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Information for policy, policy for information: the structuring of an 'invisible college'

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0. Introduction

In my first year of sociology studies, one of the major courses stressed the differences between social and sociological problems. Although this course was very good and the professor very enjoyable, I got never convinced about the differences between both. The finality of sociological problems has always been, directly or indirectly, in contributing to the understanding and solution of social problems. This has been the case since the founding fathers of sociology. In the pre-history of sociology, the motto of Saint-Simon was 'savoir pour prévoir'. This was later changed by August Comte into 'savoir pour prévoir et prévoir pour pouvoir'. Comte considered the development of a theoretical science of society as a necessary condition to improve the state of society. All other sciences were to be subjected to sociology, in order to achieve this aim. Science was the servant of policy. Durkheim put it even stronger : 'if above all we are suggesting to study social reality, it does not follow that we are not interested in ameliorating it: we think that our research would not be worthy of one hour's labour if it was to have only a purely theoretical interest' (quoted in Lambiri-Dimaki, 1985, p. 16).

Sociological research has always been a resource for solutions to social problems as well as guidelines for social policy. However, the question can be asked whether research has contributed to a better social policy, and what instruments should be developed to increase this contribution.

This text starts with a short description of what is considered to be a main problem in the relation between research and social policy. Then it enlarges this diagnosis with an extra dimension, described both at the supply-side and the demand-side of information. On the demand-side, distinction is made among three levels : the practitioner's level, the managerial level and the policy-maker level. The text concludes with a proposal to look for solution in the direction of human networks.

1. Increase of production

It is beyond doubt that research has gained importance over the last decades. This can be deduced both from the absolute numbers of publications or the number of scientists, but also from the growing relative importance of the research budget in GNP.

This increase and its consequences for the scientific community were first analysed by Price, the founding father of the 'scientometrics'. In 1963, in his publication 'Little science, Big science', Price illustrated the growth of science with figures on the number of scientific journals. It appears that there is an exponential growth, with a doubling of the number of scientific publications every fifteen years.

However, this exponential growth is only true for a certain period of time. There is an upper limit, beyond which it is no longer profitable or possible for society to invest in the growth of science. Science is as so many other things subject to the economic laws of marginal utility and price elasticity.

Price therefore put forward the hypothesis that the growth of science follows a logistic curve, showing four distinctive stages : a preliminary period with very small growth, a period of exponential growth where the number of scientific publications doubles at certain intervals, a period with growth but declining rate of growth and a final period wherein the growth and the rate of growth tend towards zero.

There are already some signs suggesting we may have entered the third stage. The number of journals academic libraries can afford is decreasing because of rising costs. Academic libraries are establishing joint networks to lower the total number of journal subscriptions. The number of scientists in Eastern Europe is decreasing as well. The unification of Germany caused a drop in the number of East German scientists from more than 30.000 to nearly 16.000 now. Science is expensive and may prove to be a luxury for societies under economic pressure.

However, the increase of scientific production, whether it is exponential or logistic, poses some specific problems. Any researcher or policymaker who wishes to access the huge and expanding body of scientific knowledge encounters these problems. There is simply too much scientific literature around. It is no longer possible for a single person to follow all literature in a specific knowledge area. As a researcher, you can no longer be sure that the research you are actually doing, is adding something to the already existing researches or has not been done before. As a policymaker, you can no longer fully assess whether policy measures have been used elsewhere and to what effect.

If we are to build on what has already been achieved, we need to know what has already been achieved. This has become a problem because of its quantity. We may try to avoid overlap in scientific work and stop 'reinventing the wheel', but we can no longer be sure. Overlap has always existed in science, and probably always will. Still, we have become more conscious and concern grows together with the awareness of the vastness of the available information and the knowledge of potential technologies to overcome the problem.

Not only the quantity of the available knowledge causes these problems, also the availability has its impact. Not all knowledge finds its way to the 'white' literature which is easily accessible through bookstores or libraries. A large and apparently growing quantity of knowledge is only available on a limited scale as 'grey' literature or unpublished documents. This literature is characterized by limited availability. However, their impact on policy may be considerable. This literature therefore deserves our attention, especially some peculiar types.

Because of the speed of scientific production, there is a peculiar type of grey literature which consists of white publication during their stages of conceptions and birth. It is not odd to come across six months to one year between completion of a text by the

author(s) and final publication. It certainly is very common to find several years between the initiation of a research project and any comprehensive report on its results. During this period, these 'white' publications are part of the grey literature. In order to participate in scientific communications or in order to make up-to-date policy decisions, there is a need to know about publications before they are available as publications.

