in order to illustrate how the network has generated some challenging research directions as well as interesting policy initiatives in some of the countries actively involved in the network. These are:

- Researching Hong Kong Chinese "astronaut" families.
- Recognising "invisible" migrants in Japan.
- Examining labour exchanges between countries in the Asia-Pacific region.
- Exploring the consequences of immigration policy in New Zealand.

Astronaut families

During the late 1980s and early 1990s, there was extensive migration of Chinese out of Hong Kong into countries on the Pacific rim, especially the United States, Canada, Australia and New Zealand. This was part of the lead-up to the transfer back to Chinese control of the British Colony of Hong Kong in the mid-1990s. Two critical policy issues, raised by contributors to Skeldon's (1994) collection of essays, *Reluctant Exiles? Migration from Hong Kong and the Overseas Chinese*, were:

- Was this "exodus" of middle-class Hong Kong Chinese business people and residents a permanent movement overseas, or was it largely temporary movement seeking to establish additional residential bases for economic and social activity in countries on the Pacific rim?
- Was there a distinctive migration process, which became known as "astronauting", associated with this movement of Hong Kong Chinese to countries such as Australia, Canada, New Zealand and the United States?

Cross-comparative research in Hong Kong, Australia and New Zealand by APMRN academics and research networks established that there was considerable return migration to Hong Kong after reunification with China (see, for example, Ho, *et al.*, 1997; Lidgard *et al.*, 1998). Significant shares of the migrants obtained citizenship rights in their countries of destination before returning.

Many men also left children and other family members living at the destination while they returned to Hong Kong (China) to work. This produced the phenomenon of “astronaut” families, where the adult males (or both parents) were living in Hong Kong while some of their dependants were living at the destinations, taking advantage of education opportunities and other state-subsidised services and facilities (Ho *et al.*, 1997). Research in New Zealand and Australia suggested that the process of astronauting was not as common as some politicians wanted to believe, and that it was not a process designed simply to enable migrants to exploit a country’s welfare infrastructure while avoiding contributing to the tax take (Ho *et al.*, 2000). Some comparative results of research on Hong Kong Chinese migration were presented at the APMRN’s conference in Hong Kong in 1998 (APMRN Secretariat, 1998).

Collaboration between researchers and policy makers interested in the astronaut family phenomenon in New Zealand, for example, ensured that a politically-motivated attack on Hong Kong Chinese migration did not result in any significant long-term policy shifts that disadvantaged Hong Kong Chinese migrants seeking residence in the country. The Aotearoa/New Zealand Migration Research Network (New Zealand’s national component of the APMRN) published research on this issue, and both researchers and policy makers were involved in a seminars and workshops where dimensions of contemporary Asian migration to New Zealand were reviewed.

Invisible migrants

The 1999 APMRN Conference was held in Japan, and explicit objectives of this conference were to raise the profile of migration research in Japan and to increase interaction between academic researchers and policy makers over migration-related issues. An important theme reviewed at the conference was the place of workers from neighbouring countries, especially China, Korea and Chinese Taipei, as well as descendants of Japanese migrants who had moved to Japan from Brazil, in the local society and polity.

Japan places considerable emphasis on citizenship for eligibility for benefits and access to certain opportunities and privileges. People who are not citizens or are not entitled to become citizens, have tended to be rendered invisible in debates about development in Japan. Generally, they are considered to be temporary migrants who will return to their former homes after a year or two in Japan.

In recent years, Japan’s reliance on immigrant labour has increased and a sizeable share of the supposed “temporary” migrant population has, in fact stayed on. In turn, this has increased ethnic diversity in a number of Japanese cities, and highlighted the differences between citizens and non-citizens in terms of a number of rights and opportunities.

The APMRN’s conference afforded an excellent opportunity for a significant debate about immigration and social transformation in a country with a rapidly ageing Japanese population and increasing dependence on a labour force either immigrant (employed on-shore) or employed overseas in Japanese businesses abroad. In this way, an international social science programme has assisted with encouraging a more robust debate about some national dimensions of international migration among academics and policy makers.

Labour migration

The third example relates to an international comparative study of labour migration between countries on the Asian rim of the Pacific. Three members of the APMRN: Korea, Thailand and Chinese Taipei, are collaborating in a study of the exchange of labour between labour-surplus countries in South-East Asia (such as Thailand and the Philippines) and countries seeking to expand their labour forces (Korea and Chinese Taipei). There is already extensive labour migration from Thailand to Hong Kong, Korea, Singapore and Chinese Taipei, and the key migration researchers associated with Thailand's Centre for Migration Studies at Chulalongkorn University have a very good feel for this process.

The three-country study is being carried out by a mix of academics and policy makers. The research is generating more broadly based policy debates about labour circulation in a region that has considerable variations in surpluses/deficits of skilled, semi-skilled and unskilled labour. The APMRN has provided a forum for bringing together researchers in universities and in government departments to explore labour exchanges in different economies on the Asia-Pacific rim. The research is being supported by UNESCO's Participation Programme.

Immigration policy

In countries like Australia and New Zealand, there have long been robust debates among researchers and policy makers about the role of immigration in building up the human capital resources of the two countries. Both countries have had proactive immigration policies for over 100 years, focusing on attracting new settlers to the countries.

In recent years, a major debate has emerged over two issues linked to population dynamics – the difficulty of sustaining high-skilled labour forces after many years of sub-replacement fertility; and the fact that large numbers of citizens are migrating overseas for work. Much immigration is already a form of “replacement migration”, at least in numerical terms.

In New Zealand at the beginning of the new Millennium, a major debate on a “brain drain” is occurring. Net losses of New Zealanders overseas have become much more noticeable following the drop in numbers of immigrants seeking to enter and reside in the country since the Asian economic crisis. Researchers and policy makers are working closely to examine the so-called “exodus” of New Zealanders, following on from the collaboration that characterised the debate about astronaut families.

The other immigration-policy-related issue in New Zealand concerns entry of people on temporary work visas. The main shortfalls in skilled professionals are being met by immigrants who do not plan to settle. There is a huge international demand for such labour, and the majority of those in the high-skilled component of the industry are not necessarily keen to commit themselves to staying for lengthy periods of residence in one country. Both New Zealand and Australia have amended their temporary work visa policies in order to attract larger numbers of young people seeking work.

The Aotearoa/New Zealand Migration Research Network has facilitated the contact and interaction between researchers and policy makers in New Zealand. It has been keen to promote the underlying philosophy of the APMRN, namely to build relationships between researchers, to understand the research/policy interface and to promote researcher/policy maker interaction and collaboration.

Concluding comment

This chapter has deliberately painted a fairly positive picture of the way that a particular international research network has contributed to problem-oriented interaction between social scientists and policy makers. Specific questions about this collaboration have not been posed here, although it can be noted that there are some major variations across countries in the network in the extent to which such collaboration has made a difference to policies.

In concluding, it is important to emphasise that building problem-oriented collaboration between social scientists and policy makers requires excellent communication between universities and research institutes, on the one hand, and policy agencies, on the other. This requires a significant investment in time in relationship-building by both groups. It is not just an issue of doing policy-relevant research. It is essential to build durable, dynamic networks that allow for effective and regular communication among the actors, both at the national and international levels. The APMRN is doing just this.

The door to greater public acknowledgement of the contributions that the social sciences can make to problem-oriented public policy debate is open wider in 2000 than it has been for a long time. It is up to social scientists to take up the challenge of gaining this acknowledgement by using languages, concepts and research methods that policy makers and members of the public can understand. The UNESCO-MOST APMRN seems to be making progress in this regard, and several of its associated national networks, which include mixes of researchers and policy makers, are becoming important catalysts for robust research/policy interaction.

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Chapter 15

WHY ARE THE SOCIAL SCIENCES LEFT OUT OF INFORMATION SOCIETY POLICY?

by

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Social sciences: the missing science in ICT policy

The topic “social sciences and ICT policy” has triggered my interest ever since, at the beginning of the 1980s, I began participating in the audits of the Information and Communication Technologies (ICT) research programmes of the EU, managed by the then Directorate General XIII. At that time, I quickly found out that among a group of more than 200 auditors, social scientists represented no more than 5%. Even here, I define social scientists broadly to include all non-technical people – otherwise, the percentage would have been even lower.

That surprised me and continues to surprise me today since ICTs are about communication and thus involve a significant social and human factor. Of course, communication processes are facilitated by technologies, but once the optical fibres are in the home the technical paradigm stops, so to speak, and the application enabling human communication starts.

As I have said, in those days, few non-technological people were involved in policy making. However, things have changed considerably over the years and I would guess that today social scientists make up between 10 and 20% of the experts employed by the EU in its policy making. The EU now offers programmes which are exclusively social-science oriented. And, more interestingly, this is also true for “technology-oriented” Directorates General such as the DG Information Society which has foreseen distinctive strands for social research in its research programme on Information Society Technologies. The change from ICT to IST in EU discourse represents more than just playing with acronyms; it marks the shift away from a technology-oriented approach towards a citizen-centred

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approach. However, notwithstanding these changes, it is my impression that overall in Europe the weight of the technical paradigms in ICT policy is still very high.

To my surprise, however, the dialogue with the engineers and “techies” was much smoother than I had imagined. This has also been my experience in my work at IPTS where we have considerable research programmes built on the reality of that dialogue. In fact, the often-quoted difficulties of communicating across paradigms is something I perceive to be non-systematic and thus not an inherent problem to the disciplines. But I will come back to that.

In this chapter, I speak from a strictly personal point of view, based on my experience as a researcher who, via all kinds of assignments at the EU, national and, to a much lesser degree, developing country level, has been involved for the last ten years in ICT policy making. I also speak from my experience in running a small social science research centre on ICT policy in Belgium which had to find more than 70% of its funding outside the academic system and hence to a large degree in the policy field.

