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**MEDDELANDEN
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POLICY, INTEREST AND POWER

Studies in Strategies of Research Utilization

Kjell Nilsson

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POLICY, INTEREST AND POWER

Studies in Strategies of Research Utilization

Kjell Nilsson

Policy, Interest and Power
Studies in Strategies of Research Utilization

av

Kjell Nilsson

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Abstract <p>This dissertation about the utilization of applied social science is based on studies of research use in three different policy sectors - the social service, the building, and the working life sectors. In these studies it was found that different ways of using social science were directly related to the utilization context and connected with specific strategies of control, power and conflict. Three overall purposes, or "utilization aims", could be distinguished as the main reasons for investing in social science research. The first is aimed at managing organizational and political conflicts and is directly oriented towards political use of research. A second utilization aim is directed towards governance and control. The third is to create and define an expertise, and aim increased knowledge within the organization and among staff through professionalization and training.</p> <p>Research utilization strategies, and the ways social science are used, vary within as well as between the three policy sectors. But the characteristics of the different policy sectors, how they are organized and how power and control are distributed and exercised, play a fundamental role in how the organizations appearing in the field develop into knowledge users, with specific utilization patterns and strategies.</p> <p>The conclusion from the studies of research utilization in the three policy sectors is that it is neither technical obstacles in the communication process, nor in the research products that mainly influence research use. What determines if and how social science will be used is the interaction between the character of a policy sector (especially its institutional organization and its definition of expertise), the knowledge strategies of policymakers, and the <u>organization of research in the area.</u></p>		
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Lund January 1992

Kjell Nilsson

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Policy, Interest and Power

Introduction

This dissertation about the utilization of applied social science emanates from three different studies within the research programme *Utilization of Applied Social Science: A Comparison Between Policy Sectors*. The first study of research utilization in the social service sector was conducted by Sune Sunesson and myself in 1984-1985.¹ The second study, of the building sector², was conducted by Birgitta Ericson and Britt-Marie Johansson in 1986-1987.³ The third, about the use of working-life research, was conducted by me in 1990.

The study on the utilization of social research in Swedish city welfare departments was conducted in 15 cities and municipalities. Seventy-seven social workers, agency directors, and local politicians were interviewed on the utilization of social research in the agencies. Nine politicians and civil servants on the national level were also interviewed. Some social scientists doing research in this area supplemented the interviews with "research users", making the total number of respondents 91.

The study of the building sector was concentrated on different organizations in this sector in the city of Malmö. Twenty-nine persons connected with this policy sector were interviewed. They were city politicians and administrators; real estate developers; building-contractors; consultants; and representatives of the real estate owners' association and the tenants' association.⁴

In the study of the working life sector 20 interviews were made with potential research users representing government (ministry of labour) and national agencies, blue- and white-collar unions on federation, national and local levels,

and the employers' federation, about their utilization of working-life research. Supplementing these interviews, six scientists were interviewed about their experiences of how their own as well as other working-life research was used.

Besides this summary, the dissertation consists of a number of articles written during the period 1988-1991. These articles, seven in numbers, are as follows:

Sunesson, Sune and Kjell Nilsson (1988): "Explaining Research Utilization". *Knowledge*, vol. 10:2, 140-155.

Sunesson, Sune, Kjell Nilsson, Birgitta Ericson and Britt-Marie Johansson (1989): "Intervening Factors in the Utilization of Social Research". *Knowledge in Society*, vol. 2:1, 42-56.

Nilsson, Kjell and Sune Sunesson (1991a): "Conflict or Control: Research Utilization Strategies as Power Techniques." (Submitted for publication.)

Nilsson, Kjell (1991a): "The Utilization of Working-life Research."

Nilsson, Kjell (1991b): "Utilization Patterns and Strategies in Policy Sectors: A Comparison Between Policy Sectors I."

Nilsson, Kjell (1991c): "Utilization Strategies and Policy Sector Contexts: A Comparison Between Policy Sectors II."

Nilsson, Kjell and Sune Sunesson (1991b): "Strategy, Tactics and Maneuvering: Utilization of Research in Three Policy Sectors."

The first three articles are based on the study in the social service sector. In Sunesson et al, 1989, the results from an analysis of the research documents that the interviewees referred to are presented. The ways social science is used in the social service sector are discussed in Sunesson and Nilsson, 1988. The different knowledge utilization strategies that we found in this sector are discussed in Nilsson and Sunesson, 1991a. Nilsson, 1991a, is about research utilization strategies and the ways research were used in the working life area. In Nilsson, 1991b, the different knowledge strategies and patterns of research use in the three policy sectors are compared. The different policy sectors as utilization

contexts is discussed in Nilsson, 1991c. In Nilsson and Sunesson, 1991b, the knowledge utilization strategies in the three policy sectors are connected with the short-term tactics that the studied organizations employ in relation to research knowledge.

My own contributions regarding the co-authored articles are as follows: Sunesson and Nilsson, 1988; Sunesson et al, 1989; and Nilsson and Sunesson, 1991a, are based on the study of research utilization in the social service sector. In that study I conducted more than half of the interviews, and the other interviews Sune and I made together, apart from a few interviews that Sune conducted on his own. I was responsible for the data collation and analysis. The actual writing of the articles took place in a constant dialogue that adds up to a co-authorship with equal responsibility.

As to Sunesson et al, 1989, which to a large extent is based on an investigation of research documents, Birgitta Ericson and Britt-Marie Johansson collected, read and classified the main body of material. Sune and I later supplemented this material, analyzed the results, and wrote the article. Nilsson and Sunesson, 1991b, which is based upon all three studies and the sectoral comparison between them, is co-authored in the same way as the other three co-authored articles.⁵

In this summary I will present the problems that these utilization studies are directed at, and the basic concepts that are used in the analysis of research use. I will also summarize some of the results pertaining to the use of social science knowledge in the different policy sectors - the social service the building, and the working life sectors. The research methods used are in principle the same for all three studies, and will be presented in the final section of this summary. This section is to some degree based on the presentation of research methods (which I was responsible for and wrote) in Nilsson and Sunesson, 1988, where

the study of research utilization in the social service sector is fully reported.

Research Utilization as a Research Problem

The principal factor behind the emergence of research utilization studies in recent decades is the great expansion of applied social science research that has taken place. This demand for policy-relevant research is closely connected with different reform programmes, mainly in the public sector. In the United States for instance, the implementation and management of welfare reforms in the 1960's lay behind the rapid increase of policy-oriented evaluation research.⁶ The involvement of social science in decision-making is often referred to as a process of "*scientification*".⁷

The idea of a "scientification" of political and social practice, to replace ideology and political conflicts in policy-making with science, is not new but is a recurrent theme in modern history. In social science this idea is found in the thinking of Saint-Simon⁸ and Auguste Comte⁹ already at the beginning of the 19th century. Another example, from the beginning of this century, is Frederick Taylor who thought that "scientific management" would create a rational order that would replace class conflict in the area of production.¹⁰ Even marxists like Otto Neurath, within the thought of logical positivism, envisaged a development where "scientification" could replace political conflicts.¹¹

The idea of "scientification" as a means that would limit the area of political conflict in policy-making has been called a "technocratic" model. Another model of scientification is the so-called "engineering", or "decisionistic", model, where scientists serve a problem-solving function, but the goals and problems are defined by politicians and other decision-makers.¹² The "engineering", or

"problem-solving"¹³, model pictures research utilization as a process where a problem is identified by policymakers, social science delivers knowledge about the problem and the possible means of solving it, and then the decision-makers choose policy. The engineering model of research use is usually depicted as the dominant perspective of the 1960's, when social science was drawn into the policy process on a larger scale¹⁴ even though the technocratic conception always has been a travelling companion in the notion of scientification.¹⁵

The "engineering" model of research utilization is based on certain assumptions about the character of policy-making, about social science, and the relation between scientific knowledge and the policy process. A first precondition is the "rational" conception of organizations that has dominated organization theory. Secondly, this model is connected with a rationalist understanding of scientific knowledge, which is a precondition for depicting science as a provider of objective and value-free knowledge that may be used as a neutral "instrument" in decision-making.¹⁶

From the end of the 1960's it was recognized that policy-oriented research had little, if any, direct impact on actual policy.¹⁷ When the expectations on the utilization of research as an instrumental tool in policy-making were not met, questions arose about why scientific knowledge was not put to actual use, and accordingly, about the whole process of research utilization. In the United States this has led to the foundation of a new field of research: research on research utilization.¹⁸

The conception of social science as "under-utilized" is, of course, tied to a presupposition that utilization of research is rational, hence normal, and that "non-utilization" is what should be explained.¹⁹ Different explanations have been put forward to explain the perceived under-utilization of research in policy-making. Some have to do with technical obstacles in the diffusion process, such

as practical impediments for potential users, problems of communicating research findings, or obstacles that have to do with the technical character of research or research reports.²⁰ Another type of explanation is an alleged "gap" between the "two cultures" - the scientific and the political.²¹

Within utilization research the very concept of utilization has been reconceptualized. The rational, or instrumental, model of knowledge use has been abandoned, and studies have been made of different types of research utilization where direct instrumental use is just one of several ways of using scientific knowledge.²² Carol Weiss has described the process of knowledge utilization in the following manner:

"Knowledge, at least the subcategory of knowledge that derives from systematic research and analysis, is not often 'utilized' in direct and instrumental fashion in the formulation of policy. Only occasionally does it supply an 'answer' that policy actors employ to solve a policy problem. Instead, research knowledge usually affects the development and modification of policy in diffuse ways. It provides a background of empirical generalizations and ideas that *creep* into policy deliberations. Its influence is exercised in more subtle ways than the word 'utilization' - with its overtone of tools and implements - can capture...

Policy action... are not 'decided' in brisk and clear-cut style. The term 'decision' implies a particular set of events: A problem comes up, a set of people authorized to deal with the problem gather at particular times and places to consider options for coping with it, they weigh the alternative options, and they choose the response... But in large organizations, policies often come into being without such systematic considerations. No problem (or opportunity) is identified as an explicit issue, no identifiable set of authorized decision makers meets, no list of options is generated, no assessment is made of relative advantages and disadvantages, no crisp choice is made. Yet the onrushing flow of events shape an accommodation - and a pattern of behavior - that has widespread ramifications. It may in time be ratified by conscious policy action, but in crucial formative stages, it just seems to happen. Without conscious deliberation, the policy *accretes*."²³

The development within research on the utilization of social science parallels the critique of the rational-instrumental conception of organizations within organization research, a conception that has been a precondition for the "problem-solving" or "engineering" model of knowledge use.²⁴

Research utilization, what is it then? How should it be defined, and studied, when knowledge use is conceptualized as a much more diffuse and diversified process than the rational-instrumental model assumed? Carol Weiss describes the problem:

"It is exceedingly unclear what constitutes a use. Is 'use' the adoption of research recommendations intact, the nudging of a decision in the direction suggested by research findings, the reinforcement of a likely decision by research, the consideration of research findings (even if these are overwhelmed by other considerations in the situation, rethinking the nature of the policy issue, redefining informational needs? What kind of use is 'real' use? And how much is enough?"²⁵

Carol Weiss²⁶ has distinguished different "*functions*" that research may have for the user, where the "instrumental" function is just one of several ways social science results come to use. She discriminates between five different functions:

* Instrumental functions, when research is used for problem solving. As the name implies, it is the type of function that the "instrumentalistic" idea of science presupposes as the normal one.

* Political functions, the function of research as ammunition and arguments in political conflicts.

* Conceptual functions, when research and research results lead to conceptual reorientation or change in thought patterns.

* Interactive functions, the "function" of interacting with other types of influences to build a knowledge background for policy formation.

* Tactical functions, when research promotes Hawthorne effects or is part of

"avoid and delay" tactics.

Instrumental functions of research are those depicted in the *engineering* or *problem-solving* model of knowledge use, while *conceptual* functions are associated with an *enlightenment* model of research utilization. In Carol Weiss's words, the enlightenment model "assumes that social science research does not so much solve problems as provide an intellectual setting of concepts, propositions, orientations and empirical generalizations. No one study has much effect, but, over time, concepts become accepted... Over a span of time and much research, ideas... filter into the consciousness of policy-making officials and attentive publics. They come to play in how policymakers define problems and the options they examine for coping with them."²⁷

The separation of types, or functions, of research utilization has been where we have started out in our studies of the use, or nonuse, of applied social science. Research use, as it is defined in our utilization studies, occur when the potential users of social science claim that research findings have intervened in or affected decisions, policy or reflections over policy issues. Sometimes the interviewee totally disagree with a research finding that is referred to. This type of "nonuse" of social science results also counts as "utilization".

Our analyses of the ways research was used in welfare agencies led us to some criticism of the descriptive categories of utilization "functions" or "types" of use. Differences in research use do not appear only as quantitative differences in types of use. Utilization appeared to be almost completely context-dependent, and one particular research finding could be used differently according to the hierarchical distribution of power, so that politicians, agency directors and social workers could make three kinds of use of the same result in the very same agency. We even found that locally produced research, aimed at instrumental

use, seemed more often to have a conceptual rather than instrumental function when used in other cities.²⁸

Another starting-point has been the importance of the "*utilization context*" for research use. Our use of the concept "utilization context" has been inspired by the austrian sociologist Helga Nowotny.²⁹ One of her basic ideas is that research results are used in specific contexts, which are influenced by political conjunctures. Nowotny regards conflicts as the most important factor for explaining research utilization. Those "problems" that social science are studying are in fact conflicts that are redefined, "scientificated", into research problems. Demand for applied social science, then, is not so much directed towards solving problems as towards creating political arguments to promote and legitimize policy.

The scientification of policy-making as a consequence of engaging science in the policy process simultaneously entails a *politization* of science, which is reflected in the fact that "science policy" has developed into an important area of politics and in the growth of science policy research.³⁰ Whether one looks at the relation between science and politics from the perspective of "scientification" or "politization", in both cases scientific knowledge is perceived of as an important source of authority and power.³¹ This relationship between science and society, the social context of production and use of scientific knowledge, is a main theme within the sociology of science and knowledge to which I will turn to in the next section.

Sociology of Science and Knowledge

Traditionally there has been a distinction between the sociology of science and the sociology of knowledge. The sociology of science, following the tradition of Robert Merton, studied the specific norm system in the scientific community and its institutional organization.³² As a consequence of the adherence to a positivist criteria of rationality, the content of scientific knowledge was not considered an object for sociological inquiry. In this perspective, scientific knowledge is internally generated within science itself, and not influenced by "external", social factors. The sociology of knowledge on the other hand studied the content of knowledge related to social determinants, exempting science from these studies as scientific knowledge was considered to follow rational criteria.³³

The publication of *The Structure of Scientific Revolutions* in 1962 by the historian of science Thomas Kuhn, constituted a break with the rational tradition within the studies of science. As Kuhn demonstrated that paradigms and scientific criteria also were socially determined, a new area of research was opened to the sociologists of science. When scientific knowledge no longer was depicted as governed entirely by rational criteria but was dependent on historical and social factors, hence "relative", the cognitive content of science, as well as other types of knowledge, became an object of sociological inquiry.³⁴ Consequently, the previous distinction between sociology of science and sociology of knowledge as different areas of research has been dissolved.

The so-called "*finalization theorists*" were among the first within the sociology of science to utilize Kuhn's arguments. They assumed that a research area develops from a pre-paradigmatic period - when a variety of impulses (including impulses external to science) influences the direction of research - to a paradigm-

matic, and then to a post-paradigmatic stage. In the paradigmatic period, research is ideally governed by internal, scientific criteria. Then, in the post-paradigmatic stage, the research area has reached a theoretical maturity, its "discoveries" and theoretical development is passed, which makes it possible for external interests to direct research without causing it any harm. These theorists have analyzed scientific disciplines historically in their pre-paradigmatic stages to assess the importance of various external influences, and have studied the impact of science policy on the emergence and development of modern scientific areas.³⁵ In Sweden, Aant Elzinga has discussed the consequences ("drift of epistemic criteria") of the sectoral research policy employed by the state in similar terms as the finalization theorists.³⁶

From the mid 1970's, three major approaches to science studies have developed within the "relativist" strand of sociology of science: the analysis of scientific controversies³⁷; the ethno-methodological approach; and the so-called "strong programme".

Societal conflicts tend to create controversy within the scientific community, and not only within the social sciences. Sociologists of science have studied scientific controversies around questions like nuclear power, fluoridation of drinking water, DNA research, and the environment.³⁸

Within the ethno-methodological, or "constructivist" approach, research activities are studied at the micro-level: what actually goes on in the laboratories. Constructivists view scientific knowledge as a social construction that is entirely determined by extra-scientific factors. Funders and users of research findings influence the construction of scientific knowledge through the common "*transepistemic arenas*" that emerge between scientists and external interests.³⁹ With the concept "transepistemic arena", Knorr-Cetina dissolves the distinction between epistemic and non-epistemic factors, all factors that

influence the research process are transepistemic. People outside the scientific community, like publishers, journal editors, research funders and the users of research, are regarded to be as important as scientific colleagues in affecting actual research.⁴⁰ The idea of "transepistemic arenas" influencing research is similar to Aant Elzingas' concepts "*hybrid scientific network*" and "*epistemic drift*".⁴¹ According to Elzinga the sectoral research policy, where politicians and bureaucrats have a major influence on the funding of research, has caused an epistemic drift from scientific to external extra-scientific criteria.⁴²

In contrast to the ethno-methodological approach, the so-called "*strong program*" within the sociology of science is macro-oriented and theoretical. It is called "strong" because it maintains that not only non-scientific and erroneous knowledge, but *all* knowledge, including scientific, has social determinants. Therefore, all types of knowledge shall be studied "symmetrically", that is, scientific knowledge should not be treated differently in sociological analysis from other systems of belief, as is the case within the rational conception of science.⁴³

Göran Sundqvist has found the following line of arguments by Bloor⁴⁴ for the strong programme's assertion of an isomorphous relation between knowledge and society. It postulates that social interests are the motivation of society, and that the actions of individuals and groups are governed by their interests. The interpretation of reality is aimed at serving such interests. Social interests influence the interpretation as well as the utilization of the concepts of reality. In this way an isomorphous relation between knowledge and society is created.⁴⁵

This conclusion, that social interests and power, by governing knowledge use, also determine the content of knowledge, is isomorph to Michel Foucault's conception of the relation between power and knowledge.