Another type of grey literature is the result of the steady take-over of research projects by commercial counselling companies. Social scientists have lost their position of preferred research partner with governments. Numerous examples can illustrate how government turns more than ever to commercial counselling companies, both for descriptive and social policy research. Moreover, these private companies have every interest in not publishing and distributing the results of their researches, in order to be able to commercialize their knowledge to others. This threatens the democratic access to scientific knowledge. Science has not only become big science, but also big business.

2. Abstracting Services

The most common and effective solution to the mentioned problem has been the development of abstracting and indexing services. A growing number of these services are available with different scopes and scale. Some only deal with a fairly limited area of knowledge, such as Social Work Research and Abstracts. Others deal with a larger area of knowledge, such as Sociological Abstracts or LISA (Library and Information Science Abstracts). Most of the abstracting services are now available both in printed and an electronic version, either on CD-ROM or on-line. Most abstracting services deal with 'white' literature, although some include abstracts of conference papers (Sociological Abstracts) and some a wide range of grey literature (ERIC or ...). These abstracting services can be combined with a delivery service, which is increasingly important when dealing with grey literature.

However, these abstracting and indexing services do not solve one of the core problems about social policy research. This problem can be described as a lack of research for policy and a lack of policy for research. The lack of research for policy is grounded in scepticism of researchers for policymakers. 'Results from scientific research which are politically favourable get all the support they can wish, regardless of the quality of the research. Results from scientific research which are politically less favourable are neglected' (Snellen, 1987, our translation). The lack of policy for research is grounded in a similar scepticism of policymakers for researchers. 'Sociologists are people who turn common sense into difficult wordings with the result that only other sociologists can understand them' (popular joke).

One gets an illustration of the lack of **research for policy** when reading scientific publications. One often wonders whether articles have been written to communicate some research findings that can be relevant for more readers than the researcher, or whether they are being published to obscure the already existing knowledge. It is hard to conceive most of the scientific publications as serving as a source for policy.

The topic of the unreadable publications has been subject of the Dr. Fox hypothesis. This hypothesis reads: 'an unintelligible communication from a legitimate source in the recipient's area of expertise will increase the recipient's rating of the author's

competence' (Armstrong, 1980). This means: the more difficult you write your articles, the higher you will be regarded by your colleagues. This hypothesis has been empirically tested, and strong support has been found.

A recent software review (Hacker, 1991) described a programme called Creative Hypotheses Evaluation Evaluation Analysis Technique or CHEAT. It 'uses artificial intelligence based inferencing techniques to work with you and your data to provide maximum publication potential in journals'. The advices of the programme include which statistical significance test to use, which average sentence length to use, how much jargon to use, and so on. Although this review dealt with a fictitious programme, one is often wondering about the substantial or symbolic use of statistics and jargon in scientific publications, especially with opportunities of packages such as SPSS or SAS and grammar checkers such as GRAMMATIK or RIGHTWRITER. Using the STATISTICS=ALL or ALL option, one can see the temptation to select the most impressive or significant results, rather than the most appropriate ones.

It is clear that the Dr. Fox character of scientific publication is a threat to a clear 'research for policy' communication strategy. Although the manifest function of scientific publication is to help the diffusion of knowledge, its latent functions prove to be the enhancement of the autho's position. Apparently, this is best to be done by unintelligible publications.

Not only the style, but also the structure of most scientific literature is a constraint on the dissemination of research knowledge (Schillings, 1985). Journals request authors to outline extensively the research question and hypothesis, the existing theory and research, a description of the sample, the methodology used (with enumeration of dependent and independent variables) followed by the results and the conclusions. Journals often prefer quantitative analysis for its scientific status and look down on qualitative analysis as ennobled common sense.

From the policymaker's point of view, this structure should be reversed. His (or her) interest goes to the conclusions (whether a certain policy is likely to produce results under given circumstances). Methodology, existing theory and research can almost be considered as 'further reading'.

There is hardly any incentive for researchers to write for policymakers. In this way, no communication for policy is possible. Some publications try to enhance readability and accessibility to policy makers by providing executive summaries on brightly coloured pages or by sending out each manuscript for three bling reviews (one from the author's discipline, one will represent another discipline and another from a different country), but their impact is still marginal.

The lack of **policy for research** can be illustrated on the different levels of practitioners, management and policymakers. On each level, indications are available which suggest that decisions are not always taken as rational as they are supposed to be.