I don’t pretend to objectivism here. My views are subjective, based on anecdotal evidence, as I was unable to find much data, for example, on how many social scientist are involved in the policy making process in general, or in the ICT policy field in particular. Nor could I find data on the extent to which social science articles are quoted in policy papers or how many social science trained people bear responsibilities in ICT policy. Anyway, I wonder whether these data would actually help us to obtain a better view of the impact of social science on technological policy.

Indeed, one of the biggest problems in this debate seems to me to be the fact that the impact of social sciences on policy making is very hard – if not almost impossible – to measure. In Belgium, I have been fairly heavily involved in policy making on ICTs and telecommunications and we did have some impact on policies, although to varying degrees. However, if one wanted to write the history of that impact, it would be impossible to document it. I could illustrate this with MediaLab, one of the biggest – although still quite small – social science research programmes initiated in the Flemish Region of Belgium. MediaLab was the result of a report that I supervised together with a number of economists, lawyers and engineers, and which was commissioned when the telecommunications monopoly of the Belgian Telecommunications operator came under fire. We recommended that the competitor develop himself as a multimedia platform. Which he eventually did. Nowhere, however, will you find any trace of our proposal being taken up by the then Minister President of Flanders.

This illustrates the problem that social scientists have in demonstrating their impact on policy making. I believe that we should try to develop methods of measuring this impact (or lack of impact), because once outside the academic circle, traditional measuring instruments such as biblio- or scientometrics are simply inadequate.

Or, to put it in a different way, I think that any historian of the Blair government in the United Kingdom would fail to demonstrate the impact of the sociologist A. Giddens. Undoubtedly, the latter is today’s most influential social scientist. But let me return to the topic.

State of the art: the missing science

Stating that to a large degree the social sciences are left out of information society policy, or at least heavily under-represented, implies that I think they should be in there. Is that so? Or to put it in another way: is there a legitimate role for social science in ICT policy making?

Three categories of affirmation can be listed here:

First, as I mentioned in my introduction, ISTs fall as much into the field of human and social processes as into the technology field. This is what constitutes their unique and distinctive character as a technology compared to other technological artefacts. The Internet has encountered its phenomenal success because, based on revolutionary transmission techniques, it has helped to expand our human communication capabilities, economic activities and social needs. Ambient intelligence, a project we are starting to work on at IPTS, is an extremely complex technological concept, but it will only succeed if it makes human communication easier. Understanding how this social dimension supports technical innovation and vice versa, as my colleague from IPTS, K. Ducatel will explain, seems to be the key to relevant research and development in this domain. By “vice versa”, I mean that it follows from this that social science should be used to guide ICT research policy and not only to smoothen or market technological innovations. This is related to the second category of reasoning.

Secondly, many innovations in ISTs are extremely cost-intensive and path-dependent. As a consequence, failures or mistakes are extremely expensive since the nature of these technologies implies that once a certain trajectory has been chosen, it is difficult to go back. Once France had taken the decision to go for the Minitel system and made the necessary huge technical and financial investments, they weren't able, or at least not for a long time, to jump on the Internet bandwagon. However, a lot of these innovations fail which means that a lot of money is lost. The classic example here is the Videodisc vs. VCR story, which led to the collapse of General Electric. The two technologies came out of the laboratories in the 1970s. The videodisc was a superior technological invention (comparable to the CD today) which was marketed extensively but which didn't make it commercially and had to concede the place to the technologically inferior VCR which, almost by surprise, was a commercial success. Underlying its success was the fact that the VCR was largely preferred by users for the very simple reason (in hindsight) that it gave the user time autonomy and a social function, that the non-recordable Videodisc couldn't offer.

An impressive list of failures and unexpected successes could be made here. Not the least being the success of the Internet – which no one really foresaw. Here too, a technology grew because of the social, economical and human dimensions which complemented its technological potential.

It is therefore wrong not to take these dimensions into account when thinking about IST policy. In fact, too much communication technology policy thinking is being made from a technologically deterministic point of view, i.e. the reality is what is technologically possible, and the social impact of communications technologies is extrapolated from their technological capabilities. To put it rather simplistically, the dominant vision is that the more broadband is offered, the better communication will be and thus the better life we can expect. The examples given clearly illustrate the opposite.

Third, the example of the Internet illustrates another reason why the social sciences should play a key role in IST policy: the Internet illustrates that the impact of ISTs is not sector-specific, but rather permeates into all aspects of social and human life. All economic activity will some day become Web-based, all human communication will to a certain degree some day become facilitated by ICT and, if we go for an ambient intelligent environment, inevitably all aspects of our life will be IST-connected. In other words, ISTs affect all the essential dimensions of society and personal life and hence of social policy. It follows from this that social science should be directly used to inform policy as well. To conclude this point, I want to stress that this claim for a role for social science in IST policy should not be seen as coming from an academic in search of work. As the statements on innovation and the ubiquitous nature of IST underline, there is a business as well as a non-business argument to make here.

So, why are the social sciences missing or under-represented in IST policy?

Why are the social sciences missing from IST policy?

Let me start with some arguments related to the nature of this industry or the demand side (outward looking explanation).

The ICT industry has, as mentioned above, a heavy technology-push development paradigm and policy orientation. If called in at all, non-technical scientists are mainly asked to write business plans or provide regulatory advice.

The dominance of the technology-push vision is quite obvious from the examples cited above. There are many reasons for this, which are quite well known, but also I think, relate to the disciplinary lock-in of technological experts. In the debate on policy and social sciences, we social scientists tend to be very critical about ourselves (we indeed have to “open the social sciences”, to quote the well-known Gulbenkian report), but it is my perception that the same remark can be made about the technical sciences. For example, for seven years, I taught classes to post-graduate engineers from all over Belgium, and not one of them had ever received even one hour of social sciences. The nearest they came to the social sciences were some vague notions of ergonomics.

However, I think that on the hard scientific side of the policy spectrum, times are changing. The demand for social scientists is clearly rising both in policy circles and at the firm level. Many of the top companies are devoting increasing resources to this. I even know of one top ICT company in which the principal scientist is a trained philosopher. But, as I have already said, I don’t have any systematic view on that, nor on how important this trend could be in public policy making. In any case, I estimate that this trend is significant and that the social scientists now have an opportunity to come out of the cold.

Let us therefore look at a few reasons why social science, due to its own logic, was absent from the policy arena, and will remain so if it doesn’t change.

The other set of arguments with regard to the social sciences being under-represented in ICT policy making is related to the social sciences themselves (inward looking explanation – supply side).

First, I think that a lot of social science research in ICTs simply is missing the boat. At IPTS, whose mission is to provide policy research for the European Commission, I have been working, among other things, on the impact of ICTs on employment in general, and the content industries in particular. A second topic of work was on the impact of convergence on the competitiveness of the consumer electronics industry in Europe. On both topics, which are extremely relevant for social and economical policy, it is extremely difficult to find good, comparative data and analysis.

In particular, I was amazed to see that good social research on the content industries in Europe is missing. This really astonished me because communication studies is one of the most popular and fastest growing areas in academia. However, in that vast community of professors and researchers no-one, or, at least, not in the languages I know, seems to have produced one single piece of comparative research on, say, the number of full-time employees in the media business.

On the contrary, one can find countless normative studies on how the media should be, or would be, if the public sphere was still in existence. And countless studies are being done on the impact of advertising or soaps on children. These are extremely important issues, but one would expect more. In

fact, the more “technologically complex” the topic becomes, the less attention it draws. And, when ICTs do get attention in this community, it is often lost in discourse-type research – technology as a text – or in theories on post modernism.

Second, the lack of theory on technology as such, and where it does exist, mainly non-empirically based theory as is the case in the ICT world, has certainly something to do with the fact that ICTs are a complex empirical field. Indeed, studying ICTs calls for greater:

- *Motivation:* It is easier and more productive in terms of publications, to study the impact of Baywatch than that of broadband communications.
- *Scale and multi-disciplinarity:* Studying ICTs involves at least economic (the cost of networks and services), social (the dynamics of networks and service) as well as legal perspectives (IPRs, copyright, etc.), not to mention linguistics (if software or AI is involved) and ergonomics.
- *Resources:* It is clear from the above that teams or networks are needed, making research more costly. However, there are other costs as well: ICT reports are expensive for social scientists; attending business conferences in ICT development and policy, which can be seen as participant observatory exercises for the social scientist to understand the world he’s working in and on, also tends to be very expensive. However, these expenses are necessary since this is the only way to follow the fast-changing character of the technological world. And so on.

To resume, the reasons why social sciences are not sufficiently responding to ICT policy needs can mainly be attributed to disciplinary lock-in, on the one hand, and costs of research, on the other.

So, what can be done to improve the situation?

The way forward: individual and structural recommendations

In order to be relevant for ICT policy research, social science should, in the first place, produce good research. To do that, I see the following individual and structural recommendations, which follow logically from what has been said above. First the individual recommendations.. As I have said in the introduction to this chapter, when I carried out the audits of the technical programmes of the then DG XIII, I noted to my surprise that the dialogue with the engineers and “techies” in the room went much more smoothly than I had anticipated. Moreover, although we rated the projects from very diverse perspectives, I found that most of the time our judgements did not significantly differ. Overall, I found a lot of respect for what we as social scientists did. I have had the same experience over the last two years while working at IPTS on ICT trends to 2010 in Europe. In the very intense debates we have had with all sorts of fairly high-level technical policy people have never been made to feel that social scientists were not taken seriously. On the contrary.

Thus, if social scientists want to have an impact in ICT policy, they should:

- Make an effort to understand this rather complex and fast evolving world.
- Participate in the policy process, instead of merely watching it from the side-line.