"Each society has its regime of truth, its 'general politics' of truth: that is, the types of discourse which it accepts and makes function as true; the mechanisms and instances which enable one to distinguish true and false statements... 'Truth' is centred on the form of scientific discourse and the institutions which produce it; It is subject to constant economic and political incitements."⁴⁶

The question that Foucault raises in his works about sexuality, clinical medicine, madness, legal punishment and science is the following: "Why this 'problematization'?"⁴⁷ In answering this question he investigates the historical establishment of "*institutions*" and "*techniques*", and how these create "*discourse*". A discourse is a regulated order of speech that entails internal rules about what may be said, who may speak, and in what way or how. With the establishment of the first mental hospital in Paris in 1656, the techniques, rituals and measures that separated the sane from the insane, which laid the foundation for the psychiatric discourse, began to develop.⁴⁸ The new form of punishment that developed by the end of the 18th century and created the discourse of penology.⁴⁹

In analogy with the role that Foucault assigned to the establishment of institutions and techniques for the development of scientific discourses, and the importance the "strong programme" attaches to research utilization for the development of science, the "*utilization contexts*" (sectoral and organizational) in our research utilization studies are analyzed as a determining factor. We have not studied the development of the content in the scientific discourses pertaining to the fields of social, building, and working life research, as the focus was on *use* and not production of social scientific knowledge. What we touch upon, though, is whether or not the "utilization context" and the "*utilization strategies*" of the users have been discursively productive for them as users of research,

hereby indicating the relation between institutional power and research in respective areas.

Before presenting our studies of research utilization, a further aspect of the "scientification" of policy-making and society that also affects the utilization of social scientific knowledge, must be addressed. That is the question of how *expertise* is defined and created in society and in different sectors of society. Institutions that produce discourse also produce expertise, or "professionals".

The Definition of Expertise

In the process of "scientification" of different areas and practices in society, knowledge is combined with institutional power in defining the criteria of pertinence and truth and who has the "right to speak" in different areas.⁵⁰ This development is often referred to as a process of "*professionalization*", whereby different groups try to become acknowledged as certified expertise in order to achieve privileged rights within their professional field.⁵¹

Within sociology the study of the professions has been dominated by two successive approaches. Traditional studies were concentrated on the categorization and characterization of professional groups. In these studies, the definition of what constitutes a "profession" emphasized criteria such as professional autonomy, self-regulation, and the "professional ethics" that these groups develop. Lawyers, physicians and scientists were considered typical examples of professions defined in this way.⁵²

This functionalist and "*naive*" conception of the professions has been replaced by a neo-weberian "*cynical*" approach⁵³, where the concept "*closure*" is used for studying strategies of professionalization. "Closure" refers to the strategies that professional groups employ to limit entrance and gain control over their

labour market, where one method is to demand certified "credentials" in form of a specific education.⁵⁴

Thomas Brante means that both these approaches, the "naive" and the "cynical", are idealistic, as they describe the professions as homogenous and autonomous actors.⁵⁵ Brante points out that the "professions" are not homogenous groups, as members of the same profession have different employers, or "buyers", of their services. Therefore, the study of the professions should be supplemented by a theory of "professional types", relating them to their place of employment, or to the "buyer" of their services. Brante distinguishes five different "professional types": "free" vocations; academic professions; professions of capital; professions of the (welfare) state; and the political profession. Usually university education and academic credentials have been emphasized in defining professional groups, but Brante argues that there are other ways of defining expertise and regulating admission. The political profession is one such instance.⁵⁶

The way expertise is defined in different policy sectors, and how it affects research use will be discussed when comparing the use of social science in the social service, building and working life sectors. In this context the professional background of policymakers will be related to the character of tasks that is performed and to the institutional organization of the three policy sectors.

Institutionalization of Research

The "scientification" of professional practices often revolves around demands for formal academic education, and an ambition to tie research to new occupational

fields. Bengt Gesser has related this process of scientification to a tendency that occupations with a former privileged position approaches the conditions of other types of wage-labour.⁵⁷ *Professionalization* and *scientification* of occupational practices should thus be the other side of a process of "*proletarianization*". Maybe it is possible, for instance, to view the knowledge utilization strategy of the white-collar trade union, the TCO⁵⁸, in this perspective.

This strategy of scientification is found among several of the "white-collar" groups. Their unions have demanded that their education receive "university status", and that new scientific research areas with professorial chairs and Ph.D.-training be connected with their professional field. In some cases these ambitions has resulted in the institutionalization of new research areas attached to these professional groups. One example is "social work" that today is established as an academic research area in the social science faculties at most universities.⁵⁹ Another case in mind is the registered nurses who have succeeded in creating an academic research area - nursing science - that is connected with their professional practice. The professionalization strategy of the nurses comes close to the type described by the "cynicist" sociologists of the professions. According to Parkin, the two central activities are "exclusion", directed downwards, and "usurpation", directed upwards. In the case of nurses, they are both trying to limit the power of the doctors in health care and distinguish themselves from lower staff.⁶⁰

Other areas of research have not been institutionalized at the universities, but have been more or less permanently established as they have been long-term funded by various state agencies and commissioning bodies. Building research and working-life research are examples of this type of sectorally institutionalized research areas.

Aant Elzinga⁶¹ has in this connection distinguished three types of "*operational modes*" of applied research. The first he calls an "*adaptive and responsive*" mode, which is characterized by close relations to central policymakers, where the scientists are responsive to policymakers' interests and definitions of problems. A second mode is called a "*reflective and disciplinary*" mode. In this mode the social scientists keep a relative distance in relation to the policymakers and their influences on problem definitions. In this mode of operation, autonomy of the scientific community and a more reflective and penetrating research are pronounced, and status and legitimacy are sought in relation to academic disciplines. The third mode of operation is called a "*participatory and action oriented*" mode. In this mode scientists orientate themselves towards problem definitions of different social movements rather than towards the definitions of problems by central political authorities. It resembles the adaptive and responsive mode in the sense that it is the users of knowledge that define the research problems, not the social scientists as in the reflective and disciplinary mode.

Differences in the "mode of operation" of research within the three policy sectors that we have studied is one factor that influences the use and nonuse of social science in the different sectors. These modes are also more or less compatible with certain research utilization strategies on behalf of the users of social science in these policy sectors.

Concepts Used in the Studies of Research Utilization

Before presenting some of the results from the utilization studies, the key concepts that are used may have to be explicated. One of these is the concept of "*utilization functions*", another is the "*utilization context*". These concepts

were briefly described earlier and will be further discussed in connection with the presentation of research methods used in these studies.

The concept of "utilization context" that is used is similar but not identical to the one used by Helga Nowotny.⁶² By Nowotny, the research "utilization context" is conceived as a general conflict arena in society. In our studies we use "utilization context" as an organizational concept rather than as a concept referring to society at large. This may be seen both as an advantage and as a drawback. The advantage is the possibility of clear case studies and understandable descriptions of the concrete practices associated with knowledge policies. The drawback is of course the limitation of scope.

What is defined as "utilization contexts" in our three studies of research utilization is on the one hand the knowledge using organizations, and on the other hand their environment, defined as the policy sector to which they belong. The different sectors (the social service, the building and the working life sectors) as well as the organizations included in the sector, constitute, consequently, different "utilization contexts".

The users of social science results are normally not just passive receivers of research information that they then use, or not use, in certain ways. Their relation to research can rather be described in terms of "investment strategies". And differences in the way social science is utilized in an organization, the utilization pattern, are connected with different "*utilization strategies*". These "utilization strategies" have been the basis for the categorization of the studied organizations as different "types" of research users.

The user organizations represent both a "utilization context", in the sense described above, and a "utilization strategy". These organizations are utilization contexts seen from the perspective of what happens with research results in connection with utilization, or non-utilization, and they represent utilization

strategies from a perspective focusing on their actions in relation to research and its use. In relation to an organization's "utilization strategy" the outer environment constitutes the "utilization context".

We have also used the concept of "*tactics*" in relation to the utilization of social science knowledge. While utilization "strategies" are goal and investment oriented long-term adaptation patterns, "tactics" are short-term adjustment patterns.

A factor that affects the use of research is the "*context of origin*": if research originates from the users themselves or has been initiated outside the immediate utilization context. Research with different origins tends to have different "functions" for the user. User initiated research is often used for problem solving; while research emanating from universities and other research institutes more often is used conceptually. When I refer to a specific "*utilization pattern*", this includes the origin of the research used as well as the types of use ("functions") that are dominating in a utilization context.

Results from the Utilization Studies

In this section I will summarize some of the results from our studies of research utilization in three policy sectors. Firstly, I shall discuss the results pertaining to "technical" *obstacles* to research use. Secondly, the "*institutional*" differences and the ways *expertise* are defined, and how they affect the patterns of social science use as well as the different utilization strategies, will be discussed. And thirdly, the different utilization *strategies* and *tactics* that characterize the organizations in these policy sectors, and their influence on research use, will be briefly presented.

The "*modes of operation*" that characterizes social science in the different policy sectors is analyzed in relation to the sectoral contexts, and to the different utilization strategies. This analysis of the organization of research supplements the analysis of the policy sectors as utilization contexts in explaining the different utilization patterns connected with different sectors and strategies. I shall also discuss whether different contexts and strategies are more or less compatible, or more or less discursively productive.

Research Documents as "Obstacles" to Research Use

In Sunesson et al, 1989, the results from an analysis of the research documents that the respondents in our first study, the one on welfare agencies, referred to, are presented.⁶³ In this study we did not find any relation between the technical characteristics of the research reports and their use, between difficulty and abstractness of language or presentation and the degree of utilization. We also found that very diverse types of research were utilized by the respondents.

On the other hand, we found clear differences between the characteristics of research used instrumentally and that used for enlightenment, or as a political tool. Different types of use are at the same time connected with different origins of research; research for instrumental use is most often produced by the cities themselves, and research used for enlightenment by social scientists at the universities, a result that was confirmed in the study of research use in the working life area. The research that was used, and hence its characteristics, also varied between different utilization contexts. Utilization strategies favouring enlightenment use and political use of research, also favoured research originating from the scientific community. Other utilization strategies, or

contexts, favoured instrumental use of research which corresponded to a higher degree of utilization of locally produced research.

In the study of the utilization of social science in the building sector, Birgitta Ericson and Britt-Marie Johansson made a similar study of research documents. They analyzed 69 research documents that the respondents referred to. The result of this study are the same as in the one made in the social service sector: they did not find any relation between the technical characteristics of the research reports and any actual use.⁶⁴

In the study of the utilization of working-life research, which is reported in Nilsson, 1991a, I have not analyzed the research documents that the respondents referred to as in the other two studies. Instead, I concentrated on the instances where the respondents referred to research as "non-utilized". When the respondents talked generally about "obstacles" to the use of working-life research, they frequently mentioned the kind of technical obstacles mentioned above. But when it was about some *specific* research the picture changed; in these cases they referred almost exclusively to factors in the utilization context that explained why the research was not used.

These results points in the same direction as the results from the analysis of research documents in the other two studies. They speak against the hypothesis that non-utilization or "under-utilization" of research depend mainly on technical obstacles in the research results, or in the communication between social scientists and the potential users.

Policy Sectors as Research Utilization Contexts

The different policy sectors as contexts of research utilization are discussed in Nilsson, 1991b and 1991c. In the analysis I use categories derived from Janet Weiss.⁶⁵ But some of her concepts have been redefined or replaced.

Weiss's concept of *centralization* has, for instance, been replaced with "*institutionalization*" as a first crucial factor for explaining social science use in the different policy sectors. A high degree of institutionalization, as I define it, is characterized by institutionalized procedures and practices, agreements between organizations, lack of competing policies, and a low level of conflict within the policy sector.

I have also redefined Weiss's "*nature of decisions*" as a factor that explains research utilization. This factor I have defined as the degree of "*technical definition of expertise*", that is, in what way the task activities in an area define what expertise is required.

The educational and professional background of the policymakers are often determined by the "*core technical activity*", but as the institutional demands and task activities tend to be "loosely coupled", the same is true of the coupling between task and staff characteristics.

These redefinitions of Weiss's concepts of "centralization" and "nature of decisions" is in line with the ideas in organization analysis about "*loose coupling*" between "technical task activity" and the organization as institutionally defined.⁶⁶ The difference is that I have translated these concepts for application in the analysis of policy sectors instead of organizations.

The Building Sector as Utilization Context

The building sector may be described as a sector with a high degree of institutionalization. It is characterized by more or less fixed procedures and practices and relations between a large number of organizations in the process of planning, financing and construction of housing. This institutionalization revolves around the core technical activity of construction. In this sense, the core task activity to a large degree determines institutional arrangements.

As a consequence, overall utilization of social science research is low, instrumental use proportionally higher, and enlightenment use considerably lower compared to the other two sectors. It is also obvious that the building sector has been a less controversial arena than the other two policy sectors. A limited degree of political use of social science in this sector is consistent with this fact. The management of conflicts has been institutionalized to such an extent that there is no need for use of social science as arguments in policy formation.

Despite the relatively large proportion of interviewees with a social scientific education and background (most of them worked with planning and other social scientific issues), utilization of social science research was limited. This points to other powerful factors within the building sector that determines knowledge use. The determining factor, which other branches of activity in the sector or the educational background of the policymakers cannot counter-balance, is the core technical task of construction. Within *construction*, the expertise is defined as technical, and the use of social science is not considered relevant. And the influence it exerts on the work of the other organizations also limits *their* use of social science research.

The Social Service Sector as Utilization Context

In comparison with the building sector, the social service sector in Sweden is a less institutionalized policy sector, as I define this concept, with competing policies and a high level of controversy around policy issues. At the same time, the work of individual welfare agencies takes place within organizational unity, contrary to the case in the building sector, where the task to plan, construct and manage housing is divided among a number of organizations. This combination of homogenous local organizations and conflicting policies within the sector as a whole, promotes investments in conflict use of social science that may strengthen arguments for certain policies.

The structure of the social service sector seems to correspond more or less to the kind of "decentralized" policy sector Janet Weiss has defined as susceptible to conceptual research use. Compared to the other two policy sectors, this is also the case. Forty percent of the utilization instances that belong to a specific type, or function, were enlightenment use.

The varying utilization strategies in the social service sector may be explained by the fact that neither the *institutional* arrangements nor the *core task activity* are uncontested. If one is to characterize this sector according to these dimensions compared to the building and working life sectors, it holds a middle position with medium influence of both task activity and institutional demands in defining knowledge needs. In the building sector the technical task activity dominates over the institutional factors, and in the working life area the institutional dimension is the most determining factor for the use of social science research.

In the social service sector, what is defined as expertise is social science based, whereas the dominating expertise in the building sector is based on technology.

Expertise in the social sector is not so clearly defined as to make research use redundant, it has not the status of a "self-regulated" profession. Although this sector is characterized by a common educational and professional background, these professionals have difficulty developing into a recognized and legitimate expertise in the "strong" sense. They need the backing of social science research to back their claims and policy stand-points. As a consequence, utilization of social science research in this sector is extensive.

It is common, though, that social workers motivate their actions within a professional discourse, sometimes alien to research knowledge, based on their practice as professionals. This antagonism between professional and social scientific discourses may be one factor that can explain the low degree of research use in some welfare agencies.

This state of affairs may be ascribed to the fact that the core tasks not by themselves define expertise and relevant knowledge. Expertise in this sector is to a large extent institutionally and historically determined. It is defined *both* by the character of tasks and institutional factors, which may explain the high degree of utilization of social science as an aide in defining professional knowledge in the area.

The Working Life Sector as Utilization Context

Centralized agreements, corporate governance and industrial peace characterized the Swedish labour market in the post war years until the end of the 1960's. This was the period when the working life area was characterized by a high degree of institutionalization. One component of the "Swedish model" for peaceful relations between trade unions and employers disappeared with 1960's:

the industrial peace that had characterized the Swedish labour market the previous decades.

The rift in labour market relations and the emergence of the trade unions as research users, both at central and local level, may be considered as a decreased institutionalization of the working life sector. This development had profound effects on the creation and use of social science. Conflict use on part of the trade unions, and nonuse on part of the employers, might well describe the utilization of working-life research in the seventies.

The employers' resistance to any fundamental change, together with the economic crisis, stifled the ambitions of the unions. The agreements between employers and trade unions that was signed in the beginning of the 1980's regarding co-determination at the work-place stressed productivity and working conditions instead of increased power for labour.⁶⁷

The development of working life research in the 1980', as a consequence, tended towards a reorientation in line with this development of the relations between the trade unions and the employers. Research concentrates more on the practical work organization, and not on power relations.⁶⁸ In the latter half of the eighties, improvements in working conditions and work organization was a mutual interest of employers and unions as a result of a shortage of labour power. At the same time the development in the working life area in the 1980's has led to the final demise of the so-called "Swedish model" of industrial relations.

In the working life sector conflict use of social science, was more frequent than in the other two policy sectors. Regarding the degree of enlightenment use, it held a middle position. The utilization patterns differ considerably, though, among the different organized interests of the labour market.

In the public sector, as described by both government officials and representatives of the national union Kommunal (Cities and Local Governmental Employees' Union), research use had been less relevant in the past as central regulation and/or ideological principles to a great extent governed decision-making.

My interpretation is that the decentralization and deregulation in the working life sector has resulted in the development of different research utilization strategies among the organized interests of the labour market. The SAF and the LO have a strategy of using social science that involve a demand for knowledge to foresee future development that can aid in the conceptualization of policy to meet that future. The national trade union, Kommunal, on the other hand, is fighting against cuts and privatizations in the public sector, and has adopted a defence strategy that looks for social science results that can be of assistance in political conflict, and in staff development necessary to meet critique of low efficiency in the public sector.

The parallel in the working life area to the "professionals" in the building and social sectors is the elected officials of the different organizations whose discourse is a political one. Research utilization is to a large extent directed towards the environment, not towards the working of the user organizations. It is directed towards influencing institutional arrangements rather than to any "technical" work processes.

Among the respondents in the study of the utilization of working-life research, the educational background differed. About half of them had some academic education, predominantly in the social scientific field, but some also had engineering educations. Those without any academic background were mainly elected trade union officials. The educational background seems to have little importance for the use of social science research in this sector. Those with a

technical background, for instance, did not differ in their research use. This indicates that it is not individual characteristics per se that decide the use of social science research. Educational or professional backgrounds seem to be significant first when it is an expression of the ways expertise is defined within a policy sector.

Utilization Strategies and Tactics

The different knowledge utilization *strategies*, and their influence on research *patterns*, that we found in the social service are discussed in Nilsson and Sunesson, 1991a; Sunesson and Nilsson, 1988; and Sunesson et al. 1989. The utilization patterns and strategies in the working life sector are fully reported in Nilsson, 1991a. Here I will summarize the different strategies and patterns of utilization in the three policy sectors. A more extensive discussion is found in Nilsson 1991b. The different utilization *tactics* is discussed in Nilsson and Sunesson, 1991b.

Three overall purposes, or *utilization aims*, can be distinguished as the main reasons for investing in social science research for policy formation. The first is aimed at managing organizational and political *conflicts* and is directly oriented towards political use of research. A second utilization aim is directed towards governance and *control*. The third is to create and define an *expertise*, and aim increased knowledge within the organization and among staff through professionalization and training, while defining what is acceptable and not acceptable knowledge in the organization.