On the **practitioner's level** we expect professionals to use the appropriate technologies which offer most guarantees for efficiency and effectiveness. Technologies are to be used when success is certain. However, we see human services to be characterized by technologies with high degrees of uncertainty. This is especially clear in areas such as

social work, where a serious debate about the effectiveness has been going on for several decades. Social work is very rich in theories, as a recent review by Payne showed. This review included 14 different categories of theory in social work, being psycho-dynamic, behaviourist, family treatment, crisis theories, social learning theories, systems theories, role theories, organisation theories, communication theories, group theories, task-centred theories, cognitive theories, humanist theories and radical theories (Payne, 1991, p. 60-62).

This variety of contradictory and competitive theories leave the practitioner with less other choice than to work on an eclectic basis. Too few empirical results are (or were) available to give practitioners guidelines on which theory or techniques to use in which cases. At best, practitioners used eclecticism as a predominant mode of intervention. Appeals have been made to conduct social work according to research evidence, and use techniques according to their demonstrated effectiveness and the clients' needs.

A survey among Flemish social services shows however that empirical information about clients, interventions and effects is hardly ever systematically gathered. Eclecticism becomes an haphazard way of dealing with clients, social work becomes merely more than 'paid charity' and psycho-social techniques more a subject of belief rather than science. Social work becomes 'balkanized' into followers of different schools.

These remarks do not intend to suggest that practitioners are small-minded. They only indicate the complexity of the problem. Over the last decades, there has been a movement towards integration of social work and empirical research, including innovations such as new information technology and the opportunities of client information systems and single subject research. However, studies suggest that these facilities are not very often used in practice.

On the managerial level, time studies of manager's activities showed a prevalence of very short, mostly verbal contacts (Mintzberg, 1973). The manager's job is characterized by a brevity and fragmentation of activities. Most activities take an average of less than 15 minutes and only scheduled meetings take more time. There is also a high degree of verbal communications. Telephone calls, meetings and tours take up 78 % of daily activities and 66 % of all managerial time.

This prevalence of short contacts has of course implications for the information receptivity. Information that can be dealt with in a short period of time (short texts, visual or verbal presentation, clear structure, clear and relevant conclusions) are more likely to be noticed. Compared to verbal communication, written information (reports, publication, statistics, ...) receive hardly any attention and are looked at almost ritualistic. Managers express a preference for non-formalised information, nearly grapevine-information and gossip. This led to the question whether gossip in organizations was meant to keep communication channels open for eventual formal information, or the other way around (March & Sevon, 1984).

These empirical results about how managers spend their time and receive information have been confirmed later by researchers such as T. Wilson in Social Service Departments in U.K. or Ph. Schervish for Mental Health Community Services in U.S.A. They also have implications on how literature and professional publications are dealt with. Wilson's research found out that 'hardly' 30 % of Social Service staff 'saw' up to 2 professional journals. But there still is the difference between seeing a journal and actually reading it.

These findings strongly contrast with the broadly accepted fable that managers need

aggregated information best provided through a formal management information system. They imply that people rather than printed information are our main information resources.

On the **policy level**, several textbooks are available on how to make policy. They all include a prescriptive description of the policy process. Generally, these process descriptions can be simplified towards a sequence of problem analysis, planning of possible solutions and their effectiveness with a decision on which to use, implementation of the policy and feedback about its effects. This is a very simple four-step sequence of the policy process, and most textbooks elaborate into more detail, but this is the general structure of most process descriptions.

Within this framework, it is clear that more information directly results into better policy. The more alternative solutions to policy problems there are to be found and the better their efficiency and effectiveness is assessed, the better the policy decisions will be.

This basic structure of the policy process has been criticized. Herbert Simon pointed out that the necessary information on alternative solutions and their effectiveness was hardly ever available and the information processing capacity of decision makers was often limited. He therefore developed the principle of 'bounded rationality' which he considered to be the basis for decisions. Decisions are therefore no longer considered to be 'the ultimate answers' but rather satisfying answers to problems.

March and Olson elaborate on the concept of bounded rationality and ask some questions on the sequence of problems and solutions. According to their research (done in academic settings) problems are not always fixed in decision processes and do not necessarily come before the solutions. The situation rather resembles a garbage can, where participants dump various problems and solutions. Through the decision process, these problems and solutions get connected and 'loosely coupled'.