- Try to understand the needs of policy people in this field and produce accordingly, and more importantly, good research.

To facilitate the above, three inter-related structural conditions come into play:

- *Funding*: more money should be made available for social science in order to follow the sector and build interdisciplinary teams.
- *Interdisciplinarity*: is essential since ICTs cannot be understood from one perspective only.
- *Scale*: the speed of change of the sector as well as its intrinsic complexity make the need for big research groups inevitable.

If I look at what I consider to be rather successful bodies where social science research is being produced in support of ICT policy (TNO, WIK or IPTS), the above characteristics tend to pop up every time.

The UK-PICT programme was, to my reading, successful not least because it proved that results can be achieved rapidly and that the spin-off effects in the broader academic community can be large (thanks to PICT, the United Kingdom is now a leader in social science ICT research).

Interesting enough, and apart from some recent initiatives like the Nordic MediaLab consortia or the International Institute of Infonomics, I cannot see anywhere today in the European academic field where the same phenomenon is taking place.

And, since money is what makes the research world go round too, I allow myself one last remark. The argument that large-scale, organised and interdisciplinary social science research is too costly, is a proposition I simply can not accept. The cost of social science in ICT is peanuts compared to the costs involved in developing the new technologies. There is no scientific or subjective reason why, say, social science research should not be as important as technological research in ICT.

There is, however, as I pointed at in the introduction, one main objective reason for not rating social science as important. And that is, that we can not demonstrate the impact of social science research in this field, whereas we can easily do so for the billion-euro research programmes in the technological fields.

Mapping the impact of social science on technology policy in general and developing the adequate social science tools for it seems to me to represent the major challenge for social science research.

Chapter 16

THE IPTS FUTURES PROJECT: BETWEEN RESEARCH AND POLICY

by

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Introduction

This chapter reports on some lessons learned from a recent major policy prospective project carried out at European level. The IPTS Futures Project ran over two years as the flagship project of the IPTS (the Institute for Prospective Technological Studies – one of the eight institutes of the Joint Research Centre of the European Commission).

The Futures Project took a ten-year view on the consequences for technology, employment and competitiveness policies of major drivers such as: information and communication technologies; life sciences; the single currency; enlargement; sustainable development; social change in European society and globalisation (Box 1).

The mode of operation of the project was distinctive. In common with some recent technology foresight initiatives, it operated through expert panels using interactive formal facilitation techniques (*e.g.* electronic meeting room systems). Overall, it involved nearly 200 external experts from academia, policy and industry. The expert workshops were backed up by extensive use of published research results and background desk-based analysis to generate reports. Dissemination was important and, along the way, three large-scale information and debating events were held: a policy workshop (100 people), a roundtable seminar (80 people), and a final conference (more than 600 people, plus simultaneous Webcast).

The project did not undertake new empirical analysis, but rested on the creative synthesis of existing results. The creativity stemmed from the expert workshops that added considerably to the separate parts of the individual experts' knowledge and the IPTS' own synthesis of existing literature.

* The views expressed are those of the author and not necessarily those of the European Commission.

From the point of view of the contribution of social sciences to policy and decision making, the Futures Project can be seen as having leveraged considerable social scientific knowledge into the policy realm. This brokerage or intermediary role played by the IPTS, when allied to the ability to add value to existing knowledge, seems to be particularly important in getting social science results into the public eye.

The IPTS Futures Project description

Box 1. The IPTS Futures Project: Rationale

“The next ten years may well turn out to be the fastest-changing years for Europe in its history during peace-time”

- Information and communication technologies
- Life sciences
- The single currency
- Enlargement
- Pressures for sustainable development
- The ageing of European society
- Globalisation continues

The basis of the project was to look at the key drivers of change that are going to transform the European scene in the next ten years to 2010 horizon.

These drivers include technological change. Information and communication technologies are permanently transforming the way in which we work and the way in which we live. Life sciences are another major driver, equally rapidly evolving from the technological standpoint and equally affecting and raising very deep ethical issues and public concerns as well.

Political changes at a European level are also important. The single currency and the concrete realisation of the Single Market, which is currently far from being actually “achieved”, will move ahead substantially in the next ten years. Enlargement is a key element on the political agenda and social science projections will increasingly have to reflect that Union membership will no longer be 15 in ten years’ time. How many nations we will be is not clear, but it won’t be 15. Then, there is the inescapable fact that sustainable development issues can no longer be pushed from generation to generation any longer. They require early attention in order to prevent them from spiralling out of control.

Another element which is transforming Europe is demography, especially ageing and changing social norms. Of course, Europe is also caught up in overall globalisation, with the full range of issues that the term implies.

Most of these issues are individually addressed in a wide range of social science research. And, taken alone, each of these drivers of change has major implications. However, the point is that they are all happening together, and on the implications of this, social science tends to be rather quiet.

The rationale of the Futures Project was to tackle such cross-cutting issues. We focused on three policy areas (technology, employment and competitiveness) each affected by all of these drivers and each very heavily interacting with each other. Understanding a little bit of these cross-cutting

interactions, however, required a new approach. To achieve the breadth of know-how required, we had to develop an extended network of expertise and to synthesis results across a wide range of social science research and policy documentation.

Project work programme and results

The Project was undertaken in two phases. In the first phase, we operated with panels that resulted in four reports (see Box 2), which were discussed and debated at a seminar in Brussels in July 1999. The second phase concentrated on the three target areas: technology, competitiveness and employment. These areas were worked on during most of 1999 and resulted in three reports. Three further reports were produced on major cross-cutting themes which came up over and over again in all the debates and discussions – knowledge and learning; enlargement; and what we called the “Societal Bill”). Highlights are summarised in a Synthesis Report. All of these reports are available on the Web (<http://futures.jrc.es>).

Box 2. Main outputs

Four panel reports:

- Demographic and Social Trends
- ICT and the Information Society
- Life Sciences and the Frontiers of life
- Natural Resources and Environment

Three maps:

- Technology Map
- Competitiveness Map
- Employment Map

Three cross-cutting issue reports:

- Knowledge and Learning
- Enlargement
- The Societal Bill

As an example from the Technology Map (Table 1), we analysed the strengths and weaknesses of Europe compared to the other major regions of the world. We analysed the six sectors indicated on the left-hand side: the bottom three (energy, environmental and clean production, and transport) are areas of considerable strength in Europe. In the top three areas, the European position is relatively weaker. However, even within each of these sectors, there are areas of strength in Europe. Again, for example, in information and communication technologies (Box 3), there are some very, very strong areas in Europe, which are listed at the top (*e.g.* mobile communications), and, indeed, there are weak areas. This, of course, raised policy issues: should Europe consider a strategy of reinforcing the strong points rather than trying to catch up? At the same time, it is important to identify dependencies, *i.e.* those weaknesses that can endanger a position of strength. Taking mobile communications as an example, it is obvious that the first of the weaknesses in that area, *i.e.* imaging and visualisation technologies, could have an increasingly damaging effect as mobile communications become more and more

sophisticated. A strength-based strategy in mobile communications could suffer from weak points in other technologies.

Table 1. **Technology Map: European strengths**

Technology sector	Indicative position of Europe		
	European Union	United States	Japan
ICTs	★★+	★★★★	★★★
Life sciences	★★+	★★★★	★★
Materials	★★	★★★★	★★★
Energy	★★★	★★★	★★★
Environmental and clean production	★★★	★★★	★★★
Transport	★★★	★★+	★★★

The study indicated that in terms of the ICT revolution, we have another ten years to go at the same or even an increased pace of technological development – due to “Moore’s Law”. During this period, we will cycle through several more generations of smaller, faster and cheaper computers to arrive at “ubiquitous computing”, *i.e.* omnipresent and invisible computing. These very, very small devices, capable of interoperating together, will merge with a probable new generation of hands-free devices where for, at least a number of practical applications, keyboards will no longer be necessary. This will presumably generate an explosion of applications into areas that have hitherto not really been implied, and that leads to embedded computing – which is one area of strength in Europe – affecting all of the industrial and service sectors. This is an industrial field that Europe cannot afford to miss. Competition policy in these areas will be very important in order to avoid a proprietary lock-in, such as we have seen in PC markets with the so-called “Wintelism” (Windows operating system plus Intel processors).

Box 3. European strengths and weaknesses

ICTs Strengths

Mobile communications
Software development
Development of sensors/actuators
Consumer electronics

Weaknesses

Imaging and visualisation technologies
Basic chip production
Artificial intelligence

Other rapid technological developments are expected at the same time (especially in biotechnology but also new materials, mechatronics, and so on). In the public sphere, however, there is a growing concern from citizens about the implications of all these pervasive if not invasive technologies (which could lead, for instance, to the erosion of privacy). Policy issues are broached: what should be regulated and what should be left to the market to self-regulate? Obviously, the

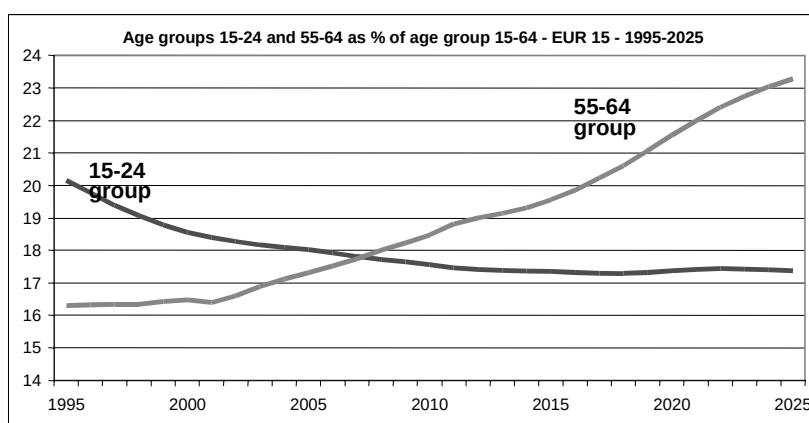
positions on this issue are different on either side of the Atlantic, and the debate is open. One thing that is certain is that it is not possible to keep an integrated European market with different national regulations on electronic communication. That would be tantamount to re-fragmenting Europe – which we want to be fluid electronically as in other areas. Achieving a Euro-position of strength on these global issues without erecting a barrier around Europe is possibly do-able but it will require an informed policy debate across a range of technological fields.