Most of the organizations in the social service sector and all in the working life sector had actively developed research utilization strategies in order to strengthen their power to handle conflicts, increase the capacity to govern and

control organizations and environments, and build up expertise. This in contrast to the building sector, where the use of social science research were more limited. These utilization strategies, which are situated in sector specific environments, determined the ways these organizations used social science results and the relations between the user organizations and social science.

Strategies and Tactics in the Building Sector

Apart from a general *problem-solving* attitude, the overall picture regarding the building sector at the local and regional level, which were the focus of this study, is the absence of elaborated research utilization strategies in contrast to the organizations in the other two sectors. The fact that activities and conflicts are regulated and institutionalized in specific ways in the building sector makes the importance of research use as a means of power low.

The building sector also differs from the other two in its overall utilization pattern, which is characterized by a relatively high degree of instrumental use. Political use of social science was limited. This utilization pattern in the building sector corresponds to a high degree of "internally" produced research and the relatively low frequency of research emanating from the scientific community.

The tactics used in the building sector were "*patching-up tactics*", where the research users were mostly intent on getting tools for "patching up" what planners and builders had done wrong. No special tactics for the use of science as a weapon or for defense against it seemed to exist - the first may have been hopeless, and the other quite unnecessary, because since social science could influence so few things, no one needs a defense against it.

Strategies and Tactics in the Social Service Sector

In the social service sector we distinguished four distinct types of research utilization strategies. Two of these were typical *conflict* strategies, one was more oriented towards the creation and strengthening of *expertise*, and the fourth was a *control* strategy directed at defining expertise.

One of the conflict strategies we call a "*social-policy*" strategy. The agencies employing this strategy invested in social science research in order to promote certain social policies, both locally and nationally. The utilization pattern is characterized by a high degree of political as well as enlightenment use. Much of the research was of an academic origin, which is consistent with a conflict strategy, where scientific legitimacy is important for the research to be useful. When research is used in conflicts, social science may influence the conceptualization of these conflict, a fact that can explain the relatively high degree of enlightenment use among these conflict agencies.

Another conflict strategy was found in one of the agencies. It is a strategy we have called a "*short term political*" strategy. Research was commissioned to support and enhance short term campaigns and crusades. This agency is dominated by local politicians. Professionalization and bureaucratic control were less important, and research is used as arguments in favour of a specific policy. The dominance of user initiated local research projects makes enlightenment use rare, and social scientists that are involved in these projects are mainly used for problem solving apart from legitimating the actual policy.

The "conflict" strategy organizations were typically dominated by "*upper-hand tactics*", that is, using the fact that one knows more of a thing to gain advantage. This was regularly accompanied by "*defensive tactics*" applied by the opponents.

Two welfare agencies had developed research utilization strategies aimed at creating and defining expertise. We have called this strategy a "*personnel investment*" strategy. The category is similar to the "social-policy" strategy, only more intent on organization and staff development and education. Investment in research is more focused on professionalization than on immediate conflict use, as in the social policy agencies. Another characteristic in the utilization pattern is the dominance of local research material. The "personnel investment" organizations often combined a professionalization strategy with "*mobilizing*" or "*cadre-building tactics*".

Two agencies were characterized by a professionalization and utilization strategy where the content of social policy tended to disappear in favour of an emphasis on bureaucratic control. Knowledge was mainly used as a means for maintaining administrative control. We have called this strategy a "*bureaucratic control*" strategy. The content of research was not important in these agencies, and its possibilities to give new insights seemed to be of little importance, or even a threat. Instead, a need for control over both research and the organization dominated the perspective, and investments in research were only considered as a means to secure control. This strategy is characterized by a low degree of research use, as it tends to protect the organization from knowledge that is not consistent with bureaucratic procedures. The control strategy was characterized by "*buffering tactics*" to protect the organization from knowledge.

Utilization Strategies and Tactics in the Working Life Sector

The organizations in the study of research use in the working life sector were all active utilizers of social science research. I will here briefly describe some of the utilization patterns and strategies found in this sector. These are

represented by the state, the Swedish Employers' Federation (SAF), the blue-collar trade union confederation (LO), and the white-collar trade union confederation (TCO).

The utilization strategy of the state is, on the one hand, aimed at using social science in political conflicts. This requires the full scientific legitimacy that research originating in the scientific community can supply. On the other hand, the state aims at using social science as a means of control when public service and administration are deregulated. I have called this strategy - characterized by political reform, reproduction and management - a "*political regulation*" strategy. The utilization pattern is dominated by political use and interactive use. The tactics used by the state representatives in the working life sector are the same type of *upper-hand tactics* that we have seen by the "conflict strategy" organizations in the social service sector, that is, using the fact that one knows more to gain advantage.

The utilization pattern demonstrated by the respondents belonging to the SAF is dominated by enlightenment use. This corresponds to a utilization strategy aimed at dealing with societal uncertainty and change, where social scientific knowledge is important for the ability to conceptualize a viable strategy for continued capital accumulation. The enlightenment that social science can provide is, in this context, one factor that builds up knowledge and expertise to handle a changing environment. I have called this utilization strategy a "*capital prognostic*" strategy. The SAF's short term manner, however, could be seen as "*smorgasbord tactics*", where the non-committed utilizers shop around for nice and interesting titbits. The expertise oriented strategy of the SAF and its "smorgasbord" tactics are rooted in a decentralized organization where the centre sees its job as providing enlightenment in the face of a rapidly changing environment.

The utilization strategy of the LO, is aimed at supporting social science that can promote its interests in a context of labour and capital conflict. Because of dramatically changed circumstances, like the demise of the "Swedish model", there is also a need for "enlightenment knowledge" that is necessary for the ability to influence and have some kind of control over what is happening in the environment. For both these aims, research initiated in the scientific community is most useful; it has a higher exchange-value in conflicts, and it has a capacity to bring new insights to the user. Like TCO the LO wants working-life research to compensate for the greater research resources controlled by the employers. The LO are less prone, though, to demand direct control over this type of research. I have called LO's utilization strategy a "*non-interventionist compensatory*" strategy. The LO, in accord with its assumed position of disadvantage, has developed what could be called "*keeping-up tactics*", attempts to keep abreast with other research users.

The utilization strategy pertaining to the TCO, I call a "*compensatory interventionist*" strategy. Research resources are perceived as being too unevenly distributed in society, and the aim is to influence social science to produce results that are useful in union policy and in the strategies of professionalization of different membership groups. This strategy is characterized by a utilization pattern dominated by political use of social science, investment in policy-relevant social science, and a "scientification" of the professional practice of its members in order to increase their status in relation to other professional groups. The enlightenment type of use is rare in this utilization strategy. The TCO have a more control and expertise oriented strategy than the LO. Their tactics are also characteristically different. The short term adaptation to the social science environment could be called "*peg-in-the-hole tactics*", where science and research findings are used to put into previously well-defined slots.

I have summarized the different utilization strategies, with their connected aims and tactics in the table below.

Utilization Strategies, Aims and Tactics

Strategy	Utilization aim	Tactics
<i>Building sector</i>	Problem-solving	Patching-up
<i>Social serv. sector</i>		
Social-policy	Conflict	Upper-hand
Short term political	Conflict	Upper-hand
Personnel	Expertise	Mobilizing/Cadre
Bureaucratic control	Expertise/Control	Buffering
<i>Working life sector</i>		
Political regulation	Conflict/Control	Upper-hand
Capital prognostic	Expertise	Smorgasbord
Compensatory interv.	Control/Expertise	Peg-in-the-hole
Non-intervent. comp.	Conflict	Keeping-up

Operational Modes, Compatibility and Discursive Productivity

In this section I will try, in relation to Elzinga's typology of various *modes of operation* that pertain to different areas of research⁶⁹, to characterize the applied social research in the building, social service, and working life sectors. I will discuss what makes social science useful, or useless, in the different sectors, and if different strategies of utilization and control differ regarding

discursive productivity - to what extent it succeeds to bring about useable knowledge for the user.

Sectoral research in the building sector, commissioned by the state, dates back to the 1940's. The establishment was connected with reform policies at the central, national level. And during the forties and fifties it influenced construction designs in housing. The characteristics of applied social science research in the building sector come close to the "*adaptive and responsive*" mode of operation, where social scientist are responsive to the interests and problem definitions of policymakers, and where the main use is for problem solving.⁷⁰ This type of organization of research, in close touch with the reform policies of the state, can be considered a discursively productive strategy on part of the policymakers during the forties and fifties. They received instrumentally useful research knowledge that was used.

When economical and technological factors totally came to dominate the construction process in the sixties, and as previous knowledge creation was "*built in*" as standard in the construction of housing, there was no longer much use for social science for problem solving. Therefore, this organization of social science research in this sector, the close attachment to central policymakers and their technical problems, has become more or less discursively unproductive.

The organization of applied social science in the social service sector comes closer to what Elzinga calls a "*reflective and disciplinary*" mode, where social science has a relative distance in relation to the interests and influences on problem definitions by policymakers. This relative autonomy has been achieved by organizing this type of research within the academic world. This fact makes social science in this policy sector, in contrast to social science in the building sector, more useful in contexts of conflict by its scientific legitimacy, and for conceptualization, but probably less useful for pure instrumental use.

In this context, the research utilization strategies of the "*social-policy*" agencies have been *discursively productive*, as the co-operation with social scientists has been part of a conflict strategy for research use. Research in accordance with the "adaptive and responsive" mode would probably have been less useful for these policymakers because of its lower degree of scientific legitimacy. The utilization strategy expressed by the "*bureaucratic control*" agencies is closer to this "adaptive and responsive" mode, where direct control over the problem definitions of research might be a necessary condition for these agencies to receive useable research knowledge. This utilization strategy has been *discursively unproductive*, as social science research in this policy sector has been organizationally and discursively *incompatible* with this type of user strategy.

A utilization strategy in the working life sector similar to the "bureaucratic control" strategy in the welfare sector is the one represented by the TCO. The main content of this strategy is trade union control over research, where the user's problem definitions direct research. In contrast to the case in the welfare sector, it has proven *discursively productive*, a fact that may be explained by the different mode of operation of social science research in the working life sector.

The mode of operation of working-life research from the 1970's onwards is similar to what Elzinga has labelled a "*participatory and action oriented*" mode, a mode where social scientists direct themselves towards problem definitions of social movements rather than those of central policymakers, as in the "adaptive and responsive" mode. This mode of operation in working life research has to a large extent meant an orientation towards the problem definitions of the trade unions. This may help to explain why the utilization strategy of the TCO has been more discursively productive than the "bureaucratic control" agencies in the welfare sector.

The discursive productivity of this type of user strategy seems to be decreasing, as the legitimacy of this kind of operational mode - and the research it has brought about - is questioned. A development towards a reflective and disciplinary mode seems to be better suited to, for instance, the utilization strategy of the state. This strategy is in several ways similar to the "social-policy" strategy in the welfare sector. Both are concerned with the general problems of their respective policy sectors rather than specific organizational interests, which is compatible with a more reflective and disciplinary mode of doing research.

Modes of Operation and Utilization Contexts

The analysis of different research areas in the way that has been done here by using the concept of "*mode of operation*", have similarities to what is suggested by Karin Knorr-Cetina with the concept of "*transepistemic arena*".⁷¹ A difference is that the analysis above is a structural analysis rather than a micro-analysis of the power game by individuals. Knorr-Cetina's concept is not an organizational concept, and is therefore difficult to use in comparing various ways of organizing research in relation to research users and other external interests.

The main advantage with the concept "mode of operation" compared to the "transepistemic arena" is the distinctions between different modes. The different modes of operation within science may help to explain the "drift of epistemic criteria"⁷², either in the direction that academic criteria are replaced by political or bureaucratic criteria, or in form of an "academic drift", where different professional practices develop into full-fledged research areas within the universities.⁷³

Policy, Interest and Power

What we have studied is how *utilization* of research is affected by "utilization contexts" and different "operational modes" within social science. I think that it would be an important task for future research to study how *research* is influenced by different modes of operation and utilization contexts.

The conclusion from the studies of research utilization in the three policy sectors is that it is neither technical obstacles in the communication process, nor in the research products that mainly influence research use. What determines if and how social science will be used is the interaction between the character of a policy sector (especially its institutional organization and technical definition of expertise), the knowledge strategies of policymakers, and the organization of research in the area. That is, policy, interest, and power.

Research Methods and Procedures in the Utilization Studies

In the following sections I shall present and discuss the research methods and procedures used in studies of research utilization conducted in the social service, building and working life sectors. This discussion is to some degree based on chapter three in Nilsson and Sunesson, 1988, which is specifically about methods used in the study of research utilization in the social service sector. As the three studies follow the same procedures and protocol, the presentation of methodological considerations in this section apply to all three studies.

Below I will relate and discuss the procedures that were employed in the selection of respondents, the content and structure of the interviews, the interpretation of interview responses, and the way data has been analyzed. As mentioned above, these methods were the same in the three studies, and the discussion of methodological considerations, consequently, applies to all of them. The studies differ somewhat in the way the respondents have been selected. These specific selection procedures, together with respondent characteristics, are presented after the sections that are common for all three studies, and deals with questions pertaining to the interviews and data analysis.

The Interviews⁷⁴

With a starting-point in earlier utilization studies, especially Carol Weiss's distinction between different functions that research may have for the user⁷⁵, and Helga Nowotny's idea regarding the importance of the utilization context for research use⁷⁶, we focused on the following questions in the interviews:

- Is research utilized by decision- and policymakers?
- What functions do research and research findings have for different users?
- What kind of research is used in different utilization contexts?
- What is the background when initiating research projects?
- What role does the utilization context play in relation to knowledge production?
- What are the relations between use (or non-use) of research and different types of utilization and utilization contexts?
- How do power relations and conflicts affect research use?
- How are utilization and utilization contexts perceived by the social scientists?
- How are research findings disseminated, and what obstacles are there for the communication and use of these findings?

With these questions as a basis, we constructed one interview guide with questions that were used when interviewing the "users", and another for interviews with the social scientists.

As part of the utilization study in the social service sector, Birgitta Ericson and Britt-Marie Johansson analyzed 171 *research documents* that our respondents referred to in order to find out what significance, as to form and content, the research reports in themselves have for communication and utilization of research findings.⁷⁷ A similar investigation was made in the study of social science use in the building sector.⁷⁸

Inquiring About the Utilization of Research

In the interviews, the respondents were first asked about their *knowledge* of social science research in the area, and then how they had *utilized* the particular

research that they referred to. In cases where respondents stated that they had chosen *not* to use research, we have noted this "nonuse" as one way of "using" social science results. As the cases of nonuse are arrived at in the same way as other types of research use are, this means that the reported nonuse pertains to research that the interviewees were actually acquainted with.

This way of not treating nonuse responses differently from cases of actual utilization may contrast to what has been the usual practice in utilization research, where "utilization" is considered as the normal and desired outcome of applied research, and "nonuse" is seen as a problem that is to be rectified.⁷⁹ There are several arguments for treating "nonuse" as "utilization". One is that undesirable findings may force policymakers to defend themselves against research findings with which they disagree or find useless.⁸⁰ It is also possible to imagine cases where a person with a certain problem reads several research reports, deemed relevant for an issue, and afterwards concludes that some were useful and others were not. If it is this process that makes it possible to decide what knowledge is useful and what is useless, even the reports that afterwards are perceived as "non-utilized" may be considered as actually used.

What is designated as "*research*" and "*utilization*" is based upon the respondents own *subjective* definitions and statements. And when deciding what responses should be considered to constitute "utilization", and included as cases of research use, a *broad definition* was used that was not limited to cases that lead to different kinds of concrete measures and actions. If respondents, for instance, expressed that research had influenced their way of thinking and reflecting upon their actions or organizations, we define this as "utilization". And we have not limited "utilization" to those cases where the respondents referred to specific research finding; but we have also registered their *general* descriptions of how research was used as instances of utilization.

We have used this broad definition of utilization in order to also try to capture processes of "*knowledge creep*", knowledge use in, for instance, an organization, that affects action in a more or less diffused way.⁸¹ A narrow definition of "utilization" would have prevented us from seeing much of the research utilization that actually occurred; and, if one were to limit the studies of research utilization to cases where research have had a concrete and visible impact on reality, it would have been difficult to capture the importance of research use and social science knowledge as resources in the execution of power and policy. The growing importance of knowledge in society often requires an effort for organizations and individuals to "*keep up*". It would be erroneous not to consider such "knowledge maintenance" as knowledge utilization, although it is not directly linked with any concrete course of action.⁸²

On the other hand, our way of dealing with this problem may imply that we over-estimate the quantitative extent of research use. The respondents may report research use when information in reality has come from other knowledge sources. But at the same time information that is *not* perceived to have come from research may well have done so. When information has come from media or colleagues, for instance, the ultimate source of this information may be social science research without the receiver being aware of it. So, one could both argue that our way of studying research utilization may under-estimate as well as over-estimate actual research utilization (although I think that the extent of use, even with our approach, still is underestimated, due to the fact that knowledge and information processes to a large extent are not conscious or visible). This the reader should bear in mind in those cases where our results are presented in quantitative terms. But with our method, we believe we may capture a type of research use that usually is very difficult to "prove" in a traditional sense; it is connected with utilization processes that the respondents themselves are unaware

of, or can not account for in any precise way.

Studies with a different theoretical focus may use another methodology for studying research use. One way of investigating utilization has been to make case studies of specific research findings, then follow them up by interviewing policymakers about their acquaintance with and use of the specific findings. Michael Q Patton used this method in a study in which factors influence the utilization of evaluation research. He selected twenty evaluations of "National Health Programs" and then studied each evaluation as a "case".⁸³ This type of methodology was also used by Baklien in her study of social science use in a Norwegian ministry.⁸⁴ In Sweden a similar procedure was used in studying the utilization among policymakers of research findings on the distribution of deathrates in different urban districts in the city of Malmö.⁸⁵

Another method was used by Weiss and Bucuvalas when interviewing high civil servants in the mental health area about what makes certain research useful. They let 155 potential users of mental health research give their opinions on the utilization potentials of 50 different research reports presented to them in the form of abstracts.⁸⁶

In the above mentioned studies, "utilization" was defined and investigated in a way that included more diffuse forms of effects than just immediate impact on decisions and actions. Van de Vall and Bolas, in their study of differences in "impact" of varying types of social research, used a much more narrow definition of research utilization (more or less limiting it to "instrumental" use). They followed 120 research projects by interviewing both social scientists and potential users about the actual utilization, or impact, of these projects, measured as influence on decisions and programmes.⁸⁷

Contrary to these other studies we have not taken our starting-point in specific research projects or findings. The reason for this is that the aim of our studies

directs focus towards the *organizations* that use social science in different ways, and not on the specific research findings (and what makes them more or less useful for these organizations). Our interest is primarily to understand organizations as knowledge users, where research utilization is an important factor in the execution of power.

Inquiring About the Utilization Context

While we have tried to map out the *utilization context* where research is used, we have not only studied the organizations and sectors as *general* utilization contexts, but also the *specific* conditions that pertains to the area that the research deals with.