This garbage can model of decision processes led others to ask questions about the role of information (Feldman and March, 1981). Is information a substantial ingredient for rational choices or is it just a symbolic necessity? Does information contribute to decisions or is it yet another ingredient of decision making similar to examining the entrails of a chicken or consulting an oracle in third world or historical shamanism? This is an important but methodologically difficult question because the idea of intelligence is one of the basic values in our society.

The conclusion one can draw from these indications is that people don't usually use information to take decisions the way people who write books about decision-making say they do, or should do (after Bachrach's law for research). Practice in human services is not done as it should be done, management is not done as is supposed to be done and policy-making is very different from what books tell you about policy-making.

Information is not linked in a simple way to policy. We imagine policy to be a process of defining a problem, looking for potential answers, assessing pros and cons of each alternative, selecting and implementing the best solution and evaluating it. Within this framework of policy, information is very valuable and the more information is available, the better policy will be. With the previous findings, we tried to indicate that this framework is too simple. Policy is more than the application of, be it complex, technical rationality.

If we are to discuss the use of information for social welfare policy and planning, we should not focus on the supposed needs of social welfare policy and planning according to the numerous books on this subject, but look into the real needs of daily-life policy.

3. The structuring of an 'invisible college'

The above mentioned problems with information diffusion are not new. They have been described in other places, and solutions have been put forward. One of these solutions is the Current Awareness Service (CAS) or the selective dissemination of information (SDI). These services do not inform subscribers about all the information that is available in a certain area of knowledge, but process, select and tailor this information towards the needs of the subscriber. Such a service is for instance offered by a Flemish welfare organization. Agencies and persons can subscribe to the information services and will then receive the information relevant to their 'information profile' in an informal way (no journal, but straight copies from original sources). Of course, these current awareness services must be selective and timely in order to address the mentioned problems.

Invisible colleges and their structuring offer another (or additional) solution. Invisible colleges in science have been described by Price (1963) and Crane (1972). The main characteristic is that among the numerous scientists working in a certain area, there is a 'inner group' with good communication structures between the members and contacts with most of the evolutions in their scientific area. This inner group of scientists not only refer to each other in their publications (object of bibliometric research), but exchange ideas through mail or at meetings at regular intervals. These meetings are often used to describe universities as disguised 'travel agencies' or to write novels about the phenomena (David Lodge). Even so, these scientific communities or structured 'invisible colleges' not only affect the growth of knowledge (as described in Crane, 1973) but also the diffusion of knowledge.

An example of such an 'invisible college' is **ENITH**. ENITH is the European Network for Information Technology in Human Services. It was formed in December 1989 when 35 invited experts from 20 countries gathered at Maastricht under the auspices of the Government of The Netherlands. The objective of ENITH is to organize and maintain an European organizational network of people, institutions, organizations and other groups of people working or interested in the field of new information technology within Social and Human services in their countries.

New information technology refers to the use of computers and communications technologies for organizing and processing information. This encompasses a wide range of technologies, with developments in both hardware and software at an extraordinary rate. The focus however is not primarily on the hardware or software of this technology, but on the way these are used and applied to improve the quality of citizen's life and human service provision.

Human services have been described as: 'programs and activities designed to enhance people's development and well-being' (Parker, 1991) or as 'bureaucratic organizations explicitly designed to manage and promote the personal welfare of its citizens'

(Hasenfeld, 1983, p. 1). The word 'bureaucratic' is not to be understood as a negative concept, but as a synonym for formal organizations. Most social scientists identify the six basic human services as (1) personal social services (2) health (3) education (4) housing (5) income and (6) justice and public safety. ENITH tries to include this wide range of human services in its activities, although the focus in the past has been predominantly on the personal social services.

ENITH is focused on European countries. Similar networks exist for U.S.A. (CUSS or Computer Use in Social Services), Canada (AACTHS or Association for the Advancement of Computer Technology in Human Services) and America (PANITH or Pan American Network for Information Technology in Human services).

ENITH, CUSS and AACTHS try to reach these goals by organizing national and international conferences, publishing journals and developing electronic networks.

The international conferences go under the name of HUSITA (Human Services Information Technology Applications). The first one has been organized in Birmingham, U.K. in 1987, the second in New Brunswick (U.S.A.) in 1991. The third HUSITA conference will be held in June 1993 in Maastricht (The Netherlands). The theme is 'Information technology and the quality of life and services'. Other conferences have been organized on this subject with involvement of one or more of the mentioned networks, but under different names.

ENITH, CUSS and AACTHS all publish newsletters which include news items, book reviews and articles. Moreover, two international journals are published with close links to CUSS (Computer Use in Human Services, The Haworth Press, U.S.A.) and ENITH (New Technology in Human Services, CTI-centre, U.K.). ENITH has also developed an electronic network (SONETT), based in Berlin. It offers facilities to exchange mail and (demonstration) software.