ICT markets and e-commerce are not the only areas in which globalisation issues are evident. A rather similar pattern is showing in the life sciences, with rapid technology moves raising consumer concerns and again with different attitudes on this subject on each side of the Atlantic. These two areas, coupled together, raise issues of global governance. This appeared very, very much on the political agenda in the Seattle WTO meeting, as being part of a challenge which needs to be addressed. Citizens' concerns, of course, have to be addressed – and when public attitudes are not the same on both sides of the Atlantic, the problem is not easy to solve. But it does affect progress in ICTs as well as in life sciences.

At the same time, these two areas, ICTs and health, represent the ten fastest-growing occupations and this shows where the potential for growth is in terms of employment. Obviously, very big problems of skills shortages in these areas are already being felt in the United States and Europe, but the United States seems better at fixing them than Europe. Europe has 500 000 core ICT vacancies, and the figure is rising fast because of the very rapid growth of the sector. The shortage is even worse in the end-user sector, where it is up by a factor of 2 and 3 with the move into new content producers and Web-generated new skills. The same pattern may emerge in biotechnology. In fact, the situation is very worrying because the two skills mismatch problems may be just the start of a serious brake on European growth, competitiveness and employment.

To the skills mismatch has to be added demography developments. Future demographic ageing is a well known problem, but as we get closer to it, it comes out of the shadows into centre stage. In the next ten years, Europe faces an ageing working population. The age cohort 15-25 is declining, and the age cohort 55-65 is growing. Already in 2010, the older cohort could be larger than the younger cohort. At the same time, if participation rates by age and gender stay the same as today, the size of the workforce will decline. There would be a cross-over between workforce entrants and those leaving the workforce around 2007 (Figure 1).

Figure 1. **Europe in demographic transition**



Source: Eurostat 1997, Demograph Projections (baseline scenario).

First, it would be wrong to conclude from this potential decline in the workforce, that the unemployment problem is going to solve itself. If the demographics are combined with the skills mismatch, that is not at all obvious. There could be a shortage of skilled people to fill jobs and unemployment for those who are not equipped with the right skills.

Of course, it is also unlikely that participation rates will stay the same. Action will be taken and a number of options exist, including either getting people into the workforce earlier or having them retire later, or tapping the potential for engaging more women in the workforce. There is a differential of more than 15 points – which in European terms is more than 20 million women – if you compare the European situation with that in the United States. It is evident that the implications of ageing will need explicit consideration about what kind of social systems, and indeed even what kind of society, we will confront in 2010 – with higher female participation and more older workers in the labour force.

In any case, when the two problems are placed together there is a clear challenge, calling for a substantial re-engineering of education and training systems. On the one hand, there will not be enough people to fill the right jobs, *i.e.* those jobs that generate growth, and, on the other hand, an ageing workforce will require that we activate lifelong learning. This is a tough situation: in essence, there will not be enough young people. The challenge – a challenge that has not yet been fully grasped – will be to fill more high-technology jobs with fewer young people. The dominant response is to educate the young and, of course, this is essential. But the young are comfortable with a computer; it is much easier to equip them with the new skills than to teach someone at the other end of the age spectrum.

At an even higher level of aggregation, several societal expenditures seem to be growing simultaneously. In the Futures Project, we called this the “Societal Bill” (Box 4). Health care is obviously increasing very fast due to a number of factors. The pension bill is also rising, adding a few more points of GDP. It is obvious that investment in education will have to increase because changes to the current education system will create extra costs on top of existing expenditure. The environmental commitments which can no longer be passed on to future generations will also add up to a few points of GDP. The combined effect of these factors may be quite large. Just how large is difficult to estimate and the exact effect is also difficult to assess because it essentially involves shifting expenditures from one sector to another. It will not necessarily be all public spending but, nevertheless, it is bound to have an important effect which will become a major focus of attention in coming years.

Box 4. Growing societal bills....	
Health-care spending is increasing	The pensions bill is rising (compared with 1995)
• EU from 4% of GDP in 1960 to 8% in 1997 • “Ultra-aged” population (80+) doubling every 20 years	• An extra 1% of GDP by 2010 • An extra 3 to 4% of GDP by 2030
Plus: the increased education bill	Plus: the coming environmental bill

As we can see, the Futures Project was very broad in orientation, far broader than typically academic social science would countenance. This was a deliberate choice, because social science research does not normally seek to cross fields. Rather, it operates within domains and generally retrospectively or on very short-term projections. However, policy takes place in a real world that does

not respect disciplinary boundaries. The Futures Project, therefore, tried to transcend these boundaries and in so doing highlight the key challenges for policy makers in the coming years.

Success features of the Futures Project

Looking back, the Futures Project has been judged a success. The IPTS has used its resources and position as a policy institute to create high visibility for more conventional social science research. The steps were first to mobilise existing expertise through the expert panels. In so doing, a mixed network of 200 experts from academia, industry and policy was created; a considerable value added of the project is the new inter-personal contacts and networks created between policy and research.

Second, the outputs of the expert panels (and the IPTS' own supplementary background analysis) were tested and profiled in a series of targeted events. The July 1999 seminar raised considerable internal attention within the IPTS' client groups from the EU institutions. The February 2000 Conference provided a high visibility platform for presentation of the results to 650 delegates, high-level decision makers and the media. The attention attracted to the issues resulted in a continuing stream of interest: media coverage (national TV and press), site visits to IPTS, on-going demand for publications/reports, requests for follow-up work and an increased direct involvement in policy formulation.

An assessment of the elements in the recipe for success of the Futures Project pointed to the following two main features. First, the prospective time horizon of ten years to 2010 permits a forward-looking approach. It is beyond the immediate policy agenda but is clearly close enough to be worth thinking about and preparing for (*i.e.* it presents no direct threat to current policies but does allow for political pro-action). Second, the cross impact between fields gave particular value added to the project. The interdisciplinary nature of the work can be seen from various levels. For example, the Technology Map pointed towards interactions between strengths and weaknesses analysis in different technology fields. The implication is the need for cross-disciplinary approaches to technology policies. Also, the technology roadmaps (or timelines) used in the study encourage a dynamic approach that highlights the co-evolution of technologies. At a more aggregate level, the interactions between technological change (skills mismatch) and social changes, such as the effects of the ageing workforce and, more generically, the potential "Societal Bill", threw key emerging challenges into stark relief.

Thus, in summary, it seems that initiatives such as the Futures Project can play a role in raising policy awareness of social science research results and the expert opinion of social researchers. The project was large-scale and achieved high visibility. The position of the IPTS as a broker/platform for discussion between the two cultures of research and policy was important. The long-term ten-year focus allowed the study to highlight policy issues rather than issue recommendations – to which policy can develop an allergic reaction. Such prospective work can help to overcome the blinkers of short-term policy orientations. The project was also pan-European in nature, thus helping to break the national (or comparative) mould of most social science research.

The forward-looking and cross-cutting orientation of the project had the useful result of throwing into relief issues which are important but somehow fall into the gaps between disciplines. Such cross-cutting work bringing together varied disciplines and expert backgrounds may even help to create shared visions and identification of issues and perhaps lead to more innovative and problem-orientated research approaches. Similarly, the working method based on interactive sessions leads to rapid learning and synergies as well as creating a new interested community focused on shared problems.

Finally, and crucially, initiatives such the Futures Project in mid-way organisations such as the IPTS are not a replacement for research but they may have a role to play in articulating debates between research and policy.

Chapter 17

PROMOTING A DIALOGUE BETWEEN RESEARCH AND POLICY MAKING: THE ETAN EXPERIENCE

by

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Introduction

This paper reports on the experience of the European Technology Assessment Network (ETAN), a European Community initiative aiming at bridging socio-economic research and science and technology policy in order to improve policy making, social science and the interaction between the two.

The relationship between science and politics is well studied. In the literature, the metaphor of two worlds interacting in a mutually supportive relationship is used to tell the story of an essentially transactional relationship moving towards a greatly intertwined symbiosis (Williams, 1971). The story goes that, on the basis of the success of the Manhattan Project, a close link between science and politics was formed. The development of wealthy and powerful scientific and technological lobbies was materially supported by industrial and military interests and culturally supported by scientists' claims to true rationality and knowledge (Galbraith, 1985). Haas *et al.* (1976) identified scientific rationality as a very powerful factor in the development of international organisation. Scientific rationality in itself is a highly contentious topic. Weingart (1977) showed how political agendas affect the construction of research programmes and thus the development of scientific rationality and disciplines. More recently, Weingart (1999) questioned once again the claims of disinterested objectivity of scientific involvement with policy. This, he observed, leads to a politicisation of science which increases the political power of scientific arguments while undermining their credibility.