The intention behind the questions pertaining to the *general* utilization context has been to map out the *political* and *organizational conditions* that may be important for the way research is used. For the social service sector this involves the welfare agency's relation to other agencies and organizations, contacts and relations with research departments, the characteristics of the agency, as, for instance, the hierarchic distribution of power, and the attitude towards development and change. We have especially looked at the *contexts of conflict* where the users and the user organizations are situated. An agency or city may, for instance, be impressed by a certain social policy, or treatment policy, or there may be conflicts within or between departments or agencies, or between different categories of staff, between politicians, etc.

Our questions about the utilization context within *specific areas* of activity, as, for instance (within the social service sector), for the care of elderly, treatment of drug addicts, etc, have been focused on how the respondents describe these different activities organizationally, professionally, politically, etc; and also on

what more in general signifies the area. If it, for example, is an area where there is *conflict* or *consensus* as to the content of the activity; if it is subject to debate among the public, politicians and social workers, what traditions there are, and so on.

A third type of questions regarding the utilization context more directly touches upon questions of *when* and in *what situations* research was used. What specific problems, conflicts, changes, etc. led to the decision to take part of and use research? How does the context look like where the research result has come to use? Has research created or solved conflicts? To this type of question also belong questions about the reasons for initiating research projects, and what type of research that was demanded in these cases.

Inquiring About Scientification and Professionalization

The process of "*scientification*" and "*professionalization*" within different areas of society is an important factor in determining research use. This historic development, which has involved changes in qualification requirements, and the expansion of applied social science connected with the sectors we have studied, etc. may be interpreted as a "*scientification*" of what is considered to be *legitimate knowledge* in an area. The significance of this "*scientification*", for the *definition of expertise* and its institutionalization, is an essential part of what we define as utilization contexts. Therefore, we also ask questions about the historic development of the organizations, and about "*professionalization*". We also tried to investigate the relation between "*scientific*" and "*practical*" *knowledge*, and between different categories of staff with different *educational backgrounds*, to understand what significance this has had for the development of organizational structures.

Inquiring About the Dissemination of Research Findings

Some of our questions have been about how the interviewees receive *information* about research findings. Through which *sources* and information channels is this type of knowledge communicated? In this context we also asked our respondents about personal and organizational contacts with social scientists and social science departments and institutes, as well as about other contexts where research results are discussed and communicated. We also asked about what *obstacles* there are for dissemination and use of social science.

It is often difficult to separate the communication of knowledge from its utilization. The network of contacts that have been created seems to be a precondition both for the communication of knowledge and for its utilization. And, as the reason to seek knowledge and information about research in a certain area usually is connected to an experienced knowledge need, the dissemination context at the same time is a utilization context.

Our studies have demonstrated that the questions about *dissemination*, *utilization* and *utilization contexts* are difficult to treat as separate categories. In principle we asked the respondents three types of questions:

1. How do they get information about research results?
2. In what way is this knowledge used?
3. How do the utilization contexts look like?

These questions turned out to be *interwoven* in a way that makes it difficult to treat them separately. A contact net that communicates research results is at the same time a utilization context, and the type utilization of research varies with different types of utilization contexts.

At the same time, it is difficult to maintain a clear distinction between

acquaintance with research and *utilization*, as the relation between possession of knowledge and its use varies to a great extent with the individual's power position. For an individual with power to influence other people and the organization where he or she is working, knowledge in itself implies a possibility to use it. To possess knowledge that does not lead to any measures or actions by those who have that possibility, is in itself a policy decision that may have concrete effects.

Interpretation of Interview Responses

What *credibility* should be assigned to the interview responses and how should they be *interpreted*? If, for instance, respondents say that they base their actions and thinking on research findings, it may be difficult to judge if they are doing so in reality. It may be a rationalization to render rationality and legitimacy to their own activities, something that is likely to occur in an era where the use of scientific knowledge is considered an important ingredient for much of the professional practices and decision making that we are studying.

The relation between research and decision making within an organization is described in the following way by a centrally placed civil servant:

"Research is, so to speak, continuously present in the deliberations here, and influences us... I would say that almost every proposal that we present, in one way or another, is based on research to the extent that research is found in the area." /Social service, 90/

Interview responses can be interpreted in different ways. Methodologically there is a distinction between two principally opposite possibilities of interpretation, the "*realist*" and the "*constructivist*". A realist interpretation means that you treat the responses as if they were in principle correct descriptions of the reality that

the respondent refer to. According to a constructivist interpretation, you should, on the contrary, treat the respondents' accounts as entirely individual constructions that fulfills the functions of legitimating and giving meaning to ones own thinking and actions.⁸⁸

In a critique of this standpoint, Thomas Brante argues that it suffers from the same weaknesses as the ethno-methodological sociology that it is connected with. It lacks a theory of social structure, and how these limit the individuals' possibilities for action; it hereby exaggerates the extent of individual subjectivity in defining reality.⁸⁹

The debate regarding the question if sociological analysis should take the individual's subjective understandings and definitions of their reality as its starting-point, or base the analysis in a more theoretical and structural context, is of old date. In a famous debate over twenty years ago between Howard Becker and Alvin Gouldner regarding the partiality/impartiality of sociology, Becker, in an article with the title "Whose Side Are We On", argued for a sociology "from below", where the definitions of the surrounding society made by the subordinated should be the primary source for the interpretation of reality.⁹⁰ Gouldner agreed with Becker that sociologists must take sides, but was very critical towards Becker's recommendation to take over the subordinated's own perspective, as the subordinated (as well as people in power) cannot avoid being impressed by the institutional and historical circumstances under which they live. The sociologist, therefore, must start out from theoretically based considerations in his work, Gouldner argues.⁹¹

Our methodological standpoint has been that it is possible to interpret the interview responses in relation to the social context in which they are situated. This principle of interpretation, then, is not primarily concerned with the question if the respondents tell the truth or not. The responses are instead inter-

preted in relation to a broader social and theoretical context.

In practice this has meant that we, when asking our interviewees about their use of social science, have made our respondents specify in what situations and contexts research was used. This way it has been possible to control that they actually were acquainted with the research they claimed to have used, and interpret utilization in relation to the organizational and social context. The respondents could not, without specification, just claim that they had used social science without specifying how, and in what situations, a fact that probably also has limited a possible tendency towards exaggeration of actual use in the accounts of research utilization.

By what the above quoted civil servant says, one can not tell if research results have any essential role as to the content of policy making; it may rather be an expression that the respondent considers that the legitimacy of policy demands that it, in some sense, is based on research, or at least is not contrary to existing scientific knowledge. According to our way of defining research utilization, even such use is an important form of utilization. The utilization context demands that policy should be supported by existing research.

We have treated interview responses where respondents referred to pure *instrumental* use of research in the same way. It is hardly possible to control if a particular research finding has been decisive for implementing an activity, but the fact that one looks for support and motivates it by research results may still be interpreted as actual use. It may be the case that some interview responses only express that they, as respondents, in front of social scientists, want to emphasize the importance of research in their work. Such answers nevertheless show the importance of demonstrating that attention has been paid to research results, even if it is only to motivate a way of action retrospectively, or in certain contexts.

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"Professionals" working in, for instance, the social service sector may consequently feel obliged to motivate their actions with research findings. One could say that this constitutes the discourse in which the activities take place, within a specific "*research utilization discourse*". The existence of such a discourse and its role in legitimating policy, may be an important factor behind actual research use.

Interpreting Individual Responses as Organizational

The small number of interviewees from each of the organizations in the working life study raises questions about to what extent it is possible to assign what these respondents say about research utilization to their organization as a whole. The reason that I, with due reservation, let the respondents answer for the whole organization is the fact that they have been strategically chosen on grounds that they were either top level officials in the organizations or directly in charge of research and development in the field of working life.

Another reason for treating individual interview responses, even when they are small in numbers, as representing organizations has to do with the fact that in the analysis I connect statements of type of research use and contexts of utilization with (organizationally) specific utilization strategies. When there is a coherence between these units of analysis, I have interpreted this as organizational traits and not just expressions of the individual respondents. These utilization strategies, as expressed in the interviews, are in most cases also corroborated by the organizations' official documents on research policy.

Data analysis

The categories used when analyzing how research is utilized, what *functions* it has for different users, are derived from Carol Weiss's typology:⁹²

- * Instrumental functions: Research used for problem solving.
- * Political functions: Research used as an argument or a weapon in a more or less explicit political conflict.
- * Enlightenment functions: Research leading users to conceptual reorientation or change in thought patterns.
- * Interactive functions: Research interacting with other forms of information to build a knowledge background for policy formation.
- * Tactical functions: Research promoting Hawthorne effects or being part of "avoid and delay" tactics.

We then in the analysis assign the respondents' replies on questions about research utilization to different types of use (the instrumental, the political, the enlightenment, the interactive, and the tactical). In the analysis a distinction has been made between those cases where the respondents refer to results they themselves have (or have not) utilized, and those where they referred to use (or nonuse) by others. After the categorization of interview responses into different types of utilization, the frequency of utilization instances for each "function" were aggregated to represent different organizations and user categories (local politicians, case workers, employers' federation, etc.

The three different types of *utilization contexts* mentioned above - the general, the area specific and the concrete context where research was used - have been the bases for the categorizations of the respondents' descriptions. Concretely, this means that different sections of the transcribed interviews were classified

according to these different categories, which then constituted the bases for the analysis. We have then analyzed the data in a way that has made it possible to characterize them as different types of user organizations.

The categories that from the start "guided" the analysis partly changed as the analysis progressed, a consequence of the fact that the preconceived categories in this kind of qualitative analysis are involved in a dialogue with the respondents own descriptions of their reality. The way data are organized around theoretical categories and questions ("functions" and "utilization contexts" for instance) will then be revised in connection with the analysis of these empirical data.

The difference between our methodology and a grounded theory approach⁹³ is that we started out with certain theoretical ideas (derived mainly from Weiss and Nowotny), which then governed data selection and analysis.⁹⁴

Selection of Respondents

The way respondents are selected is somewhat different in the three studies. Interviewees in the different sectors are not, for instance, situated at the same "level", neither in an organizational sense nor in a "local-central" (or national) sense. The most important reason is connected with the fact that the three policy sectors are differently organized, and with the kind of tasks the organizations in these policy sectors perform.

In the social service sector the relevant tasks, and much of the research utilization, takes place in local welfare agencies. The structure of the working life sector is different, with employers' and trade union organizations at different levels, and where much of the working-life research is related to activities of the central or national organizations. The task within the building sector, to

construct housing, is performed locally at the municipal level - involving both political bodies and private enterprises - partly governed by funding and regulation at the national level.

As these differences have governed the selection of respondents one would imagine that it is difficult to compare research use between sectors. My argument is precisely that these sector differences are one of the principal factors behind the different research utilization patterns in these three policy sectors. That is precisely why it is both interesting and relevant to make such a comparison between them.

The Study in the Social Service Sector

As the main tasks performed within this the social service sector are carried out within local welfare departments (in cities and municipalities), and it is here where research utilization mainly takes place. The large majority of interviewees are situated at this level.

Fifteen cities and municipalities, which were of different sizes and population densities, were selected. Cities of the same size-group were categorized in suburban cities and non-suburban cities. This categorization can be said to correspond to different relations to research and development activities and different possibilities and resources for using R&D-results, as the size of the city and the closeness/distance to larger cities and universities play a in important role in this respect. Cities and municipalities north of the province of Jämtland were excluded from the selection due to travelling and cost considerations. According to these criteria there were seven types of cities from which the selection were made (SCB, 1983).

1. The three major cities. All three are included in the study.
2. Cities - besides the three major - with more than 100,000 inhabitants. Of a total of eight cities, three are included in the study. These were strategically selected according to the different types of research and development activities that took place in these cities.
3. Suburban cities with 50,000 inhabitants or more. Of a total of five, one city was chosen by random selection.
4. Suburban cities with less than 50,000 inhabitants. Of a total of 22, one was chosen by random selection.
5. Non-suburban cities with between 50,000 and 99,999 inhabitants. Of a total of 19, three were randomly selected to be included in the study.
6. Non-suburban cities with less than 50,000 inhabitants, and with a population density of fifty percent or more. Of a total of 18, two were randomly selected.
7. Non-suburban cities with less than 50,000 inhabitants, that had a population density that was less than fifty percent. Of a total of 174, two were chosen by random selection.

This means that the fifteen cities and municipalities included in the study are distributed as follows: the three *major* cities; three "*large*" cities; one "*large suburban*" city; one "*small suburban*" city; three "*middle-size*" (non-suburban) cities; two "*small*" (non-suburban) *sparsely* populated cities; and two "*small*" (non-suburban) *densely* populated cities.

Political Composition

During the period we conducted our interviews the Social Democratic Party, together with the (former) Communist Party (VPK), held the political majority in all the three major cities. Both parties also had a majority in the three "large" cities (100,000 inhabitants or more).

In the two suburban cities, the three conservative parties (the Center Party, the Liberal party, and the Moderate Party) held the majority in the city council, with the Moderate Party with the most seats. In the "middle-size" municipalities the social democrats had a majority of seats on their own in two, while in a third the Green Party (Environment) together with the Christian Democrats (KDS), held the balance vote.

In three of the four non-suburban "small" cities, the social democrats had a majority of their own. These three differed regarding industrial structure; one was an old works and working class society, near one of the major cities in Sweden; another was dominated by the metal works in an area of economic recession; and the third was situated in a province dominated by forestry and the pulp industry. The fourth non-suburban city with less than 50,000 inhabitants, a sparsely populated municipality in the south of Sweden, had a very large conservative majority, with a dominating role for the Center Party.

The City Interviewees

In the different cities we selected interviewees that represented agency staff at different levels as well as politicians. An important reason for selecting respondents from these different levels has to do with the way the local welfare departments were organized. The tasks that these three categories perform render them all into potential users of research in their work.

In each city we interviewed at least one *local politician*, one *agency director*, and one *case worker*. In two cities, though, interviews with one of these categories are missing. These exceptions are not due to any refusal to participate in the study, but to our difficulties (regarding travels) to return to certain cities where agreed upon appointments were cancelled. It probably had no significance

for our results. In the "small" cities we interviewed three persons, while in the larger cities we interviewed several more, the number varying between three and nine. In total we interviewed 77 city representatives. The politicians and agency directors were selected in the capacity of their positions, while the other staff representatives were randomly selected within the agencies (although strategically selected as to type of work such as social work, elderly or child care).

Local Politicians

Of the 77 city representatives, 19 were local politicians, 13 men and six women. Seven belonged to the conservative parties, and 12 to the Social Democratic Party or VPK.

Nine of the ten local politicians that were social democrats chaired their respective social welfare board, while the tenth was chairing a city district council. These ten were equally divided between men and women. In the three major cities social democratic women were chairing the social welfare boards, of whom we interviewed two. The other three social democratic female politicians represented three of the four "small" cities in our selection. The male social democrats chaired social welfare boards in "middle-size" and "large" cities.

One of the two respondents belonging to VPK chaired a city district welfare committee, and the other was a member of a social welfare committee.

The respondents belonging to the conservative parties were all men, and they were all, except one, the Vice Chairmen in their respective social welfare boards. The exception was a Moderate, chairing a social welfare board in a "small" suburban city. Together they represented cities of different sizes.

The typical social democratic local politician in the study was about fifty years old. Academic education was rare. The most common education was elementary school, combined with some form of continued education, like the People's High School, vocational training, or training within the party. The professional profile differed significantly between representatives of the different parties. Most of the local politicians belonging to the Social Democratic Party have, or have had, typical working class jobs.

The two representatives of VPK, one male and one female, were younger than those of the other parties (around forty), and had academic educations. One of them was a member of the Swedish Parliament and the other was a psychologist.

The two interviewees belonging to the Center Party were both over sixty years old, were both farmers, and had no higher education (apart from internal party training). The local politicians belonging to the Moderate party were about fifty years old, had at least a high school education, and in several cases, university educations.

Most of the local politicians had no national political assignments, and they had not been in direct contact with social issues or social research in their previous professions or educations.

Agency Directors

In the study in the social service sector 16 directors, or deputy directors of social welfare departments were interviewed. The typical agency director was male, (13 out of the 16,) about fifty years old, educated as a social worker, and their entire professional career had taken place within the social service sector. The exceptions were found in some "small" cities, where the agency directors

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were not academics but former local politicians in social welfare boards, and a director that had another type of social scientific education and for a period was employed as a manager in industry.

Middle Management

The agency staff is classified as "*middle management*" and "*case workers*". The selection was governed by the ambition to include persons from different areas of the social service sector: social work, child care, and elderly care. This diversity of respondents is not found in every single city, but in the study as a whole.

The group of *middle management* includes agency directors in city districts, heads of agency sections and welfare offices. Eighteen respondents, 13 men and five women, belonged to the middle management category. They were about 45-50 years old, and almost were educated as social workers (13 of the 18). Of those five without social work educations, three had some other kind of academic education in the social scientific area. Most of the respondents belonging to the middle management (12 of the 18) have had their entire professional career within the social welfare sector.

Case Workers

The 24 respondents (11 male and 13 female) belonging to the category of "case workers" included different kinds of social workers (social welfare secretaries, investigators, psychologists, child care assistants, elderly care inspectors, etc). In this group there was a significant division between male and female tasks. The men were mainly working as investigators or were engaged in some form

of special assignments or projects. This was the case for eight of them; only three worked as social welfare secretaries and the like. Of the female case workers only one was engaged in a special assignment or project. Eight of them were social welfare secretaries, two were elderly care inspectors, one was an elderly care assistant, and one a child care assistant.

There were no general age differences between male and female case workers: on average they were 35-40 years of age. The general educational background was social worker. There were in this group also some with other kinds of education: in psychology, other social scientific education, nursing, mental care, and as teachers in preparatory schools.

Almost all of the case workers had exclusively been working within the social welfare area. The exceptions were two respondents, now employed in home care for the elderly, that previously worked within health care, and two respondents that had been employed in the town hall.

National Politicians and State Civil Servants

We also interviewed a small sample of national politicians and top level civil servants in the state administration. These interviewees were investigators and politicians that had participated in deliberations and legislation in the social welfare area. This group consists of nine respondents: five politicians (one from each party represented in parliament) and four civil servants. One of the national politicians at the same time represented one of the cities in our study.

Two of the civil servants were about forty-five years old, and two about sixty. They all had more than fifteen years of experience (and in most cases longer) within this area. Two of the respondents had an educational background in law,

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one was a former local agency director, and the fourth had a social scientific education prior to employment as a civil servant in the social services sector.

The national politicians all had several decades of experience in politics, in most cases mainly within the social welfare area. Three of these respondents were between sixty and sixty-five years old, while the representatives of the Liberal party and VPK were significantly younger, 40-45 years of age. All had been active in local politics during some period, and at least three of them also had been members of local social welfare boards.