ENITH however is more than the sum of the tangible products of conferences, journals and electronic networks. It is above all a **human network** of experts and interested professionals in a certain area of (scientific) knowledge. It is a group of people that interact and exchange information on the subject of information technology in human services.

This exchange of information is greatly supported by the use of electronic mailing networks. Not since the introduction of the jumbo jet in 1969 has any technology had such an impact on scientific communities. Electronic mailing has advantages in that it is extremely cheap and tremendously fast. The speed of transmission depends on its length, longer messages taking longer time because they get lower priority on the networks. However, average time for messages up to one page is in the order of some seconds. This has the implication that (transatlantic) conversations can be held interactively and at just a fragment of the price of the equivalent telephone conversations. This infrastructure of electronic mailing supports the human network.

Anyone looking for information on a certain aspect of information technology in human services can 'tap into' the ENITH network through one of the national representatives and have his request for information 'in the air'. In the past, on several occasions this way of collecting research information has proven to be very effective. There is no way that this information seeking instrument will provide the same

coverage as abstracting and indexing services, and in this sense it is no replacement for these services. However, the use of 'human networks' has the advantage that information has been selected and filtered. As the network consists of experts who are the origin of a large part of the knowledge base anyway; as these people read professionally all that is published in the area, requesters get a second hand opinion on the relevant information. The opinion is second hand, but this does not imply that it is outdated. On the contrary, members of the network are all involved in several research projects that will become the knowledge base of tomorrow. Therefore, the second hand opinion is more up-to-date than relying on published information.

Moreover, it has a filtering effect on the information. Information that is not considered relevant to the present state of knowledge will not easily be mentioned or will be commented on by other persons on the network. This is made possible by the interviews.

Another important characteristic of the human network is its consistence of two layers. The first layer consists of the experts and professionals in direct contact with the network, and the second layer consists of all the background contacts these persons have. The individuals in the first layer are therefore to be considered gatekeepers to the wider second layer. As they are reasonably distributed around the world (in the case of ENITH, CUSS and AACTHS), there is little overlap in this second layer.

Information in invisible colleges is not diffused through formal communications channels, but rather spread out in a similar way as epidemics, through interaction and regular contacts. The difference with epidemics is that only desired knowledge is spread, instead of undesired viruses (Goffman's Epidemic theory).

ENITH is an example of how information and knowledge can be diffused in a selective, informal way. This proves to be complementary to other ways of gathering information and more efficient and effective than relying on formal 'white' publications and abstracting and indexing services. Human networks are not perfect, of course. Several problems pose threats to the functioning of these networks. The main problem is similar to the well-known prisoners' dilemma. The human network only works when people have an interest in sharing information, this is when they get information in return.

This problem has been described as similar as that of a football team (Nowotny, 1985, p. 13). Some of the players have a tendency to run ahead with the most profitable balls, and forget about the group of players who gave them those balls. It is of course more enjoyable to work with only the lucrative parts of the network, and hope the network will keep on working without positive feedback. However, this is not the case.

4. Conclusion

Abstracting services is but one of the possible instruments for a better relationship between research and policy. Although improving the accessibility of publications, it does not provide solutions to the quality question of both research and policy. It merely reduces the big 'sea of information' into a smaller 'lake of information'. Information is reduced to a more manageable scale of information.

Just in the same way as social databanks often fail when aiming at citizens, scientific

publications often fail when aiming at decision-takers. There is every indication to assume an information diffusion process consists of two rivers, one running between scientist and information-intermediaries and a second one running between information-intermediaries and decision-taker. Progress on the diffusion of scientific knowledge can be made by developing information services, as well as by developing a structure and a network for information-intermediaries.

The structuring of an 'invisible college' is one way of such a structure. It has no aim of covering the area of knowledge for the full 100 %. It provides selection mechanisms through which quality information is more readily accessible and policy in given incentives to use this information. Information is turned into applicable interactive knowledge. ENITH can be seen as an example of such a structured invisible college, but many more examples can be found. Policy-makers therefore have every interest to invest in these structures.

In order to improve on the relation between research and social policy, we should not only focus on the quantitative aspect of the supply side, but also on the qualitative aspect. We should not only focus on the supply side, but also on the demand side. Structuring the invisible college is one way of bringing together supply and demand. It also stresses the importance of the process character of policy making.

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