What is remarkable is that the field of study from where the insights of the previous paragraphs come consists mainly of the relationship of natural scientists and engineers with politics. The reason why this is remarkable is that the link between science and policy is not focused on claims to knowledge about how nature works. It is based on claims to rationality as a means to finding solutions to political problems. Where is social science in all this? Is the content of social science not relevant to

* The views presented in this paper are the views of the author and do not necessarily reflect the views of the European Commission. ETAN homepage: <http://www.cordis.lu/etan/home.html>.

the epistemological claims to rationality and knowledge in handling policy problems? Hoppe (1999) argues that there is an emerging discipline of policy analysis which aims at developing and providing policy-relevant knowledge. He argues that there is a shift in the discourse of policy analysts from “speaking truth to power” to “making sense together”. Although he hints that policy analysis has something to do with social science, what the relations are is unclear. This intermediation is a practice whereby the policy maker makes analysis and the analyst makes policy.

The founding fathers of social science like Adam Smith and Karl Marx were no strangers to politics. On the contrary, they brought new discourses into the political arena, expressing political values as universal truths that drive human history (Kempner *et al.*, 1976). Their biographies have inspired generations of social scientists to embark on projects about improving the world through policy advice and political involvement. Through the years, different disciplines and schools of social science emerged: some, like action-research, heavily involved in the subject of their study; others, like mathematical economics, seeking objectivity through a more detached view of human history.

The transfer of discourses from social science to policy is an area where the influence of social science, and its potential as a political force, is evident. Social science-based language provides politicians with scientific credibility. More subtly, the “detached” language of social science allows politicians to renounce responsibility for social and economic phenomena. Policy makers often use arguments founded on social science, using its objectivity to draw political power. Such arguments can draw power only from within communities of social scientists, who understand the underlying assumptions and the limits of objectivity. Thus the politics of policy have a reflection on the politics of social science.

The belief that social science can contribute to the improvement of policy should be seen not only in the context of politics, but also in the context of the politics of social science. What is (legitimate) social science and who practices it? How do governments affect the authority over the social truth? These questions are heavily studied in (natural) science studies. It is important to start approaching them for the social sciences. This chapter begins with a brief analysis of the relations between the social sciences and policy making in the European Commission. It then moves to a discussion of the history of ETAN, its activities and the lessons learned through its launch and implementation.

ETAN is the result of political determination to set up an institution to “close the gap” between the creation of expertise and the creation of policy. The creation of ETAN suffered greatly from the absence of a specific gap to be closed. It was not easy to convince expert advisors, policy committees, institutional think tanks, and a host of other institutional interests – including nationally established academic communities – that there is a gap that needs closing. ETAN took off only once its institutional aspects were set aside and its efforts focused on synthesising expert arguments and distributing them to particular policy forums and processes. For ETAN to become a recognisable institution, it must build on its ability to manage such issue-based intermediation between social science and policy. Of particular importance are aspects of the management process that require tacit knowledge: selection of the right issues, efficient definition of the scope, management of interdisciplinary communication and synthesis addressed to policy makers.

Social science in the European Commission

The institutional set-up of the Community has provided a fruitful ground for the development of a close relationship between social science and policy making. The Commission has the power of initiative but has no direct democratic legitimacy for that initiative. Critiques of particular initiatives need to be defended with recourse to strong arguments about some universal good. And it is such

arguments that are abundant in the world of science in general, and social science in particular. Since 1951, Art. 55 of the European Coal and Steel Community Treaty has empowered the Commission to support “technical and economic research” related to the effective regulation of the coal and steel industries. The foundations of a close relationship between social scientists and policy making in Europe are at least as old as the Community itself.

Three different types of relationships between social science and the European Community can be distinguished:

- Community purchasing of the services of social scientists: the Commission issues calls for tender to fund social scientists to perform tasks that it defines.
- Community funding of targeted research programmes involving social science.
- The Community as the subject of social science studies (with or without its own funding).

These relationships overlap, although the overlap is not their most important characteristic. More important are their relative weight and the extent to which they promote or prevent further improvements of social science and policy.

For example, there are issues concerning the nature of social science funded under Community research programmes. In such programmes, peer-review evaluation procedures are used in a multidisciplinary context. As a result, the experts-evaluators decide on the basis of the content of the proposal rather than on the credibility of the person putting forward the proposal. This differs from scientific research programmes, where the identity of the person submitting the proposal is at least as important for his/her peers as the content of the research application.

Similarly, questions arise as to the quality of research performed for the purposes of particular services. Contract-research tenders are evaluated by Commission officials on the basis of a strict protocol. Quality is defined as conforming to the terms of reference and feasibility of the methodology proposed. The tender that is chosen is the one with the best quality/price ratio – usually the cheapest. While this last procedure has nothing to do with social science, it provides social scientists with greater resources to study phenomena of interest (estimates vary to between five and ten times more resources) than do the research programmes. Questions as to the quality of social science should not hide the fact that a large number of social scientists contribute to the development of a body of knowledge which is intricately linked to the practice of policy.

The origins of ETAN

It is worth noting here that the very first European research programme was a social science programme. “Europe +30” was launched in 1974 as part of the foundation of Community involvement in research policy. “Europe +30” was a study of the feasibility of establishing Community expertise and procedures for research evaluation and technological forecasting and assessment. This led to the establishment of a programme on Forecasting and Assessment in Science and Technology (FAST) in 1978. In 1983, FAST II was launched as part of the first Framework Programme. In 1989, the MONITOR programme aimed to integrate the strategic analyses of the FAST programme with those required by the functional needs of EU science and technology policy. MONITOR incorporated FAST, an activity on Strategic Analysis in Science and Technology (SAST) and an activity on science and technology evaluation (Support Programme on Evaluation Activities in Research – SPEAR) (Guzzetti, 1995).

In the 1994-98 4th Framework Programme, MONITOR was succeeded by the Targeted Socio-Economic Research (TSER) programme which was by far the largest social science research programme of the Community. TSER financed research in three areas:

- Evaluation of science and technology policy options (continuing the tradition of FAST and MONITOR).
- Research on education and training.
- Research into social integration and social exclusion in Europe.

TSER was the first Community social science research programme to go beyond science and technology policy issues. In the area of science and technology policy, for the first time, it was recognised that research could have much more of a policy impact than it has been the case, but required more resources and an appropriate institutional strategy.

This is where ETAN came into play. ETAN was designed to be the spearhead of TSER work in science and technology policy options, linking all relevant actors in a network arrangement:

“Activities in (evaluation of science and technology policy options) should draw on ETAN (European Technology Assessment Network) to be established under this programme. The network should operate in close co-operation with the main bodies actively involved in the evaluation of science and technology policy options in Europe”. (Council Decision of 15 December 1994, adopting the TSER programme, OJ L 361/77, p. 83)

ETAN was championed by Commissioner Ruberti, who saw in it the conjunction of three sets of objectives:

- *At the level of research*, a European research community in science and technology policy could overcome disciplinary and cultural divisions and become a powerful force in Europe’s academia and policy. ETAN would provide the common framework of policy relevance.
- *At the political level*, ETAN would contribute to TSER’s “ultimate objective of encouraging greater consistency and closer co-ordination of RTD efforts and policies in Europe” (*ibid.*, p. 80). Political negotiations would be facilitated by a shared perception of problems and possible solutions that would be based on socio-economic research.
- *At the level of the administration*, ETAN was seen as providing the Commission with a central position in the mechanism that co-ordinates research and practice in European science and technology policy. This would allow the Commission to tackle new problems as they arose and propose well-formulated policy options. Rapid response times and consolidated policy options were key arguments for the creation of ETAN.

Building the institution: the early phase of ETAN

The launching of ETAN was an important event for researchers and practitioners in the science and technology policy domain. Some felt that FAST, with its European Technology Assessment Conferences, and the VALUE programme, with its INTERFACES initiative, had paved the way for the emergence of a European Technology Assessment community (Smits, 1990; Petrella, 1992; Smits *et al.*, 1993). Others felt that knowledge creation in science and technology policy would be seriously

affected by the increasing political criticism of the US Office of Technology Assessment (OTA) (Loveridge, 1995). An open-ended call for expressions of interest in membership of ETAN was published in March 1995 and call was reiterated in December 1995. The two calls led to ETAN having about 400 institutions as members.

Despite the enthusiasm, specifying ETAN's functions, strategies and operations proved to be more difficult than originally anticipated. Kastrinos (1995) pointed out the extent to which differences in technology assessment functions and practices were entrenched in national academic and policy structures. Divisions provided the tone for the discussion at the ETAN kick-off meeting between Commission staff and eminent experts from European countries in November 1995. The experts felt that the ETAN concept was unclear and that its strategic position and added value needed clearer definition. The recent closing down of OTA, and the succession of Commissioner Ruberti by Commissioner Cresson to the research portfolio, contributed to a sense of doubt about the identity and potential of ETAN.

In this climate, the Commission found it hard to specify the position of a network of about 400 research institutions *vis à vis* its own Institute of Prospective Technological Studies and *vis à vis* its various policy advisory committees. By the end of 1996, two years after its launch, it had finally been decided that ETAN would be managed by the Strategy Directorate in the Commission's Directorate General for Research. ETAN's record of achievements showed no activities launched and no funds spent. The initiative that had aimed to contribute to smoother co-ordination between EU and national policies had become a thorny issue in the relations between the Commission and the EU member states in the TSER programme committee.

The ETAN pilot phase

The first two difficult years in the life of ETAN showed the Commission that ETAN could not be built as a network seeking tasks to perform. Rather than building a network of people and then deciding what it would do and how it would do it, there was a need to launch activities that would bring people together. Such thinking led to the emergence of the European Technology Assessment Network. However, 400 institutions had already become members of ETAN, making the question of what tasks ETAN should perform a far from trivial one. Should the network launch actions of interest to all of its members or only some of them? What would be the criteria and who should be the decision maker?