Social Scientists

We also interviewed a limited number of social scientists, six in all. These were selected on the grounds that they had been in contact with, or had conducted research attached to cities included in this study. The purpose of including this category in our study was to acquire some knowledge about the way research utilization and utilization contexts is perceived by social scientists with experience of conducting research in close contact with potential users in this sector.

*The Study in the Building Sector*⁹⁵

What comprises the "building sector" in this study are the organizations that are involved in planning, construction and management of housing. As these tasks are performed at the municipal level, the respondents, consequently are situated at this level. They were strategically selected, based on the tasks they performed.

In the study of the use of social science in this sector, conducted by Birgitta Ericson and Britt-Marie Johansson, the interviewees belonged to different

organizations that constitute this sector in the city of Malmö. They interviewed in all 29 persons, 26 men and three women, connected with this policy sector.

Of these respondents four were *city politicians* representing the building and real estate councils. Two of these local politicians were social democrats and two belonged to the conservative parties. The social democrats had both worked within the building sector before becoming fulltime politicians, and had thus considerably longer experience in this policy area than the two conservative representatives. The latter two had academic educations in other disciplines from where they also had their professional experience.

Ten interviewees were *civil servants* in real estate and city planning and were responsible for this area of policy. These civil servants were selected to represent different subfields within this policy area, hence also in relation to different branches of social scientific building- and planning research. All the interviewed civil servants had academic educations, six within social science and four within engineering. Five of them had experience as researchers. Two of the civil servants were department heads, two were heads of sections, and six worked as investigating or planning secretaries.

Two interviewees were *state representatives* at the regional level. They represent the County Housing Council and the county administration. One of them is an administrator at management level, and the other works as an investigator.

Six respondents represented three major *real estate developers*. One of the six was a managing director, two were section heads, two were administrators, and one was a board member. Three of them were building engineers and two (both employed by the city housing corporation) had a social scientific or humanistic education. One of the six interviewees had experience as a researcher.

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Three respondents represented three major *construction companies*. Two were educated engineers and the third had an education within the natural sciences. Two were employed in administrative positions, while one was a section head with mostly technical tasks. One of these interviewees had experience as a researcher within engineering research, which also is part of his current employment.

Two of the respondents represented two major *consulting firms*. Both had an academic education, one within social science and the other within engineering; and they both had research experience of their own.

One interviewee represented the *real estate owners' association* and one the *tenants' association*. Both had a social scientific academic education and long experience within the building sector. One of them had a managerial position in his organization, while the other was responsible for the organization's information activities for members.

The Study of the Utilization of Working-life Research

Within the working life sector in Sweden, policy and the tasks connected with it are mainly formed at the central/national level (by the state, trade unions and employers' organizations). It is also towards this level that much of the social science is directed). Therefore, the majority of interviewees in the study of the utilization of social science in this sector are situated at this level. They were all strategically selected, a selection based on the tasks they performed within their respective organizations.

Twenty interviews of government representatives, trade union officials and their aides, and representatives of the central employers' organization were made. The respondents were either top level representatives or administrators

responsible in their organizations for looking after research in the working life area. Of the 20 respondents, 15 were male and five female. Thirteen had some kind of academic education, nine within the social scientific field.

The distribution of these respondents were as follows: Four state representatives; two representing the Swedish Employers' Federation (SAF); five the blue-collar trade union confederation, the LO; three the white collar trade union confederation, the TCO; and six representing five different national trade unions - of which four belonged to national unions in the private sector and two to a national union in the public sector.

Of the four interviewees representing the *state*, one was Secretary of State heading the ministry of labour; one was a departmental secretary; and two were director generals, of whom one was a former Under Secretary; and the other a former top level trade unionist. Two of these respondents had some kind of academic social scientific education.

The two representatives of the *Swedish Employers' Federation* both had academic educations, one in engineering and the other in social science. One of them was heading a regional office and the other was employed at the national office of the organization and was responsible for looking after research in this area.

Four of the five respondents representing the *LO* were employed at the national office as aides to the elected officials. They were responsible for looking after different areas within the field of working-life research. The fifth interviewee representing the *LO*, was employed at the local level to disseminate research in the organization. Four of the respondents from the *LO* had some kind of academic education, two within social sciences and two within engineering. One of them also had a Ph.D in social science.

Two of the three *TCO* representatives were employed at the national office and were responsible for research matters in the organization. Both had academic educations, one a social scientific and the other a humanistic. The third *TCO* representative was a trade union ombudsman at the local level.

Of the six interviewees representing *national trade unions*, three were leaders of their respective union, all in the private sector. As trade union officials, they all had a background in working class jobs, and none of them had any academic education. The other three representing national trade unions (one a private sector union, the other two a blue-collar union in the public sector) all had academic educations in the social scientific field. These three were employed at national offices as investigators and persons responsible for looking after working-life research.

Of the six interviewed *scientists* doing research in the working life area, four were sociologists, one a psychologist, and one was a researcher within technology. Two were employed at the Swedish Center for Working Life, two at Lund University, one at the School of Technology in Stockholm, and one had worked at the employer-sponsored research institute, the FA-rådet. They all had long experience of doing working-life research in close contact with practitioners. Several of them also had experienced different phases in the development of this area of social science.

Notes

1. Nilsson and Sunesson, 1988
2. What comprises the "building sector" in this study are the organizations that are involved in planning, construction and management of housing.
3. Ericson and Johansson, 1990.
4. Ericson and Johansson, 1990
5. The differences in "first-names" on the co-authored articles has to do with the fact that the first three, together with Nilsson and Sunesson, 1988, all originally were written and submitted for publication in 1988. We then divided the "honour" of appearing as first-name authors on these publications equally.
6. Albaek, 1988.
7. Wagner and Wittrock, 1991.
8. see Gouldner, 1970.
9. Comte, 1979.
10. Taylor, 1903/1912 and 1911.
11. Neurath, 1979.
12. Wagner and Wittrock, 1991.
13. Weiss, 1978 and 1979.
14. Albaek, 1988.
15. Lane, 1966.
16. see Albaek, 1988 and Sundqvist, 1991.
17. Premfors, 1979.
18. With the foundation of the journal "Knowledge: Creation, Diffusion, Utilization" as one expression.

19. Larsen, 1980.

20. See Baklien, 1983a; Karsten, 1983; Larsen, 1980; Van de Vall and Bolas, 1981; Premfors, 1979, 1989; Weiss and Bucuvalas, 1977.

21. The "two culture" hypothesis (a concept taken from C.P. Snow's book from 1959, **The Two Cultures**) was originally founded on the assumption that natural scientists have a different world view than other academically educated people, with, for instance, a humanistic education, which leads to ever increasing difficulties of understanding between the two groups. Later, the expression has been used to also describe the relation of other sciences to laymen. (Snow, 1959; Caplan, 1979; Dunn, 1980; Knorr-Cetina, 1981; Baklien, 1983b; Webber, 1983, 1986.)

22. See Rich, 1977; Larsen, 1980; Weiss, 1978, 1979, 1980, 1981; Weiss and Bucuvalas, 1977, 1980a, 1980b.

23. Weiss, 1980: 381

24. See for instance March, 1978; March and Olsen, 1984, 1989; Meyer and Scott, 1983; Olsen 1985; Brunsson and Olsen, 1990.

25. Weiss, 1977:213.

26. Weiss, 1979.

27. Weiss, 1978:77f.

28. These results are presented in Sunesson and Nilsson, 1989.

29. Nowotny, 1982.

30. Sundqvist, 1991; Wagner and Wittrock, 1991.

31. Brante, 1989b.

32. Merton, 1973.

33. Brante, 1984; Wagner and Wittrock, 1991.

34. Sundqvist, 1991; Wagner and Wittrock, 1991.

35. Böhme et al, 1973. See also Wagner and Wittrock, 1991; Benner, 1992.

36. Elzinga, 1985.
37. see for instance Nelkin, 1979; Brante and Elzinga, 1990.
38. see for instance Nelkin, 1979; Nowotny 1982; Brante, 1989.
39. Knorr-Cetina, 1983; see also Wagner and Wittrock, 1991; Sundqvist, 1992.
40. Knorr-Cetina, 1982.
41. The concept "hybrid scientific network" refers to organizations where external representative have much influence over science.
42. Elzinga, 1985.
43. Bloor, 1976; Barnes and Bloor, 1982. For a discussion of the strong programme see Sundqvist, 1991.
44. Bloor, 1984.
45. Sundqvist, 1991, p. 81.
46. Foucault, 1980, p. 131.
47. Foucault, 1986, p. 13. My translation from Swedish.
48. Foucault, 1983.
49. Foucault, 1977.
50. Sarfatti Larsson, 1990.
51. Beckman, 1989; Selander, 1989.
52. Parsons, 1964.
53. Brante, 1988.
54. Collins, 1979; Parkin, 1979.
55. Sometimes even as a "new class". See for instance Gouldner, 1979.
56. Brante 1988 and 1989a; see also Sarfatti Larsson, 1977, for a historic analysis of the relation between professionals' and bureaucracy. For another classification of professionals into (historic) types, see Siegrist, 1990.

57. Gesser, 1985.

58. One of the organizations included in the study of research use in the working-life sector.

59. See Brante, 1987.

60. Elzinga, 1989.

61. My interpretation of Elzinga, 1986, is inspired by Fridlitzius, 1990.

62. Nowotny, 1982.

63. In the article, the findings in this study are discussed in relation to two contrasting standpoints about what characteristics make research used, on the one side van de Vall and Bolas (1983), and on the other Weiss and Bucuvalas (1977).

64. Ericson and Johansson, 1990.

65. Weiss, 1979.

66. March and Olsen, 1976; Meyer, 1983; Thompson, 1967; Weick, 1976.

67. Persson, 1991.

68. Glimell, 1990

69. Elzinga, 1986.

70. See also, Benner, 1992.

71. Knorr-Cetina, 1982.

72. Elzinga, 1985.

73. For the concept "academic drift" see Becher, 1985.

74. All interviews were tape-recorded. Those made in the social service sector lasted between 75 and 90 minutes. In single cases they could last for up till two hours. The interviews made in the building sector were between one and one-and-a-half hours long. Those made in the working life sector were about one-and-a-half to two hours long.

75. Weiss, 1979.

76. Nowotny, 1982.

77. see Nilsson and Sunesson, 1988; Sunesson et al, 1989.

78. See Ericson and Johansson, 1990. In the study of the working life sector this type of analysis was not replicated. As we, in the first two studies, could document the limited impact of the characteristics of research reports on research utilization, it was not likely that a similar analysis in connection with the study in the working life sector would bring results that would be worth the effort of conducting such an analysis. If anything, the characteristics of research reports should be even less significant for the respondents in this sector as a factor affecting the use of research. The persons interviewed in the working life sector generally had more extensive contacts with social scientists and research institutions than those in the other sectors.

79. Larsen, 1980.

80. See Nilsson and Sunesson, 1991a. For the concept of buffering see also Meyer, 1983; Meyer, Scott and Deal, 1983; Thompson, 1967)

81. Weiss, 1980.

82. See Holzner and Fisher, 1979.

83. Patton, 1977.

84. Baklien, 1983.

85. Dahl et al, 1990.

86. Weiss, 1980; Weiss and Bucuvalas 1977, 1980.

87. Van de Vall and Bolas, 1981. The contradictory findings of the studies made by Van de Vall and Bolas and the one made by Weiss and Bucuvalas, is discussed in Sunesson et al, 1989.

88. See Mulkay et al, 1983.

89. Brante, 1989.

90. Becker, 1967.

91. Gouldner, 1968.

92. Weiss, 1979.

93. Glaser and Strauss, 1967.

94. This type of qualitative methodology is described in Davies and Esseveld, 1989.

95. This section is based on Ericson and Johansson, 1990.

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Intervening Factors in the
Utilization of Social Research

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Intervening Factors in the Utilization of Social Research

*Sune Sunesson, Kjell Nilsson, Birgitta Ericson, and
Britt-Marie Johansson*

In Swedish welfare agencies, it was found that the importance of characteristics of social research for utilization was related to three intervening factors: the context of origin of the research, the functions for the user and the utilization context. These factors seem to explain the difference between competing notions on the importance of scientific sophistication for research utilization.

For all responsible men and women of science, the touching "Ode to an Unused Research Report" by Allen Barton (1981) should be a constant reminder of the sad fate of the masses of unutilized research documents, all heavily stacked on shelves. But can this humiliating uselessness ever be avoided, and, in that case, how do we avoid it? What are the characteristics of social science research that make them useful? What kind of research will be utilized? Is it possible to define certain characteristics of a research endeavour or a research report that renders it "useful" or "useless?"

There is, of course, a whole school of writers, that maintain that *technical* or *methodological* properties of the research or the research reports are decisive for the utilization of research results. Properties of the media, such as the lay-out and design of research reports, or the language used are mentioned as important factors (Baklien, 1983; and Larsen, 1980). This preoccupation with the properties of research and reports can be seen as a special case of the more general "obstacle-hypothesis," that is, the general idea that utilization of existing research is rational, and hence normal, and that *non-utilization* of research is what should be explained, often with reference to one or more obstacles. Obstacles other than the technical

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factors already mentioned include differences in education, modes of reasoning and world outlook between scientists, including social scientists, and the potential users of their findings (Caplan, 1979; Kirk, 1979; Marin, 1981; Stankiewicz, 1979; Webber, 1986).

In a study of the utilization of social research in Swedish welfare bureaucracies, 171 research reports were identified. The reports represented different types of applied social science, and were utilized in varying degrees by our respondents. We did not, however, find any relation between the technical characteristics of the research reports and utilization, on the overall level, between difficulty and abstractness of language or presentation and the degree of utilization. It was also found that research of very diverse kinds was, indeed, utilized by local officials. This, however, does not mean that the content characteristics of the research or the research reports were without significance for the degree of use, only that the preoccupation of utilization research with "obstacles" to use seems to blur the issue. Taking *utilization contexts* and *contexts of origin* of the research into account, the correlation between utilization and characteristics of research will again be an interesting question that can elucidate the complicated interplay between knowledge and power. This is one of the points we hope to make in this article.

Two Contrasting Standpoints

Mark van de Vall and Cheryl Bolas have investigated the difference in *impact* of different types of social research. In one of their contributions (1983, p. 93) they note: "New research techniques are being developed, tested in the field and published in scholarly journals. Relatively little attention is being paid, however, to their applicability for solving concrete social problems."

Van de Vall and Bolas set out to describe the comparative merits of different kinds of social research. Their findings are relatively well known: Among 120 "projects of policy research" (1981, p. 94) those which were defined as non-experimental, non-quantitative, and broad in scope had *more* impact than those which were experimental, quantitative, rigorous, and narrow in scope. There was one exception to this general tendency. *Internal* as contrasted to *external* policy scientists were said to "encounter" fewer psychological resistances combining epistemological and implemental validity in social policy" (1981, p. 103).

The properties of useful research that come to the fore in the work of Weiss and Bucuvalas (1977) seem to be somewhat different. After a factor analysis, four research characteristics were found to contribute to the usefulness of research. The factors were research quality, challenge to status quo, action orientation, and (weaker) conformity to user expectations. "Research quality" probably refers to the kind of research that is recognizable as scientific from the standpoint of an outside observer. This point is probably in contradiction with the findings of van de Vall and Bolas,

while "action orientation" seems at least compatible with their results. The other two factors of the Weiss and Bucuvalas study seem to fall outside of the scope of the van de Vall and Bolas research.

The two studies were conducted using different methods. The Weiss and Bucuvalas study allowed potential users of mental health research to give their opinion on both the utilization potentials and other characteristics (i.e., quality of research) of actual research reports that were presented as abstracts. The van de Vall and Bolas study, on the other hand, followed the 120 projects by interrogating both social scientists and potential users about the actual utilization of the projects.

Still, the difference between the findings on the utility, or use-value, of scientific rigor in social science research remains. One possible explanation of this difference would be that the mental health field, investigated by the American team, is particularly sensitive to the scientization of discourse. Another possibility could be that the two countries are very different, so that Dutch and American research users differ in such variable as educational background or degree of professionalization. The results of our research have a clear relevance for these contrasting findings as well, and suggest other interpretations of the difference in results.

A Study of Research Utilization in Swedish Welfare Bureaucracies

In 1984 and 1985, a survey of the research utilization in the welfare administration of 15 Swedish cities and communes was conducted. In 77 interviews with administrators, social workers, and local politicians data on the utilization of research were gathered, and additional data were collected from a small sample of top national civil servants and politicians. In other articles (Nilsson & Sunesson, 1988a; Nilsson & Sunesson, 1988b; Sunesson & Nilsson, 1988) we have reported results on the functions of research utilization and on the importance of conflict and power patterns in utilization contexts to explain the ways local welfare organizations use social science. This report will summarize the part of the survey that analyzes the *research reports* that contain the utilized research mentioned or referred to by the interviewees. Altogether, in 330 references, the respondents described 171 research reports that could be identified and obtained (8% of the documents were omitted that could not be identified or found). The definition of utilization adopted, similar to that of Weiss and Bucuvalas (1977) is that utilization occurs when an official reports that research has contributed to or influenced work or has been taken into account in the work process.

By definition the sample is not derived from a theoretical set of "all" research reports. This factor, of course, must be considered in the assessment of results. It cannot be said that "research reported in a scientific prose has greater impact than research reported in ordinary language," because not all, or even a statistically sound sample of all research reports

Table 1
External Research Utilization by Language
in 138 Research Reports

Language	Research Utilization (1)			Total
	Low	Medium (percentage)	High	
Scientific	69 (52)	83 (29)	64 (18)	72 (99)
Nonscientific	31 (23)	17 (6)	36 (10)	28 (39)
	100.0 (75)	100.0 (35)	100.0 (28)	100.0 (138)

(1) Levels of research utilization defined as frequency of references to research reports: low = 1 reference; medium = 2-4 references; high = 5 references or more.

were investigated. But, it can be said that "since most interviewees that mention use of research refer to conventional, empirically written research documents, the social scientific way of writing does not seem to render the research useless."

A Description of the Reports

Slightly less than half of the reports (80/171) are written on a local initiative and sponsored by the local organization, but not necessarily by the city's own staff. The other half (91/171) have university or other academic origins, or in a few cases, emanate from other research or development institutes. Of the 330 references to these reports, 167 (51%) referred to the city reports, and 163 (49%) to the university reports. Among the 167 references to city material, 105 referred to work done in the interviewee's own city, while 62 came from other local administrations.

Results

Characteristics and Utilization

In the Weiss and Bucuvalas (1977) study, scientific quality was mentioned as a factor that enhanced utilization. The present study does not try to *measure* this construct, but seeks to describe a number of characteris-

Table 2
Research Utilization by Language in 171 Research
Reports with Various Origins⁽¹⁾

Language	Research Utilization							
	Only Local	Low		Medium		High		Total
		(percentage)						
	Origin E	Origin C A		Origin C A		Origin C A		
Scientific	36 (12)	42 (11)	84 (41)	73 (8)	87 (21)	40 (4)	83 (15)	65 (111)
Nonscientific	64 (21)	58 (15)	16 (8)	27 (3)	13 (3)	60 (6)	17 (3)	35 (60)
	100 (33)	100 (26)	100 (49)	100 (11)	100 (24)	100 (10)	100 (18)	100 (171)

(1) Contexts of origin include: E = home-town reports; C = city-produced reports; and A = academic research

tics that seem to have a reputational relation to quality. These characteristics include scientific language, formal research document, explicit ambitions to produce new knowledge, explanation, identifiable theoretical approach, systematic empirical approach, discussions of reliability, and validity. It should be noted, however, that the construct "scientific quality" cannot be equated with the concept "scientific rigor" in the van de Vall and Bolas article. The reason for this is that several of the factors used by these authors (e.g., explicit concern about reliability and validity of measurements) did not give discriminating results in this study. It seems that everybody was rigorous.

Table 1 shows the effects of the language factor on utilization of research outside its immediate context of origin. Scientific language was defined as language that contains theoretical and methodological concepts drawn from scientific discourse. The last column includes internal references to research made in the respondent's home cities.

The research documents that have been referred to only once are not very different from the ones that have several references. So far, the van de Vall and Bolas standpoint gets no support, while the Weiss and Bucuvalas position stands reasonably well in that scientific sophistication, as measured by type of language, does not preclude wide utilization.

Table 2 takes the contexts of origin into consideration. Among the re-

Table 3a
Scientific Sophistication in Used Research by Context of Origin

Scientific Sophistication	Home	Other City	Academic	Total
Theoretical (1)	22	32	69	49
Nontheoretical	78	68	31	51
	100	100	100	100
Formal Document	6 (2)	40 (19)	83 (76)	57 (97)
Other Document	94 (31)	60 (28)	17 (15)	43 (74)
	100 (33)	100 (47)	100 (91)	100 (171)

(1) To save space and enhance readability, we have constructed a composite variable, "theoretical" which is a simple mean of percentages of three other variables, "presence of theoretical approach in text," "explanatory ambitions" and "ambitions to explain results in theoretical terms."

search products that emanate from universities and other academic research institutes, the most-used ones seem to be primarily scientific. In the other categories, however, there are clear differences. The home-town reports seem to be dominated by nonscientific writing (in practice, this is defined as technical or bureaucratic jargon), while the city-produced reports that have been referred to outside their hometown vary unsystematically after utilization. For the out-of-town city reports the total figures for scientific and nonscientific language were 23 and 24 percent, respectively, while total numbers for the university reports were 77 and 14 percent.

As Tables 3a and 3b indicate, similar tendencies are present for the characteristics of scientific sophistication. The four indices that measure scientific sophistication are theoretical approach, that is the explicit theoretical character of research questions; ambition of explanation as contrasted to mere description; ambition to theoretical conclusion, defined as an explicit ambition to add to or uphold theoretical discourse; and publication in formal research document such as a journal article, book chapter, research report in a university series, or a book, as they are contrasted to mimeographed papers. It can be seen that the previous tendency, with respect to the type of language used in the reports, is also visible here. Research from universities, with a high degree of rigor as defined by van de Vall and Bolas (1981) is widely utilized, but at the same time, very different research from *other* contexts of origin *also* enjoys a wide utiliza-

Table 3b
Scientific Sophistication in Used Research by
Context of Origin and Degree of Utilization

Scientific Sophistication	Other City			Academic			Total
	Research Utilization (percentage)						
	Low	Medium	High	Low	Medium	High	
Theoretical	27	42	27	69	71	63	55
Nontheoretical	73	58	73	31	29	37	45
	100	100	100	100	100	100	100
Formal Document	35	63	30	88	87	67	69
Other Document	65	37	70	12	13	33	31
	100 (26)	100 (11)	100 (10)	100 (49)	100 (24)	100 (18)	100 (138)

tion. The van de Vall result that scientific rigor would be better tolerated in internally produced research than in other research, receives no support.

Tables 4a and 4b suggest those characteristics that enhance the use of non-university research. The most utilized research projects with city origins were almost all action-oriented and had a high scoring on the factor "practical experience as a background for the research problem." The two different contexts of origin, the universities and the R&D institutes of the cities, apparently produce two different kinds of research, that speak with different research dialects. But both dialects are needed. Local research users seem to tolerate that university research is academic, and use it anyway. They also appreciate the fact that locally and other city-produced research is different from what comes from the universities. Action orientation seems to be the important trait connected to a high degree of utilization of city-produced research. Users seem to focus on different variables in the use of city-produced and academic social research.

So it seems that both the Weiss and Bucuvalas result, that both research quality or rigor enhances utilization, and the van de Vall and Bolas finding, that it does not favor use, are confirmed by our results. We did not, however, find any support for the negative formulation of the latter thesis, that rigor in any case would prevent utilization. It all seems to depend on what research we are examining.

User Functions, Characteristics, and Utilization

The results thus far indicate that research that combines scientific sophistication with action orientation is most widely utilized. The next step

Table 4a
Practical Action Orientation and Origin of Research

	Origin			Total
	Home	Other City (percentage)	Academic	
Action/Development Orientation	42 (14)	57 (27)	29 (26)	39 (67)
Non-action Orientation	58 (19)	43 (20)	71 (65)	61 (104)
	100	100	100	100
Practical Experience	42 (14)	47 (22)	22 (20)	33 (56)
Other Experience	58 (19)	53 (25)	78 (71)	67 (115)
	100 (33)	100 (47)	100 (91)	100 (171)

would be to determine if the research that was utilized, along different functions for the user, differed in certain characteristics. Data on the functions were gathered in the interview survey. The construct of function used and its classifications were very similar to the concepts of mode of research use and functions for the user employed by Carol Weiss (1979). After an analysis of the interview data where "utilization functions" could be discerned unambiguously, clear differences were found among the research used for different functions. Table 5 summarizes these results and refers to user references where one clear-cut function of the research for the user has been established. All mixed functions and ambiguous answers are omitted.

The differences between research that has been used instrumentally or in an implementation process, and that used for enlightenment, or as a means of political conflict, is striking. The instrumental research rates very low on scientific sophistication. Both the politically used and the enlightenment research, on the other hand, are characterized by high scorings on scientific sophistication factors.

Table 6 indicates how different origins of research relate to the utiliza-

Table 4b
Practical Action Orientation and Degree of Utilization

	Other City			Academic			Total
	Research Utilization (percentage)						
	Low	Medium	High	Low	Medium	High	
Action Orientation	42 (11)	73 (8)	80 (8)	29 (14)	25 (6)	33 (6)	38 (53)
Non-action Orientation	58 (15)	27 (3)	20 (2)	71 (35)	75 (18)	67 (12)	62 (85)
	100	100	100	100	100	100	100
Practical Experience	42 (11)	45 (5)	60 (6)	20 (10)	13 (3)	44 (8)	31 (43)
Other Experience	58 (15)	55 (6)	40 (4)	80 (39)	87 (21)	56 (10)	69 (95)
	100 (26)	100 (11)	100 (10)	100 (49)	100 (24)	100 (18)	100 (138)

tion functions. The data are derived from references to the most utilized research projects (5 or more references). The first column of the table concerns all use of the results of these research projects except the use in the city where the research had originated. These cases of utilization are found in the second column. The third column contains the utilization statistic for the same projects as in the second column, but refers to utilization in other cities than the city of origin.

The differences in utilization are clearly evident in Table 6. Instrumental research is most often produced by the cities, and enlightenment research by the universities. In addition, academic and other external research are used less for instrumental purposes. Apparently, the same research that is utilized as instrumental research in the city of origin, has different uses in other contexts.

These results help to bring closure on one of the matters addressed in this article. It seems that van de Vall and Bolas, as well as Weiss and Bucuvalas, are correct in their assumptions. Van de Vall and Bolas' utilization concept is closer to a rather narrow notion of "impact" or instrumental use, and in these cases of utilization, these results are confirmed in that scientific rigor, at least, does not favor the use of research. The wider conceptualization recommended by Weiss, and Bucuvalas, contains more numerous ways of using research. It is no surprise that results differ.

Table 5
Scientific Sophistication, Action
Orientation and Utilization Functions

	Functions				Total
	Instrumental	Political Conflict	Enlightenment	Tactical	
Formal/Scientific (1) Documentation	40	63	63	69	40
Other Documentation	60	37	37	31	60
	100	100	100	100	100
Theoretical	27	42	51	56	44
Nontheoretical	73	58	49	44	56
	100	100	100	100	100
Action/Development	63 (19)	47 (28)	51 (30)	56 (9)	52 (86)
Non-action Orientation	37 (11)	53 (31)	49 (29)	44 (7)	48 (78)
	100	100	100	100	100
Practical Experience	87 (26)	75 (44)	68 (40)	81 (13)	75 (123)
Other Experience	13 (4)	25 (15)	32 (19)	19 (3)	25 (41)
	100 (30)	100 (59)	100 (59)	100 (16)	100 (164)

(1) Formal/Scientific is a composite variable, constructed as a simple mean of "formal research document" and "scientific language employed."

Utilization Context and Research Characteristics

In other publications, Nilsson and Sunesson (1988a; 1988b) have reported the results on how specific "knowledge organizations" in city welfare bureaucracies seem to foster very different utilization patterns. It has been possible to discern, provisionally, four empirical types of utilization contexts. The four preliminary types are characterized by their research utilization strategies. The data for this classification were gathered in the interview survey.

Social policy strategy. In the welfare authorities classified into this type, research utilization had a strong importance for leading civil servants who were well versed in the social sciences. Agency directors often were per-

Table 6
Utilization Functions in Reference to Most-Utilized Research Projects

	I Academic and Other City	II Home	III Same Research as II, Other User
Instrumental	9	55*	9*
Political/Conflict	20	27*	18*
Enlightenment	49	18*	55
Interactive	13	--	--
Tactical	10	--	18*
	100 (92)	100 (11)	100 (22)

* Original frequency <10.

sonally acquainted with social scientists, and such political utilization was most favored. On the whole, research utilization was widespread, especially as a means to argue for social reform.

Personnel strategy. In a few agencies, research utilization was strongly coupled to the recruitment of personnel in the organization and the enhancement of the professional competence of the staff. In these semiperipheral cities, staff access to research education along with a general invitation to cooperate in local R&D activities strengthened the attraction of the agencies as employers of professionals.

Control strategy. Some agencies were very reluctant to accept uncontrolled research utilization and had centralized all utilization and R&D initiatives. The research in demand in these organizations was the kind that would favor strict control and give legitimation to the existing organization and its procedures. This attitude seemed to provoke conflicts within the agencies.

Short term political strategy. The fourth strategy of agencies is less well documented. It is, however, typical for organizations where local politicians have the upper hand and the power of civil servants is restricted, and in cases where leading politicians can work with ad hoc teams, relatively unfettered by bureaucracy, and can engage social scientists for their programs. However, data to analyze this interesting utilization context in detail is lacking.

The research projects utilized by the cities within each of these four types also vary considerably. Tables 7 and 8 give an overview of the fac-

Table 7
Contexts of Origin and Utilization Contexts.
Percentages of References to Research Projects

Origin (1)	Utilization Contexts			Total
	SP	P (percentage)	CO	
Home	41 (66)	45 (14)	30 (17)	39 (97)
Other City	21 (33)	3 (1)	23 (13)	19 (47)
Academic	39 (62)	52 (16)	47 (27)	42 (105)
	100 (161)	100 (31)	100 (57)	100 (249)

(1) SP = Social Policy Strategy
P = Personnel Strategy
CO = Control Strategy

tors mentioned above for three of the types of utilization contexts. In Table 7, the distribution of contexts of origin is given for the research projects referred to in the different types of cities. Table 8 contains the scientific quality variables and the action variables.

The variation among contexts is clear from the tables. In Table 7 the low interest for local R&D in the control strategy agencies is contrasted by the higher interest in the other two types. Only 30 percent of the research referred to in the control category is locally produced. This finding is just what was expected. It is also quite clear that the organizations in the personnel strategy agencies produce most of the city research they use, and refer to very little work from other cities. In the first section of Table 8, the research characteristics discussed above that pertain to scientific sophistication shed light on the differences among utilization milieus. The control strategy of utilization of science clearly leads to choosiness and a preference for those characteristics that seem to guarantee scientific quality. On the other hand, the strong locally-oriented personnel strategy leads to a preference for informal, provisional research, while the social policy

Table 8
Percentages of References to Research Reports

Scientific Sophistication	Utilization Contexts (1)			Total
	SP	P	CO	
	(percentage)			
Formal Scientific Documentation	57	34	66	56
Other Documentation	43	66	34	44
	100	100	100	100
Theoretical	44	31	68	50
Nontheoretical	56	69	32	50
	100	100	100	100
<hr/>				
Action Orientation				
Action/Development	50 (130)	54 (22)	60 (42)	52 (194)
Non-action Oriented	50 (130)	46 (19)	40 (28)	47 (177)
	100	100	100	100
Practical Experience	43 (112)	61 (25)	54 (38)	47 (175)
Other Experience	57 (148)	39 (16)	45 (32)	53 (196)
	100 (260)	100 (41)	100 (70)	100 (371)

(1) SP = Social Policy Strategy

P = Personnel Strategy

CO = Control Strategy

Explaining Research Utilization

Beyond "Functions"

Sune Sunesson and Kjell Nilsson

With material from a Swedish study of the utilization of social research in city welfare agencies, the author advocates a sociological analysis of the utilization contexts where use of research takes place. The bases of compliance in the organization and the position of the agencies in regard to conflicts in social welfare politics are shown to have great importance for the way organizations use and invest in knowledge, and case studies show that these factors can change the type of impact of research.

The language of current utilization research tends to treat differences in research use as quantitative differences or as differences in the "functions" or "modes" of research use. The authors point to the hierarchical distribution of knowledge and research use, the activity of users, and the way conflicts influence research utilization as important issues for the explanation of research utilization.

Explaining Research Utilization

Beyond "Functions"

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Explaining the Use and Nonuse of Research: The Limitation of Descriptive Concepts

Is science useful in a worldly, instrumental sense, or is it and should it be an end in itself? Should science be put to practical use, and if so, how, and to what ends? These classic questions have given rise to the sociology of research utilization.

The questions most frequently discussed in this area of science studies concern:

1. How much and how often research is used.
2. What functions research has for the user (or what "type" or "mode" of use research comes to [Larsen, 1980; Premfors, 1979; Weiss, 1980]).

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3. Which theoretical models of the "utilization process" are the most—or least—realistic or picture research use in the best way (Huberman, 1987; Weiss, 1979).

The first two questions are empirical, but the third seems to be hardly more than pseudoempirical with a strong normative leaning. This is even more true, the more the writer leans toward a "science policy" position as contrasted to a sociological one (Wittrock, 1985, provides a good example of the mixture between normative and empirical categories in the discussion of "models").

Over the last 20 years it has been repeatedly shown that the rational, or instrumental, view of how people in government (or administration generally) use knowledge is highly unrealistic (Larsen, 1980). In a number of contributions, Carol Weiss (1978, 1979, 1980, 1981; Weiss and Bucuvalas, 1977, 1980a, 1980b) has been a champion of the now widespread tendency to reconceptualize the social scientific study of research utilization. The relevance of Weiss's writings for the development of this subfield of research studies has been commented on and demonstrated before (Bulmer, 1986; Holzner and Fisher, 1979; Larsen, 1980; Premfors, 1979, and several others).

In this article, we discuss some empirical concepts drawn from Weiss's articles, especially the notion of "types of research use" and "functions of research for the user." The background of our argument stems from a study of the use of social research in 15 Swedish city and commune welfare departments.¹ Two research projects that were frequently referred to in our empirical material will be mentioned several times in the article. One is a follow-up study on foster child care, from which several articles and books have been drawn. It is methodologically ecumenical and rather sophisticated in its theoretical approach. The second research project is one of a series of evaluations and surveys of different methods of welfare payment.

Ideas in Modern Utilization Research

The strength and attractiveness of Weiss's argument, and the impact of her contribution, are due to some fundamental ideas. The first claims that "use of research" is diverse; it may refer to many different things.

The older idea that research utilization occurs only when the lay-person/utilizer understands and adopts a fixed set of recommendations prescribed by the scientist is replaced by a much larger notion, encompassing a broad array of reactions to scientific knowledge and research information. "Instrumental" or "decision oriented" use of research is by no means the standard form.

The second idea holds that since decision processes in organizations are not as "rational" and "ordered" as they are usually depicted but, rather, are cases of delimited, or "bounded," rationality, use of knowledge should be seen as what Weiss calls "knowledge creep," an unplanned process parallel to what she calls "decision accretion" (1980b) and subject to the same contingencies. This view encourages study of the ingredients in the flux of stimuli that inundate the users' agencies and of the social forces of conflict in that context.

These ideas—like many of the contemporary ideas in organization research (March, 1978; Meyer and Scott, 1983), some of which Weiss (1981) explicitly refers to—are fully in concert with the current critique of scientific rationality and seem to rest on a bedrock of American pragmatism (Rorty, 1982). For many academics however, the contention that research could be meant to have more than one legitimate, or at least normal, function is not only a thought-provoking but a provocative idea.

In some articles Weiss (1979) has presented lists of "the many meanings of research utilization," thus describing several different *thought models* (e.g., the "knowledge-driven model" and the "problem-solving model") prevalent in the research utilization discourse, as well as the empirical forms of utilization among the users of social science. Here we encounter the "instrumental," the "political," and the "enlightenment" modes of use. The lists of models and types of research use, or "functions," seem to have had great influence on other researchers in the field and stimulated others to construct their own lists (Bulmer, 1981). Unfortunately, the widely circulated lists of functions, modes, and models seem to be the only things that have reached some readers.

Some European writers (e.g., Andersen, 1984) have severely criticized Weiss's lists of modes and models for their inherent "empiricism" and lack of theoretical content and explanatory potential. These allegations are a bit unfair. The problem, however, is that the terminology of "models of utilization" and "types" or "functions" of use is descriptive

rather than *explanatory*. Describing the broad set of *functions* that research seems to have explains neither the specific form of utilization (the "function") nor the degree of utilization or nonutilization of research. Of course, this "empiricism" is a natural stage in the development of a research field and should probably not be understood as a programmatic research strategy (see Weiss, 1981).

Another problem concerning the substance of the notions adopted by modern utilization researchers who follow Weiss is their tendency to attribute to "users" a passive role as mere receivers of stimuli. Of course, the users may be conceived as persons able to react to research in a number of different ways. But the prevailing attitude by utilization researchers is of these users as merely reactive. There is a mechanistic or behavioristic conception of research use in the very notion of knowledge as something that "creeps" into the organization from without, something organization members are exposed to, without actively pursuing it.

Other metaphors have been suggested. For instance, some scholars have examined research as an investment and organizational knowledge policies as investment strategies. The notion of investment also pinpoints the importance of the utilization context for the understanding of how knowledge and research are employed (Nilsson and Sunesson, 1988a, 1988b). In addition, it suggests that the user is active in the final phase of the knowledge process. (See Wittrock, 1984, and Blume, 1987, for similar ideas.)