In the beginning of 1997, an implementation plan was finally developed and put to the programme committee. According to that plan, in order to promote communication and debate between policy researchers and policy makers at the European level, ETAN should provide a service to both communities: policy researchers and policy makers. It should support the efforts of policy researchers to review and compare their research results through transnational networking and to consolidate and synthesise these results in a form appropriate for discussion with science and technology policy makers. It should also provide researchers with a mechanism for bringing the results of their research to the attention of policy makers and for obtaining feedback on further research needs. It should make available in a timely way the best expertise and knowledge necessary for informed and sound choices and decisions to science and technology policy makers at EU and national levels. Finally, it should provide input to enable the Commission to define objectives and priorities for future EU RTD actions.

The plan made some progress at further defining the role and strategic position of ETAN, without necessarily resolving all the open questions. Its most important element was that it put forward the

concept of a pilot phase. Through this pilot phase, the Commission and the Member States would be able to see the added value of ETAN and compare it to its costs. Furthermore, the Commission would be able to learn and improve the ways in which ETAN would operate. Finally, ETAN actions would be launched.

For the pilot phase, topics for ETAN activities would be selected on the basis of the following criteria: policy relevance, expressed interest of policy makers, and the need for multidisciplinary expert knowledge to inform policy choices. For the pilot phase, the Commission selected four topics:

- Responding to the challenges of global climate change through RTD policy (a topic for which there was an agreement between the Directorate for Strategy, the Environment and Climate Programme, and the Institute of Prospective Technological Studies regarding the policy importance).
- Intangible economy: implications for technology policy, innovation and employment (a topic in which the Commissioner had declared her interest).
- Public technology policy in the context of internationalisation: how to strengthen Europe's competitive advantage in technology (a topic identified by many of the experts consulted).
- Ageing population, extended life and technology (a topic identified by ETAN management as of interest in view of the increasing pressure for societal problem-solving through RTD policy).

For each of these topics, the Commission would identify relevant research and experts and establish a working group comprising some ten experts. These would gather in two or three workshops to review, consolidate and synthesise the expert knowledge and prepare an ETAN "Issues and Options" working paper for discussion with policy makers. On the basis of the "Issues and Options" paper, an ETAN seminar would be organised involving additional experts and policy makers. This seminar would provide the material for an ETAN report.

In 1997, three of the four ETAN working groups foreseen for the pilot phase were set up. On the topic of the "intangible economy", repeated meetings between Commission staff and external experts showed that the topic could not be defined in a way that was sufficiently concrete for an expert group to produce useful policy issues and options. It was quickly understood that the "ETAN process" was not straightforward. Diverse groups of experts tended to avoid discussion of the content of the issues they were confronted with. Motivating the discussion was difficult and the obligation to produce a report was repeatedly mobilised. Under these conditions, the groups naturally tended to define the outcomes before having discussed the issues. Often, the discussions that had been postponed did not take place at all. The members of the groups would divide the writing-up and end up negotiating sentences in the final text. This process, although habitual in committees of scientists, was not satisfactory as a process of "review, consolidation and synthesis" of expert knowledge. From the launch of the first ETAN pilot phase action on ageing population and technology, it became evident that more meetings and larger expert groups might be required.

The ETAN seminar on ageing and technology was very successful in attracting high-level policy makers and producing a very high-quality discussion. Various departments of the Commission with an interest in the issue had contributed enthusiastically to the activity and indicated their commitment by their presence together with eminent members of the European Parliament. The success of the ageing seminar led to an increased demand for new ETAN activities within the Commission. A consultation led to the identification of another six topics on which ETAN expert groups were needed and could be

launched. However, the Committee was reluctant to approve a full-phase launch of ETAN. Consequently, the activities on the additional topics remained under scrutiny as part of an extended pilot phase.

Between 1997 and 1999, nine ETAN expert working groups were set up and delivered working papers with the following titles:

- Internationalisation of Research and Technology: Trends, Issues and Implications for S&T Policy in Europe.
- The Ageing Population and Technology: Challenges and Opportunities.
- Climate Change and the Challenge for Research and Technological Development (RTD) Policy.
- Science Policies in the European Union: Promoting Excellence through Mainstreaming Gender Equality.
- Options and Limits for Assessing the Socio-Economic Impact of European RTD Programmes.
- Strategic Dimensions of Intellectual Property Rights in the Context of Technology Policy.
- Promotion of Employment in Research and Innovation through Indirect Measures.
- Transforming European Science through Information and Communication Technologies: Challenges and Opportunities of the Digital Age.
- Improving Communication between Experts and Policy Makers on Science and Technology Policy Issues: The Case of ETAN.

Not all of these activities followed to the letter the implementation plan of the ETAN pilot phase. Variety and experimentation was seen as appropriate for a pilot phase, while flexibility would allow activities to be tailored to their audiences and would serve to maximise their impact. Thus, four ETAN activities did not include an ETAN seminar (those on employment in research through indirect measures, gender equality in research, socio-economic impact assessment, and communication between experts and policy makers). The rationale was that the working group reports were feeding into particular policy processes which did not require that type of promotion. Of those, the report on gender equality was highly visible and had substantial repercussions in the press (Loder, 1999). Of the remaining activities, three had very intensively organised high-profile seminars (ageing and technology, intellectual property rights, and science in the digital age), and the other two had fairly low-key events.

The high-profile seminars, as well as the publicity efforts of the “gender” group, played a very important role in making ETAN known and giving it credibility. In contrast, the low-key seminars had little effect and contributed to doubts about the value of ETAN (Horvat *et al.*, 1999). The overall effect has been one of ETAN being increasingly recognised – to a greater extent in the policy domain than in academic circles – as a source of views on science and technology policy issues. Presentations to CREST, a high-level advisory committee to the European Commission and the Council of Ministers, have further contributed to that recognition. As the five-year assessment report put it: ETAN has shown that its method of convening experts to enter into dialogue with policy makers is effective and efficient (Dupas *et al.*, 2000, p. 2).

The ETAN experience: lessons and future directions

Through the pilot phase, ETAN became a recognisable source of voices in science and technology policy discussions. Yet, it was by no means a single, strong voice determining developments. Its impact has been established by the existence of policy processes, which it feeds with views, often affecting outcomes. The pilot phase has not produced consolidated policy options or rapid responses, and has not contributed to any recognisable extent to the improvement of European social science. Nevertheless it has certainly played a greater role in the co-ordination of RTD policies in Europe than during the first institution-building phase. Its contributions to the policy debate have outperformed those of many better-resourced research projects.

In conclusion, the ETAN pilot phase fulfilled existing needs, although not necessarily those that inspired Commissioner Ruberti's original plan. The key need was for intellectual input to policy-making forums, where new core concepts are needed to deal with new problems. This intellectual input did not seem to result from any sort of institutionalised expertise. The ad hoc character of the activities of the ETAN pilot phase was important in that respect. This model of ad hoc expert groups has prevailed in the post-ETAN period. In the 5th Framework Programme, an initiative on Strategic Analysis of Specific Political Issues (STRATA) took over the mission of promoting communication and debate between experts and policy makers on science and technology policy issues, and set up the infrastructure for building expert groups to work on specific topics.

STRATA does not base the whole of its operations on expert groups. Rather, expert groups are seen as one means of addressing issues that come up within the practice of policy at the European level, as a support to existing or envisaged policy processes. The emphasis is not on institution-building but rather on organising the provision of a service where that service can be most effectively provided. The relevant lessons from the ETAN pilot phase are that this service should not be seen as including empirical questions, consolidated scientific knowledge or policy options. The power of expert groups lies in the collective thinking processes and not in the diversity of possible empirical observations. The diversity of thought processes within an expert group prevents systematic quality control over the claims put forward. Expert groups provide knowledge that is negotiated rather than consolidated. This, of course, applies also to the policy options developed by expert groups. These are rarely offered as options. In the majority of cases, they are offered as recommendations based on the negotiated knowledge produced during the meetings.

It is important to stress here that the recommendations of ETAN expert groups (and those of STRATA-ETAN expert groups) do not have any institutional weight. As such, they are not in competition with opinions of advisory committees and official think-tanks. This has been an important element in the success of the ETAN pilot phase. Its lack of institutional claim to knowledge meant that views could be contributed freely, without antagonisms with academic and professional communities. ETAN's institutional claims were related to its ability to bring together diverse sets of expertise and to convince experts to embark on a difficult journey of communication on issues that are framed outside the boundaries of their expertise. The lesson from the ETAN pilot phase is that this is both feasible and fruitful.

The choice of subject and the framing of the questions in an intellectually challenging manner brings forth the creativity of knowledgeable people. The management of such creative processes and the synthesis of views in a way that is meaningful for policy makers, calls for a range of skills. It is important to have a basic understanding of the intellectual and political agendas of researchers and policy makers and their points of view, and to be prepared to negotiate with them different formulations of problems and solutions. Institutions that intermediate and bring together social science and policy should be based on the mastery of such hybrid skills.

However, the most important aspect of the ETAN pilot phase is related to the follow-up of successful initiatives. ETAN expert groups and seminars have demonstrated that, through engaging in collective thinking, actors can be mobilised to take an active and committed role in policy discussions. For those actors to continue their commitment, there is a need for follow-up: researchers need to see how their participation opens up relevant research agendas; policy makers need to see the development of relevant policy agendas, etc. For the plausibility of the process, it is important that issue-based communication between experts and policy makers is seen to feed into established policy processes. The emergence of credible institutions is dependent on the credibility of this feed-in process.

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Chapter 18

IMPROVING COMMUNICATION BETWEEN SOCIAL SCIENCES AND POLICY

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Theoretical considerations

Expert advice has always been sought by politicians. Several studies have looked into the politics of evaluation or expert advice and, more generally, the applicability of research results in the policy field (Bulmer, 1990; Barker and Peters, 1992; Peters and Barker, 1993 – following on from work by Weber, Mannheim and Lindblom).