Empirical Results in a Study of "Utilization Functions"

In our study of Swedish city welfare departments we explicitly asked respondents about their knowledge of research pertaining to their office and its functions. When they mentioned some research with which they were familiar, we continued by asking how it had been utilized in the agency and what personal gain it had produced for the respondent. In the analysis of the interviews, we used categories derived from Weiss (1979):

- Instrumental use. When research had been used for problem solving in the agency, and the need for knowledge had originated in the agency, we categorized that as instrumental use.

- Political/conflict use. When research was used as a weapon in a more or less explicit political conflict, we gave it this characterization.
- Enlightenment. When knowledge about research and research results led users to conceptual reorientation or long term change in thought patterns.
- Interactive use—the “function” of interacting with other stimuli to build a knowledge background for policy formation in the agency.
- Tactical use, such as foreseen Hawthorne effects or outright “avoid and delay” tactics.

In 295 instances of research utilization out of a total of 335 recorded, we identified a specific “function” or “type” of research utilization. The distribution of these “functions” is presented in Table 1.

Most respondents used research or were familiar with instances of research utilization in their agencies. Of course, awareness does not imply that they had actually read the scientific reports. On the contrary, most information was gathered by participation in professional courses and seminars or by reading summaries in professional journals. This result confirms the finding of De Martini and Whitbeck (1986) that among American social workers such “informal” communication of research information is much more important than written sources. (For a less optimistic account of research use by American social workers, see Kirk, 1979.)

Research use seems to be quite widespread among Swedish social workers, administrative staff, agency directors, and local politicians. Only 10 percent of the respondents never used research. (Weiss, 1980, reports 11 percent hard-core nonusers in her study of mental health officials.) Of these 10 percent, not all were hostile to research or research utilization generally. To be sure, some of them were, but some (about half) of them did not perceive any need for research on things about which they could gain knowledge in easier ways—for example, by participation in local affairs.

These results seem consistent with those of other studies, such as those of Weiss (1980) and Huberman (1987), even though these studies are not at all as specific as ours.² There is strong agreement among the studies on the central concept of knowledge utilization and the relative rarity of “instrumental” use of research. This is a quite interesting result, as data are drawn from three very dissimilar countries: the United States, Switzerland, and Sweden.

The pivotal point here seems to be the agreement concerning the distinction between the *instrumental use* of research and other models

TABLE 1
 Functions of Research for the User ($N = 295$)

Function	Percentage of utilization instances
Instrumental	20
Political/conflict	25
Enlightenment	40
Interactive	10
Tactical	5
Total	100

of research utilization, in particular the *enlightenment* function.³ That distinction is, of course, the theoretically most important one and the easiest to make empirically.⁴

If the consensus on this point speaks in favor of the standard descriptive terminology of "utilization research," our other findings do not. The respondents in our study seem to exploit simultaneously several of the functions of research, even to the degree of uniting "instrumental" use with "enlightenment." To complicate matters even more, using research "instrumentally" or for "enlightenment" purposes meant different things in different settings and different organizational positions. Moreover, depending on what research one actually uses, "enlightenment" utilization can mean many distinct kinds of activity.

Examples from Interviews

The first interview that we quote deals with the above-mentioned research on foster child care.

We changed our minds. But the reason for this was not simply that social scientists all of a sudden came up with something that we would use. As an example, take that research project "X" on foster children. . . . Many years ago, when we saw that children had a rough time at home, we thought we had to take them away from their parents, but later we realized that we could arrange for them, that is, help them at home. And now there is research showing that children suffer from separations from the parents, even if the parents aren't very good parents. That means that we should prevent separations, just as we have done, regardless of research results.

So social science does not affect us as an explosion of insight. Research does not change things at once. No, it comes much more gradually. . . . But it's very good if research results show that we're on the right track [Respondent 17, chairwoman of social welfare committee, city "1," one of three big cities].

Should this quotation be interpreted as reluctant *enlightenment* use of research, or is there a reluctant *instrumentalism* behind the speaker's position, or should we just settle for the political *legitimation* use that she finally confesses to? Or does she refer to the research programs in all three functions at once?

Interestingly, the civil servants in this woman's agency gave a clear-cut account of "enlightenment" use of this research project.

An ambivalent research user in another city commented on the use of research on welfare office methods in the following manner:

Last spring we were in trouble here. The unions even threatened to close the welfare office. . . . At that moment, the new proposal for a different system of welfare payment arrived. We didn't like it so much, because the implementation of the new system cost a lot of money. Then, S. [a development staff member and evaluator from city X] came and presented the way they worked there. But we would have had to do something, even if city X hadn't done anything. It is not so clear that we would have acted differently if we hadn't known anything about how they had solved it [Respondent 48, chairman of social welfare committee, city "2," population 100,000].

Obviously, this respondent is also reluctant to acknowledge the influence of science and research on his city's welfare system, although this influence was absolutely clear to everybody, including his own aides. Is this another example of "reluctant instrumentalism"?

Civil Servants Versus Politicians?

The two interviewees quoted above are senior city politicians in aldermanic positions, responsible for welfare affairs. In both cities, the directors of the agencies and their aides gave much more clear-cut and easily categorizable answers about the use of the two research projects in question, which does not necessarily mean that their answers were less contradictory. The first project mentioned here, a university-led wide-scale research project on foster child care, was used for *enlighten-*

ment in both cities. The use of the results of the second project, on welfare payment procedures, was accounted for differently. The original research and evaluation of the city X program appeared to have had an *enlightenment* function in city "2." However, the review memorandum summarizing the results, written by the city "2" staff, was used *instrumentally*. Thus, the same results and recommendations were perceived and used in different ways when they were coming from "inside" the agency of city "2" and when they came from the research people of city X, despite the fact that little but the covers of the reports differed.

Let us illustrate these points with some interview quotations from civil servants. First, a deputy director (agency directors are always civil servants in Sweden) from city "2" concerning the above-mentioned research program on foster children:

An example of the importance of research in my job is what happens in foster child care right now. As far as I know, the children's welfare departments always tried to send away the children to foster homes located as far as possible from the biological parents. Now, however, we place them much closer to their homes, here in the city or somewhere near, in order to keep the contact going. "Separations" is maybe the area where our organizations have profited most from the results of social science research [Respondent 11, male deputy agency director, city "2"].

This is a nice example of "enlightening" research, changing the paradigm of treatment of a group of dispossessed people.

Another official comments on the evaluation of welfare payment reforms in city X and the subsequent activity:

Why did we change the welfare payment system? Because of the problems with the rise of payments and complaints from the caseworkers in the office. In the discussion about that, the results from city X became important. They showed us a possible way to change. So it was very important that we learned about their program. But we did it our own way; our own experiences were behind the report that was the basis for the new program [Respondent 50, male agency director, city "2"].

This comment gives rise to a number of questions. The primary difference between the politician's answers and those of the civil servant is that the latter clearly acknowledges the use of research in the cases we refer to, while the former does not. But have the politicians really used knowledge differently than the civil servants? The two groups certainly provide us with very different accounts of their use of re-

search. Their accounts seem to belong to two different research utilization "discourses"—that is, to separate thought systems that give different importance to research use. The reluctant account of the politician may be more compatible with the role expectations of a politician (as noted in Weiss, 1987), while the accounts of the civil servants are consistent with a general tendency toward a scientization of administration and government, the effects of which are seen in our study.

The difference may also be seen in the perspective suggested by Bernd Marin (1981). Marin has revived Paul Lazarsfeld's concept of "half-knowledge," referring to a partly unconscious defense mechanism that makes it possible for those in power to be prepared for anything but innocent to all. The reluctance of the politician to incorporate new research findings, then, may reflect uneasiness as a reaction to the challenges of clear research results regarding severe social problems and internal agency malfunctions.

Respondent 50, quoted above, suggested a difference in the use of research from his "own" agency and that from outside sources. This is also worth closer analysis. To be sure, we have found, as have several other investigators (see Van de Vall and Bolas, 1981), that internally produced research and evaluations are used instrumentally to a much higher degree than external and university research. These results are presented in Table 2. In the cited case (city "2"), the difference in utilization of internally and externally produced knowledge was very clear. Table 2 also shows the differences between the way the agencies use their "own" research projects and the way these are used by other agencies. The empirical material is a bit scanty but illustrative.

In other cities, however, where the local utilization context was different, our preliminary conclusions about the differences between politicians and civil servants do not seem to hold. Let us quote a part of an interview from city "3," a city of about the same size as city "2." The respondent refers to the same research project on foster child care mentioned above:

Well, the discussion about children and separations and also what we learned from that research report made us speak less about moving children away from their parents. It is good research; it shows us the consequences of our own decisions [Respondent 89, chairman of social welfare committee, city "3"].

TABLE 2
 Type of Use of Most-Utilized Research Projects
 (5 and > 5 References) (N = 103)

Use	All External	Utilization Context	
		Own at Home	Other City
Instrumental	9%	55% [‡]	14% [‡]
Political/conflict	20	27*	20*
Enlightenment	49	18*	44
Interactive	13	—	9*
Tactical	10	—	12*

NOTE: "All external" refers to all use of the results of a research project except the use in the city where the research originated, "own at home." The third column contains the utilization statistic for the same projects as in the second column but refers to utilization in other cities than the city of origin.

[‡]Original frequency < 10.

The respondent, a city alderman, confessed to being "enlightened" by the research. He has reconceptualized a specific policy problem after being confronted with new information from research and subsequent discussions. Let us compare his response with that of a civil servant from the same city:

When an issue is "hot," everyone who has an interest in it talks about nothing else. Just look at the issue of separation of parents and children, and that research on foster children that the girls here in the office are so occupied with. It's a great problem that we have this trendiness, these whims [Respondent 01, male supervisor in social welfare department, city "3"].

The pattern here is exactly the opposite of the one encountered in cities "1" and "2." Here, the agency director is reluctant to acknowledge any influence from what could be seen as critical research. Indeed, he is hostile to it, while the committee chairman appreciates it highly. Moreover, the "girls," the female caseworkers in the welfare office, had used the research on foster child care as an argument in a policy conflict to favor new methods of casework as opposed to the ruling office paradigm. Thus, the same research was used in three different ways on three different levels of the very same organization.

Contexts of Utilization and Investment Strategies

Power and conflict patterns of different utilization contexts seem to **decide** the way knowledge and **research** are used in the organizations⁵ (Nilsson and Sunesson, 1988b). The politicians and civil servants quoted so far are from cities "1" and "2," both having agencies with considerable utilization of research. In these agencies research is consciously brought into use according to what could be called a *social policy investment strategy*. In the cities that have adopted such a strategy, research is used for value- and interest-laden questions concerning the content and development of welfare and social services. It is often used as a political weapon. In "social policy" cities, agency leadership often relies on a "cadre" principle; that is, compliance with the policies of the agency is secured mainly by the adherence of the civil servants to underlying principles with a strong political and humanitarian content, while the bureaucratic rule system holds second rank as a control mechanism. (See Therborn, 1978). The extensive research involvement among the agency directors of these cities may be a reason for the reluctant accounts given by the politicians quoted above. They may have had difficulties in keeping up with the research knowledge of the directors of their agencies.

The policy of the city "3" agency is much less friendly to research than those of the other two agencies. The city "3" strategy of research investment focuses on the acquisition of evaluation techniques and scientific ways of controlling any uncertainty. It favors rule-adhering, foreseeable action by social workers. According to our study, cities or agencies with such *control strategies* use less research than the former type of agency. There is less tendency for the "control" type of agencies to invest in their own, local R&D or evaluation expertise, and correspondingly, they use very little locally produced research. The directors seldom seek out research from outside the agency, the way their colleagues in the "social policy agencies" do. They put faith in what appears to them to be authoritative university research, without, however, inviting or encouraging researchers from universities to perform local studies. Such initiatives were regularly encountered in the agencies that represent the "social policy investment strategy."

"Control" agency directors favor leadership by bureaucratic means rather than by trust in either professionalism or a cadre consciousness, and consequently, politicians have less influence over and insight into the affairs of these agencies. Research that is not foreseeable—that is,

most research—is often perceived as a threat to the organization. These agencies also report very little *instrumental use* of research, which may have something to do with the fact that locally produced research is used so sparingly in these agencies.

In the social policy agencies, the management level was the one where there was most interest in research, but in the control agencies, management were the least interested. The difference in organizational traits can probably explain this and other differences in the general research utilization strategies of control agencies and social policy agencies. It may also provide a key to the difference in patterns of research use between levels of the same organization.

The organizational differences may also shed some light on the distribution of “half-knowledge” in the organization. The alderman of city “3,” who was cut off from day-to-day operations, did not share the “half-knowledge” that seemed to have affected the higher civil servants of his welfare agency. Rather, his standpoint was one of critical awareness of knowledge needs. The ways in which “half-knowledge,” knowledge, and lack of knowledge are distributed in organizations ought to be studied more closely in the future.

Conclusions

Our principal argument in this article is that current utilization research would be enriched by sociological investigations of utilization contexts, the environments in which the use of research actually takes place. We also suggest that simplified notions of “types of research use” should be used critically or not at all. Our own case studies have pointed out the importance of the bases of compliance in the organization and the strategic position of the agencies in regard to conflicts in social welfare politics as explanatory factors.

It is also important to note that differences in research use do not appear only as quantitative differences or differences in the “modes” of utilization. More interest should be focused on the hierarchical distribution of knowledge and the power of research use inside the organization, on the activity of the users, and on the way conflict and power penetrate research utilization. The patterns of control, power, and conflict that constitute the investigated welfare agencies as “utilization contexts” have only been hinted at in this article. Further case studies of research

utilization in conflict contexts will enable us to expand our knowledge on these matters and to support a sociological approach to the study of research utilization, a development that would be more in touch with the general development in the sociology of science (Brante, 1986) than are the administrative, or research-policy-oriented, approaches often encountered in research utilization studies.

To do that, we must go beyond the descriptive categories and normative models to look at research utilization as practice. The sociological approach could enable us to explain how research is used in a world where everything social, including social science research, is penetrated by conflicts of interest and power.

Notes

1. The empirical data were gathered in 1984 and 1985 in 15 cities and communes, among which were the three largest cities of Sweden. Seventy-seven social workers, agency directors, and local politicians were interviewed about the utilization of research in the agencies. A number of politicians and decision makers on the central, national level were also interviewed, making the number of respondents approximately 90. The characteristics of the 171 identifiable research documents that the respondents referred to were also analyzed (Sunesson et al., forthcoming; Nilsson and Sunesson, 1988a). The research was made possible by a grant from the Swedish Commission for Social Research, DSF 1983: 190-1.

2. The seemingly high percentage of "instrumental use" in our results compared with other findings has to do with the high frequency of use of locally produced research among our respondents. The locally produced research was used instrumentally to a much higher degree than university research. See also Dunn (1980: 527), Van de Vall and Bolas (1981), Huberman (1987), and Sunesson et al. (forthcoming).

3. Two examples may suffice. Bulmer (1981) criticizes a simplistic use of the dominating American concepts, including the distinction between "engineering" and "enlightenment," and proposes a partly different terminology with arguments from comparisons between national states. Huberman (1987) recently introduced alternative concepts that seem to cover most of the same ground.

4. The distinctions between "tactical use" of research and "political use" or "legitimation" (an item that was not on Weiss's original 1979 list), and between these varieties and their longer-duration cousin, "enlightenment," are necessarily somewhat arbitrary and vague.

5. The concept of utilization context that we use here is not unlike the one used by Helga Nowotny (1982, also hinted at in Weymann et al., 1986). In Nowotny's 1982 paper, the research "utilization context" is conceived as a general conflict arena in society. Her own research example, research on poverty, concerns a scientific undertaking where all aspects of the research intervene in a conflict field, where even the concepts that the

research proposes are penetrated by the outside conflicts and power relations. In some earlier studies, the concept "utilization context" was employed to mark the separation between the social context of origin of research and the more or less independent context where research was eventually utilized. Of course, Nowotny's concept does not imply that. Here, we use utilization context as an organizational concept rather than a concept referring to society at large. This may be seen both as an advantage and as a drawback. The advantage is the possibility of clear case studies and understandable descriptions of the concrete practices associated with knowledge policies. The drawback, of course, is the limitation of scope. The welfare agencies are different "utilization contexts" to the extent that they represent different control, power, and conflict patterns that affect the way research is used in the organization (Nilsson and Sunesson, 1988b).

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**Conflict or Control:
Research Utilization Strategies as Power Techniques**

Kjell Nilsson and Sune Sunesson

Conflict or Control: Research Utilization Strategies as Power Techniques

The Study of Research Use in Organizations and the Problem of Knowledge and Power

The many ways organizations use scientific knowledge is an important research area for sociology and applied social science. But after the early development of this topic as a field in sociology (Ryan and Gross, 1943), it was long neglected by sociologists and left to technical experts and to other sciences. In the 1950's (Larsen, 1980), unreflected positivism and knowledge optimism constructed the problem of research and knowledge utilization mainly as a mechanical one that had to do with physical distances rather than social. Interest was concentrated on quasi-naturalistic models of diffusion and 'obstacles' to the spread of knowledge. The impressive volume *The Uses of Sociology* (1967), edited by Lazarsfeld, Sewell and Wilensky, was set on propagating the usefulness of sociology and social science, rather than investigating its real use.

In the 1970's, however, some new interest was dedicated to the area. In political science, among others Charles Lindblom (1986, Lindblom and Cohen, 1979) gave the field a new impetus, and the sociologist Carol Weiss (1977) started her tireless campaign for a better understanding of the process of research utilization. Organization analysts like John W Meyer (1983) have noted the importance of knowledge and research use as a factor in the organizing process.

Still, there has been relatively scant interest among sociologists for the study of research and knowledge use in organizations. This is in a way lamentable, as

such an interest could be a way of linking important areas of sociology to one another. It ties the sociology of science and of knowledge to professionalization studies and the sociology of organization. This is particularly important now as both 'science studies' and 'organization science' are leaving their original self conceptions as multi-disciplinary fields, and are now trying to form independent, non-sociological disciplines.

What we are trying to do in this paper is discuss the idea that the responses of organizations to their environments and the exercise of power within them can be shown to be related to research and knowledge utilization - including non-use - as a power technique, that is a means of action employed to strengthen an interest within an organization and in relation to the environment (Foucault, 1977). Of the large number of important problems raised in this context, only a few will be touched upon in this article. One is the use-value (and sometimes exchange-value) of research knowledge as a *symbolic weapon* in conflicts; another is the problem of explaining different *knowledge strategies*, ways of organizing knowledge utilization in organizations as outcomes of the definitions of the relations between an organization and its environment (Machlup, 1979).