Perhaps the oldest, yet still quite popular, view of research utilisation is what Bulmer (1990) calls the “engineering model” which assumes that decision makers only require information – provided they receive this, their decision is simple and straightforward. Yet, as Parsons (1995) notes: “decision makers confront a range of interpretations or accounts of reality, and thus information is not the kind of value-free thing which the engineering model implies” (p. 385). One could add that decision makers are well aware of the plurality of information or expert sources and take advantage of this to the full (Wynne, 1996); or as Keynes appreciated: “there is nothing a government hates more than to be well-informed; for it makes the process of arriving at a decision much more complicated and difficult” (quoted in Parsons, 1995, p. 393). In other words, the science and policy interaction is as much about the politics of science as it is about the science of politics.

Nevertheless, the process of Europeanisation is posing anew the fundamental question of the applicability of research results for a very simple reason. For the European project to materialise, it is necessary to obtain not only the support of national governments, but more generally of the policy apparatus in each country, of the research communities and of the European citizens. After all, research which has European added value cannot ultimately be “applied” or exploited unless it is recognised as having added value by the European member states.

The Framework Programmes increasingly use two main instruments to boost the policy relevance of research:

- First, they place a strong emphasis on the dissemination of results – in the Fifth Framework Programme all research contracts include a clause relating to the so-called (Technology)

Implementation Plan which is expected to provide the Commission officials and evaluators with an instrument with which to monitor dissemination activities and assess the exploitation potential of the project both at mid-term and at the end of the project.

- Second, they seek the integration of social scientific knowledge in sectoral research. In fact, in absolute terms in view of both budget and number of activities there is more scope for social science research in sectoral programmes than there is in the “own” social science programme (in the Fifth Framework Programme, the Key Action for Improving the Socio-Economic Knowledge Base). This is not solely a means to promote interdisciplinarity for the sake of interdisciplinarity. Rather, interdisciplinarity is seen as a powerful tool for improving the policy relevance of research. Social science plays a key role in this respect.

How successful have these instruments been? Evaluation and/or monitoring studies launched in the framework of sectoral programmes or across the board by the European Commission’s DG Research have gone some way in answering this question with reference to the first instrument, *i.e.* dissemination. However, the success of the second instrument has as yet been rarely systematically explored. It is, nevertheless, recognised that the increase of expertocracy (Burns *et al.*, 1999), in conjunction with the professionalisation of research and the growth of the consultancy field (Pohoryles, 1993), has led to the growth of what Helga Nowotny (2000) calls “transgressive competence”.

This certainly has positive aspects, especially with regard to increasing the policy context sensitivity of research. However, it also entails certain negative implications. These are of two types. The first concerns the prospects for the social science profession as such. In sectoral research, frequently it is not social scientists who are involved in the supply of social science relevant knowledge. Stated differently, the boundaries of the social science discipline are becoming much more blurred – often to the disadvantage of “traditional” social scientists.

The second problem with the increase of “transgressive competence” concerns the quality of policy-relevant research. Being policy context sensitive is often interpreted as providing primarily short-term knowledge relevant to one particular policy actor. This has implications regarding quality and raises the “unsavoury” theme of “quality control”. One could add that it also fundamentally questions the degree to which social science knowledge can still be said to contribute to learning societies based on democracy: if social science research is contracted to provide input for very specific policy agendas, then it no longer fulfils its integrative function at the cross-roads between society and policy.¹

In this connection, an interesting, important and largely over-looked problem is that of the assumptions with which both policy makers and scientists alike operate. Indeed, as Parsons (2000) notes in a recent paper, the methodologies used, for instance, in policy evaluation already differ quite substantially with regard to:

- Their epistemological assumptions.
- Their assumptions about the complexity of the policy problem addressed.
- Their assumptions about the institutional context of decision making.
- Their assumptions about social welfare (in particular the balance between efficiency, economy and effectiveness, but also with respect to equity and ethics, all notions which are fundamental to the goal of sustainability).

As a social science approach, neo-classical economics is thus fundamentally different from critical realism. Indeed, it could be argued that the challenge of interdisciplinarity is less to ensure the participation of an economist, planner, sociologist and political scientist in a project; and more to examine the extent to which it is possible to integrate and adequately interpret results emerging from studies using different methodologies. This, we would add, is a challenge not solely for the social sciences but for the policy process as well, especially in a multi-level governance context following the principles of subsidiarity and doing justice to democracy.

To reiterate the main conclusions of this section. The elaboration of a strategy on how to overcome the contemporary problems of the (social) science-policy-society interaction must consider several issues:

- The assumptions with which policy makers, on the one hand, and scientists, on the other, operate when thinking about the science-policy-society interaction and how these translate into the specification of a research design as well as the formulation of policy.
- The problems encountered in “translating” research results into policy-relevant information.
- The implications of the professionalisation of research for the quality of the knowledge delivered.
- The structure and organisation of policy and scientific communities at national and European level and the role of what Richardson (1996) calls “epistemic” communities across policy sectors.
- The institutional structures that are conducive to recovering the “integrative” function of the social sciences.

In the next section of this chapter, we provide some preliminary insights on the science-policy interaction based on the findings of a survey carried out in the framework of a project on European transport policies (Project TENASSESS) in the EC’s Fourth Framework Programme. This project was part of the sectoral transport research programme and had as one of its objectives to elaborate on the problems of communication between science and policy in the transport field. We believe that the results are relevant more generally. We describe them as preliminary as they only provide part answers to the major questions posed in this chapter. However, they do provide a useful starting point for reflecting on ways to overcome the existing problems of communication between science, policy and society.

Information, research and knowledge as resource: availability, use and applicability

Method

The TENASSESS survey was conceptualised as a Delphi survey over four waves. Obtaining information on the use and applicability of research in policy was only one of its objectives and was addressed primarily in the second-wave questionnaire. The second major objective of the survey was to simulate discussion with the same experts over time on the Common Transport Policy (CTP) objectives. We do not report on the results of this part of the survey in this chapter.²

The sample for the survey included 446 experts identified in the course of the project as involved in policy formulation at the national and European level either as researchers or as high-level administrators.

The gross response rate (*i.e.* considering written refusals as a response) for the first wave was 34%; for the second 37%. The net response rates were 24 and 27%, respectively; the response rate was highest in France and the United Kingdom (33%) and lowest in Germany (14% for the first wave but 22% for the second). The *longitudinal* response rate was 72% for the second wave but only 39% for the fourth wave, *i.e.* panel attrition was quite high. This is also why the results of the fourth wave were considered to be indicative only.³

Mail surveys are notorious for producing low response rates. The average response rate for mail surveys is known to lie around 10%. The achievement of 37% (gross) and 27% (net) in the TENASSESS Delphi survey is thus a comparatively good result.⁴

Types of information sources

Following Parsons (1995), we can classify the information sources in decision making, including with reference to the exploitation of research results, according to two dimensions: first, whether formal or informal; second, whether internal or external:

- Formal and internal sources include governmental inquiries, think-tank reports and reports from internal government experts.
- Formal and external sources include reports from the legislature, formal consultations as well as commissioned research.
- Informal and internal sources include informal discussions and informal use of advisers.
- Informal and external sources include publications as well as participation in conferences and workshops.

In the TENASSESS survey, we asked respondents to assess the frequency of use and usefulness of specific information media that would fall under the above classification scheme. Table 1 displays the ratio of respondents reporting frequent use and a high degree of usefulness.

All information media are used to a considerable degree. Informal means of communication are still the most preferred – personal contact is used by three-quarters of respondents and is evaluated as the most useful form of communication. This is not surprising if one considers that the majority of decision makers have little time available to review existing literature and research: 61% of the respondents spend less than five hours per week collecting information on transport-related research, a further 31% less than ten hours. Professional journals and official government documents rank second and third, respectively, as information sources; in terms of usefulness, research reports are considered more important, even if their rate of uptake is significantly lower.

Table 1. **Frequency and usefulness of information sources**

Name	% using often	% find very useful
I. External sources		
<i>I.1 Informal</i>		
Personal contact	77	88
Journals	74	77
Books	56	60
<i>I.2 Formal</i>		
Reports	54	76
Seminars (external)	43	66
Conferences	46	58
II. Internal sources		
Seminars (internal)	31	49
Official documents	68	69

Source: TENASSESS Delphi Survey.

Speed and the new communication technologies

The speed of retrieving information is an important criterion of usefulness. In 1997, 63% of respondents had an Internet access; thus, it was not surprising to observe two years later that an equal number ranked Web sites as the most efficient dissemination mode for European research projects. Executive summaries of research reports and journal publications ranked second and third, respectively.

More generally, the survey results suggest that the new communication media are useful for speeding personal communications and for downloading publications. Their use for the latter purpose, however, lags behind general access to the Internet; thus, only 40% of those with access to the Internet used it for downloading official government documents, and 20% for the downloading of reports. The use of the electronic media for the organisation of conferences follows further behind (11%) – while low in comparative perspective, this percentage is quite high if one considers that the technologies for this purpose are not yet at an advanced stage.

Who supplies information and modes of information acquisition

The source of information can also be assessed from an institutional perspective. Table 2 displays the incidence of consultation of different types of organisations for the purpose of gathering information on transport-related research.

Table 2. **Organisations consulted for obtaining information**

Type of organisation	% consulting this organisation
Research institutes	63
Universities	49
Consultancies	40
Industry	19
Government	54
Non-governmental organisations	27
Chambers, interest groups	22

Source: TENASSESS Delphi Survey.

A factor analysis of the responses revealed an interesting pattern in the use of multiple information sources. There are four typical modes of information acquisition:

- Seeking information primarily from governmental institutions in conjunction with industry and interest groups.
- Using consultancies and chambers or interest groups as the primary sources of information.
- Relying on academic research, mainly research institutes and universities, to obtain information.
- Relying on universities in conjunction with governmental institutions for information.

The results are interesting because they suggest that dissemination strategies must take into account the plurality not only of users and products of research (Giorgi and Pohoryles, 1999; Sanson *et al.*, 1999) but also differences in modes of information acquisition. These differences reflect the heterogeneity of the targeted audience for transport research, itself a function less of personal styles of communication and more of the variation in inter-organisational structures.

Barriers to the access of information

Asked to assess the reasons that prevent an easy access to information, respondents identified three as being of particular relevance: “lack of information where and how to obtain results”, “lack of a dissemination strategy” and “complex ordering procedures”. All other possible obstacles mentioned in the questionnaire, including language barriers and confidentiality, were judged as far less important. Table 3 displays these results analytically.

Table 3. **Barriers to access to information**

Barrier	% considering this important
Lack of information on how to access	79
Lack of dissemination strategy	51
Complex ordering procedures	30
Access through informal channels only	21
Confidential results	21
No results published	17
Not available in print	15
Not available on line	14
Language barriers	9
Out-of-print	6

Source: TENASSESS Delphi Survey.

Lack of knowledge of European research

Not knowing how to access information in conjunction with the perceived weak dissemination strategy on the part of the Commission explains the lack of knowledge of European transport research: in early 1997, 43% of the respondents were not aware of any European research results of the EURET and APAS programmes or of the Fourth Framework Programme. This compared to 19% of respondents who did not know of any results deriving from national transport research programmes or projects.

Among those aware of the European research programmes, the judgement on the availability of these results is far from positive: less than one-quarter judged the availability as good.

The lack of awareness of European research programmes is not specific to the field of transport. A (relative) majority of respondents is likewise not aware of some of the main European information sources such as the EUROPA Web Site, the CORDIS Database or the European Office of Publications. The same is true among those with Internet access, albeit not as significantly (Table 4).

Table 4. **Knowledge and use of European information sources**

Sources	All respondents		Respondents with Internet	
	% not heard	% not used	% not heard	% not used
CORDIS Database	49	25	39	26
EUROPA WWW	43	28	32	29
EURO Abstracts	49	25	39	30
CORDIS Newsletter	53	26	43	31
EURO Info Centre	46	27	36	32
EUR-OP	59	23	57	26

Source: TENASSESS Delphi Survey.

Collaboration between the science and policy communities

Considering the above, it is not surprising that respondents evaluate the collaboration between the scientific and policy communities at the European level with regards the formulation, evaluation, dissemination and exploitation of research as seriously lacking. In particular, dissemination and exploitation get “bad marks”.⁵ Table 5 compares the shares of bad marks for European and national science-policy interaction.

Table 5. Evaluation of collaboration networks at the European and national levels

Percentage of respondents giving a bad evaluation

Area	European level	National level
Research agenda setting	33	20
Research evaluation	35	25
Research dissemination	54	35
Research exploitation	69	50

Source: TENASSESS Delphi Survey.

The majority of the respondents still considers that the agenda setting and evaluation of research proposals are characterised by a good degree of collaboration between the scientific and policy communities – this needs to be underlined. The opposite is true for dissemination and exploitation, at least at the European level. The comparatively better marks granted to national research programmes is indicative of the prevailing dominance of national research in the European Union with respect to impact.

A more positive note is provided by the fourth-wave survey results. Despite the fact that it comprises the smallest sample due to panel attrition – a fact which calls for caution in the interpretation of statistical significance – the evidence is positive. Thus, two years later, one-third of respondents claim that their awareness of European transport research has increased. Four out of ten also perceive improvements in the field of collaboration between the research and policy sides in terms of the formulation of the research agenda, two out of ten in terms of dissemination.

The problem would appear to be one of exploitation. As one respondent noted in his/her comments to the open section of the questionnaire: “the high-level agenda [at European level] appears now to be better understood ... the problems relating to an effective implementation seem however no closer to a solution”.

Barriers to research exploitation

There are many barriers to research exploitation, some relate to the research-supply side, others to the policy-demand side. In the TENASSESS Delphi survey, respondents were asked to assess those barriers that relate to the science and policy *interaction*.

A factor analysis of the responses revealed eight factors which explained most of the variance in the respondents’ answers. These factors reflect the interrelations among the various barriers and provide insight into the real causes for the low impact of research. Table 6 displays the results analytically.

Table 6. **Barriers to research exploitation**

Research is ... as reflected by ...	% of this opinion
Basic instead of applied	33
Theoretical orientation	
Length (too long)	
User-unfriendly	29
Lack of generic application	
Lack of user-orientation	
Presentation style (not clear)	
Not policy-relevant	24
Contents (not policy-focused)	
Geographical scope (inadequate)	
Badly structured	22
Repetition	
Presentation	
Lack of scope	
Unclear on goals	21
Lack of clarity of client's goals	
Lack of co-ordination with client	
Not integrated in state of the art	20
Lack of consistency of studies	
Specific orientation	
Difficult to understand	17
Complex themes	
No common scientific language	
Too technical	17
Technical orientation	
Outdated	

Source: TENASSESS Delphi Survey.

Basic instead of applied. Exclusively theoretical research studies tend to be too long and too complex: even if they are relevant, such studies are unlikely to have an impact on the policy discourse.

User-unfriendly. Research results which cannot be generalised are often difficult to exploit. The difficulty with identifying the more generic application of research results often has to do with their presentation which, overall, is judged to be user-unfriendly.

Not policy-relevant. The exemplification of research results through empirical findings or case studies is important for exploitation – in transport, this concerns primarily the geographical scope for application.

Badly structured. Badly structured research reports tend to be repetitive; in some ways, bad structure appears to reflect high ambitions and little understanding of the limitations of research.

Unclear on goals. Lack of clarity of the client's goals is often the reason for the lack of co-ordination between the client and the researcher; it is equally possible that the failure to establish co-ordination between the client and the researcher leads to the inability to reflect on the client's goals in the research reports.

Not integrated in the state of the art. Research studies which display little reference to previous studies in the field, *i.e.* which do not elaborate on the consistency or lack of consistency between actual and previous results, are likely to be evaluated as not being part of the mainstream scientific discourse and, in turn, as too complex in terms of policy relevance.

Difficult to understand. Studies which deal with complex themes are often difficult to understand especially for those who do not share the scientific language of the researcher, a typical problem with multidisciplinary research.

Too technical. Technical research studies run the risk of rapidly becoming outdated, thus it would seem important that their practical implications are elaborated and implemented quickly. However, the style in which they are often written can prevent this from materialising.

The above results highlight the fact that a comprehensive evaluation of the impacts of research needs to consider both dissemination and exploitation and, with reference to the latter, the problems of reporting as well as the quality of contents. As one of our respondents noted:

The EU has intensified information dissemination through workshops and gatherings that indeed help networking among research groups. But one may add that some research is taken up in a "Darwinistic" manner which appears to suit the European system well but which is not always to the benefit of good research; in some cases the EU demand for dissemination is energetically followed but on the basis of very limited results.

Following on from this, another comment made by one of the respondents is also relevant:

Both policy makers and the scientific community have recognised that limited funding needs careful targeting. The higher profile given to the environment has helped in this respect.

Conclusions

Summarising the findings, we could note the following:

- Informal means of information are the most widespread in terms of use.
- Research reports and publications are useful information sources; however, the limited time available to policy makers for gaining an overview of research results is a limiting factor in terms of use or uptake.
- This no doubt partly explains the increasing significance of modern communication technologies for obtaining information. Web sites are the one most important tool for gaining an overview of European research projects. They can not, however, substitute for more detail literature surveys.

- Institutionally there are different modes of information acquisition. These reflect the heterogeneity of the users of research and variations in inter-organisational structures across policy communities.
- Lack of information on how and where to obtain research results and information is the most significant barrier to accessing information.
- The lack of a comprehensive dissemination strategy is also a significant reason underlying the comparatively low level of awareness of European research results.
- Dissemination and exploitation are the two fields where more collaboration between science and policy is needed. The latter works better at the national level than at the European level.
- A better science-policy interaction can contribute to overcoming the barriers to research exploitation. There are many practical ways in which this can be achieved and reflected in the outputs of research: greater clarity in the clients' goals or programme's objectives; elaboration of concise exploitation plans in the case of technical studies; use of examples or case studies; a good balance between generic and specialised information; references to previous research results; and a concise structure.

NOTES

1. This debate is not new: in the 1960s "professionalisation" debate among social scientists, the traditional type of university research was blamed for its "ivory tower" attitude. At the same time, applied research was ridiculed as consisting of "hyphen-sociology".
2. These can be read in Deliverable 7 of the TENASSESS project prepared by the authors of this chapter. This deliverable can be ordered from the ICCR. A short version of this paper is published in the project's Final Report in the publication series of DG-TREN. For detailed results, see Pohoryles and Giorgi (2000).
3. The longitudinal response rate for the third wave was quite good. The high panel attrition through to the fourth wave, however, suggests that four waves might be one too many for a Delphi survey.
4. However, we think it is possible to achieve higher response rates (up to 50% gross and 40% net) in mail surveys through more frequent reminders by phone and fax carried out on location. This was beyond the scope of the financial resources of the TENASSESS project, where the Delphi survey was only designed as an accompanying supporting method, *i.e.* it was not the focus of the work. No doubt the translation of the questionnaires into more European languages would also have had a positive impact on the response rate.
5. Also indicative are the item non-response rates to these questions that follow the same trend.

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THE CONTRIBUTION OF THE SOCIAL SCIENCES TO KNOWLEDGE AND DECISION MAKING

Bruges, 26-28 June 2000

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