In this paper, we have used data from a study of research utilization in the social work area in Sweden.¹

Controversies in science and in the use of science

Recent studies of research use in organizations have pointed to the importance of conflict patterns in organizations to explain the extent and mode of actual use of research. Some studies also point to the importance of environmental

influence on this process. (Dunn, 1980; Weiss, 1981; Nowotny, 1982; Wittrock, 1984; Lindblom, 1986; Sunesson and Nilsson, 1988; and in another vein, Meyer, 1983).

Many of the problems in conflict-oriented research on 'utilization contexts' run parallel to themes in other studies in the social studies of science, especially *controversy studies*. (Nelkin, 1979; Engelhardt and Caplan, 1987) An important argument for such studies is that controversies throw light on several hidden aspects of the social organization of science. Likewise, the study of controversies among laymen over the use of research results can help us understand the environments where science comes to use.

The concept '*utilization context*' that we use throughout this paper was originally influenced by Helga Nowotny, (1982). Her idea is that scientists stand in a complicated exchange relation to the context that receive their results, the '*utilization context*'. This context is not only a network of social relations, but a conflict arena. In this arena, organizations, states, learned institutions, administrative agencies, private companies and fellow scientists all make significant appearances. The arena is made and structured by social forces and organized interests. This '*utilization context*' determines how knowledge and concepts are to be understood and used, according to the constellations of conflict blocs. (Nowotny, 1982; Weymann et al, 1986).

This has clear repercussions on the scientists themselves. Their questions are directed towards problems that directly or indirectly have arisen in the imaginations of the would-be-users and in their reflections on their day-to-day practice. Their concepts are subject to invasion of interest-laden interpretations. What seems to be *knowledge problems* often are, mostly, *conflicts* in disguise, as in drug control and poverty policy. The social sciences are supposed to be especially sensitive to this kind of influence - with those closer to actual policy

making, as political science and economics, as the great paradigms of vulnerability.

In earlier studies, the concept 'utilization context' was employed to mark the separation between the social context of origin of research and the more or less independent context where research was eventually utilized. Of course, Nowotny's - and our - concept does not imply this.

Here, we use *utilization context* as an organizational concept rather than a concept referring to society at large. This may be seen both as an advantage and a disadvantage. The advantage is the possibility of clear case-studies and understandable descriptions of the concrete practice associated with knowledge policies. The disadvantage, of course, is the limitation of scope.

In our language, organizations are different 'utilization contexts' to the extent that they represent different control, power and conflict patterns that affect the way research is used in the organization and in relation to its environment.

External Conflict and Discourse

The impact of utilization contexts on the practice of scientific work can be illustrated by the results from a recent case study of scientific controversy between nuclear scientists on the nuclear power issue. Thomas Brante (1989) brings forward some interesting points.

Brante interviewed several scientists that *were in favour of* nuclear power. Asked to explain why they had taken that stance, they all explained it as a direct outcome of formal scientific reasoning. Later, they were asked to conjecture on the nature of the process that had led other scientists to take the opposite stand on the issue. The pro-nuclear professors all explained the standpoints of their

anti-nuclear colleagues as the outcome of *external* factors, such as politics, personal relations, trends and whims.

Brante also interviewed a group of scientists who *opposed* nuclear energy, and, strangely, the anti-nuclear professors repeated the answers of their pro-nuclear colleagues; they explained their own standpoints as the only natural and scientific one, and those taken by the pro-professors as motivated by economic interest, politics, extra-scientific loyalties etc.

Something had happened. What one party saw as corrupting influences was not even noted as important by the party that was allegedly influenced by it. The 'scientific' or 'theoretical' truth-system was apparently penetrated by outside factors (though, of course, not necessarily those mentioned by the scientists), in a way that allowed both the outlines and the structures of reasoning to remain intact. It went so far that the bearers of the discourse were unaware of how they themselves were affected, even though they could see it on their opponents. The scientific discourse was still intact and recognizable, even if the scientists' personality factors, life contexts and relations to outside interests had led them to possibly objective and scientific, but partisan interpretations of research findings. The discourse was, however, *penetrated* by conflicts in the world surrounding the scientists, both those in the context where scientific reasoning emerges, and in the utilization context.²

This is an example of the impact of utilization context, but the focus of Brante's study was the discourse of the scientists, not the utilization of their results. Let us move to another case (Sunesson, 1989).

In 1987, a Swedish Government commission presented a report proposing a new law on forced custodial care and treatment (without consent) of alcohol and drug addicts. ??/The requisites for bringing the addict under custodial treatment by force are extended and the time expanded./?? (SOU, 1987) In the presenta-

tion of the problem, references to research are abundant on almost every page. The *constructed problem* is a result of use of research as 'warning' (Weiss, 1987) and there is 'compatibility' between what the commission thinks is important and the discourse of social scientists in the area (Wittrock, 1984). Its suggestions for change, however, are not compatible with empirical research or the theoretical discourses on the matter, but are taken from the current political discussion and from quasi-theories of practitioners of compulsory treatment. (Bergmark and Oscarsson, 1988) No supporting research was presented, in spite of outright invocations for it by the Government commission.³

In this later case, research use as power technique is attempted, even if science this time fails to provide the assets for power.

The third example is taken from another controversy study (Sunesson, 1991). For a long time, neuroleptic drugs that block off signal systems of the human brain have been used as medications in psychotic states. However, the use of these drugs have encountered opposition, and there is now an emerging controversy over their use. There are several conflicts within the controversy. Two are presented here:

First, there is a general conflict over the side effects of neuroleptic drugs. The *pro neuroleptics standpoint* would be something like this: "The side-effects and adversary effects are mostly temporary, and it is a reasonable price to pay compared to the problems that arise when patients do not take their medication. It is a sad fact that there are side effects, but we strive to develop better drugs." The contendants of the *contra standpoint*, however would say that "The side effects are closely connected to the desired effect, and cannot be called unintentional. The side effects and adversary effects are wide-ranging and in some cases irrevocable. They offer an indignity to helpless, powerless people."

There is also a specific conflict over alleged brain damage induced by the drugs. This brain damage, connected with chronic tardive dyskinesia, a state that affects many long-time users of the medications, has lately been found to exist as an injury to neurons in the middle brain.

Pro standpoint: No real brain damage can be ascribed to neuroleptic drugs. There seem to be no shrinkage of the main parts of the brain, and patients do not lose intelligence because of neuroleptic drugs. Admittedly, there is some chronic tardive dyskinesia.

Contra standpoint: Brain damage is - brain damage. Not only are there proofs of brain damage, as in the chronic dyskinesia case, but the intended 'anti-psychotic' action mimics lobotomy effects and severe cases of dementia. There is no guarantee that these stages are truly revocable.

The side-effect problem is a case of scientifically based arguments which intersects with institutional influences and moral arguments. On both sides, there are 'body counts', but the interpretation of the results of side-effects surveys differs completely. What is seen as an indignity by the anti-side is considered as a sad but not very important thing by the other one.

The second issue is a completely science-based professional controversy, and has to do with the apparent fact that brain damage is such a strong and yet unclear concept. The pro-neuroleptic argument relegates the brain damage that actually *can* be found to a lesser status, and instead, introduces a higher category of brain damage that - allegedly - cannot be found in neuroleptic-treated patients. As long as this argument is upheld, no proof of the chronicity of the damage of the brain tissue involved in irreparable dyskinesia will affect the pro-neuroleptic discourse. Something seems to protect the discourse from penetration by these arguments. At the same time, this situation protects the status quo of psychiatry.

The interplay between the utilization context and the discursive practice of scientists leads to very different consequences in the three cases we have related. Let us try to find some explanations!

Is knowledge always welcome?

Bernd Marin, (1981), an Austrian sociologist, has brought back the valuable concept 'half-knowledge' to the sociology of knowledge utilization. (See also Lazarsfeld et al, 1967) According to Marin, 'half-knowledge' is the level of knowledge aimed at by politicians and people in power who try to monopolize the results from social science research and use it to prevent a true utilization of knowledge, only to acquire a partial, 'half' knowledge about the world, a half-knowledge that protects them as a light intoxication. Marin depicts 'half-knowledge' as an unconscious defense mechanism of power which makes it possible to be prepared for many things while remaining innocent.⁴

Apparently, there is a demand for something like 'half-knowledge' in many organizations, even if we cannot use the concept in anything like a precise sense. John Meyer (Meyer, Scott and Deal, 1983) has investigated several cases where some of the essence of half-knowledge seems to be explained. In a well-known article on the school system he presents a theory about the tendencies of organizations with complicated environments to 'buffer' away the exigencies of the environments in order to protect the core of the organization.

The fundamental idea in Meyer's theory is based upon the observation that systems that have to deal with dominating institutional demands, like schools (to take his example) seem to be split by two almost irreconcilable requirements.

On one hand, there is the demand for efficient coordination of task activities by the 'technical' organization, and on the other, the demand for conformity with the institutional environment. For schools, the 'institutionally elaborated environment' dominates, which leads to a situation where conformity with institutional demands becomes more important than the 'technical' task activity, such as teaching children to read or write. So the school protects, or 'buffers' the core from the diverse demands of the technical task activities, and protects day to day activities from close scrutiny and evaluations. James Thompson (1967:64) originally presented the other half of the idea, that 'organizations in more technical environments buffer away their core technical activities from environmental instabilities.' Now, Meyer and his associates conclude that 'organizations in highly institutional environments organize around their core institutional elements, with managers buffering the core technical elements from inspection or close regulation'. Knowledge, research and indeed evaluations are subordinated to the same logic as other information and 'environment instabilities', and will be 'buffered away' if they do not seem to be compatible with what managers see as the needs of the organization in the 'institutionally complex environment'. The more unstable the environment is, the more buffering is needed. If the organization can control its environment, less buffering takes place.⁵

Brante's nuclear scientists, in the first of the three examples could well be considered in the light of such 'protection from information' or 'buffering' theory. Environmental and institutional considerations are easily forgotten by those who see the nuclear energy issue as an ordinary production problem. On the other hand, the Government Commission that wanted to give drug addicts a harsher deal may be seen as an example of another buffering strategy.

Institutional demands for action forces the Commission to neglect uncomfortable knowledge on the viability and efficiency of the policies it suggests.

That leads us over to our own study, and the idea of trying to achieve a more systematic or taxonomic understanding of research utilization contexts and power in organizations.

Utilization Contexts: Empirical Cases.

In a study of the utilization of social research in the welfare departments of 15 Swedish cities and towns we have investigated some aspects of organizational governance and research utilization in context.

The study, as its followers in other policy sectors⁶ starts out from the 'revisionist' utilization research paradigm (Weiss, 1977; 1980) that, mainly, contains a criticism of the preconceived classical notions of research use, i.e. instrumentalism. In the studies, we have tried to categorize the diverse modes of research utilization of the respondents and their agencies, and the characteristics of the research. While our analysis of the characteristics of research used and unused (Sunesson et al, 1989) strongly supports the mainstream ideas in modern utilization research, (such as the cited works by Weiss) our analyses of the ways research was used - that were elaborated only with the material of the first, social work, study - led us to some criticism of the predominant descriptive categories in utilization research (Sunesson and Nilsson, 1988). Utilization appeared to be almost completely context-dependent, and one particular research result could be used differently according to the utilizer's position in a hierarchy, so that politicians, civil servants in managing positions

and social workers could make three kinds of use of the same research result in the very same agency.

These patterns differed, however, between cities and agencies, and the emerging explaining factor behind the different patterns was *the way agencies handled conflicts and environments*. Let us illustrate that with a number of interview quotations.⁷

The first respondent we quote here is a civil servant, the leader of a section that is responsible for the acquisition of research in one of the three largest city welfare agencies in Sweden:

"I think we have to admit that if we find a matter to be of great importance, and we think that we will meet resistance, then we mobilize all resources at hand. For instance, home care for the elderly was all handled by the health department. We had to fight for at least seven years, against all odds, to get it over to the social welfare department. And in the arsenal for that struggle, we had far too little supporting research. But it sure is an issue where we could have argued with research results, if we were to mobilize all arguments." /I:49, male senior aide, city '1'

Research and scientific knowledge are depicted as resources or weapons in a political struggle by this respondent. Scientific arguments seem to have *use-value* as symbolic weapons in interorganizational conflicts, and *exchange-value* as a symbolic currency through a legitimizing function, as long as it is bone-fide scientific research we are talking about. Let us take an example from another big city:

"A kind of research that I would like to put money into would be directed to questions like: how can we develop mutual supporting structures among people where they work, or how can we engage people to become part of the solution of social problems in their neighbourhoods, how can we get social workers, and perhaps even teachers and other professional people, to supervise or advise voluntary community activists. How can we

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make the athletic associations fulfill their social responsibilities..." /34, male agency deputy director, city '4'/

This is also an investment-oriented, political view on social science research. It comes much closer to a classic, problem-solving approach. The *use-value* of research results is thus emphasized, but not the exchange-value. The more the problem to be solved is the real cause of the need for knowledge, the more use-value oriented will the investment strategy be.

The two quoted civil servants both came from agencies that used social science research widely. In the third of the big cities, we met a different attitude:

"If we should want to support research that really would mean something to the agency, we would have to look at the long term-plans of the agency for guidance, to find or derive long term strategical R&D-principles, something that is important for the agency. That is no freedom of science, but we can discuss it with the researchers and the universities... We want to make sure that we have a structure. It's not that I enjoy control so much, but I loathe all this so-called free social science that has no effect whatsoever." /37, male R&D program officer, city '5'/

The first two research users identified needs for knowledge both to improve their arguments when acting in political and ideological dilemmas and to solve actual problems. In addition to that, they admitted to having 'reconceptualized' problems as an effect of the impact of research results. The third man, himself a psychologist with a PhD, above all wanted research to be compatible with his agency's principles and organization. But what the agency could use research *for* is not easy to see from what he said. The control over research and its compatibility is more important than its content or its usefulness, and it is difficult imagining how research arguments could have any exchange-value when no one will grant them any use-value.

The tendency towards 'control' can be even more explicit. An agency director of a middle size city (c:a 100 000 inh.) represents a more evident 'control' position:

"You can talk a lot about these things, without really knowing anything. The new laws brought a lot of hope with them. Social workers are, themselves, an important lobby group. And then there were all these professional talkers on TV, on radio, in the newspapers, that disturbed us. What we wanted, then, was knowledge, facts, ideas and real, I mean real certainty.

So we felt the urge to influence the process, to start research in the welfare area, to give us knowledge, facts, so we can leave this lack of confidence in social work behind us, and be able to resist this pressure from the outside, the irrational pressure." /88, male agency director, city '3'/

This agency director pays lip service to research and knowledge, but first of all he wants order and certainty for his office, and he wants his staff to be 'professional' in a controlled, foreseeable way. He declares himself willing to invest in expertise, but when he brought social scientists from a university school of social work into the agency to do research on casework and caseworkers, something went wrong:

"There have been controversies that have disturbed both the agency and the research. We think it has to do with the fact that we never made a deal on the definition of the problem to be investigated. But, maybe, a thing that meant even more was that we didn't make clear that this agency is very rigid, the way decisions are made. We can live with it. But the social scientists didn't understand it. One controversy was about which group of caseworkers the research staff should work with. That was a clash, the first real confrontation. The researchers said that we didn't let them make their own decisions about their job, but we maintained that it couldn't be so important for the quality of the research project that they determine whom to work with." /36, male aide to the agency director, city '3'/

But what had made them bring in research in the first place, and what was it that they wanted to know? Here, a head of section:

"Well, the background was that we wanted to find out the reasons for the big staff turn-over, to find out what was wrong, if it was the education... But it didn't give us any knowledge, and no answer to the question... I think the research staff wanted to get arguments for their first hypothesis, and I'm not sure they ever understood what we saw as the main question." /01, male head of section, city '3'/

Several of the interviews give the same picture - the agency had engaged in research with the aim to make the school of social work educate the student social workers differently, to make them stay on the job longer and accept the way the agency actually worked. The agency wanted to force the school into a self-evaluation in order to make it produce a different breed of case-workers in the future. This, they thought, could be done by looking at the education of social workers as a restraint for the smooth routines of the agency. When the social scientists wanted to do the job the way they saw fit, by also investigating the agency itself as a restraint for conscious and professional work, they were out in the cold.

The first two agencies we have referred to, '1' and '4', emphasize knowledge as a political means to win conflicts and support a standpoint in welfare politics. We call that a '*social-policy*', or '*conflict*' strategy or even *investment-strategy*, to underline the orientation to an investment-oriented knowledge policy. The 'conflict' agency managers are competent and well-versed. They know several leading scientists personally, and are interested in initiating local research projects.

In the other two agencies that we have quoted, '3' and '5', the content of research was not an important issue and its possibilities to give the agency new

insights seemed to be of little importance or a threat. Instead, need for control over both research and their own organization dominated the perspective, and investments in research were only considered as a means to secure structure and order, and seldom involved local research. Research was seldom used for problem-solving, and had very low use-value and no exchange value. We have called this type of utilization pattern a 'control' strategy.

In addition to these two main types that are rather well-documented in our material, we have also had reason to count with two further categories, one of which is very similar to the 'social-policy' or 'conflict' strategy, but more intent on organization and staff development and education. We have called this a 'personnel investment strategy'.

There is also a fourth one, though based upon scanty data, that we call 'short term political strategy'. It must, however be considered as a separate type. Agencies in this category are dominated by politicians, not by civil servants, as the three former types we have referred to were. The politician-led type of investment strategy in research that we encountered was active, even aggressive. Research was commissioned to support and enhance short term campaigns and crusades. This type of utilization context, seldom found in Scandinavian welfare agencies, is somewhat like a type often described in the U.S. (Weiss, 1987). The table summarizes the types.

TABLE⁸

	<i>Utilization degree</i>	<i>Utilization aim</i>	<i>Research knowledge</i>	<i>Degree of centralization</i>
1. Soc.pol	HIGH	CONFLICT	HIGH	MEDIUM-HIGH
2. Personnel	HIGH	EXPERTISE	HIGH	LOW
3. Control	LOW	CONTROL	LOW	HIGH, FORMAL
4. Short term	?	CONFLICT	?	HIGH, INFORMAL

The table shows some of the most important traits of the four strategies. To the differential traits given in the table, several others could be added, such as the variation in activity of the users and the variation in the distribution of research knowledge and types of research use between hierarchical levels in the organizations, and the way use-value and exchange-value of research emerges in the organizations.

Discussion

In the drug treatment case, administrators and politicians deliberately chose to leave the realm of scientific arguments aside, and instead align themselves with positions from 'professional' and political discourse. For the time being, this has not changed the content of the social scientific discourse, i.e., it has been a discursively unproductive action. That is also the case in our local cases of 'control strategy', cities '3' and '5', according to our study (see Sunesson et al, 1988, Sunesson and Nilsson, 1988; Nilsson and Sunesson, 1988).

According to these results, the control strategy is connected to a low degree of research utilization and to efforts to hold back local research initiatives. There is no evidence that this strategy has any 'positive' effects on the discursive level, leads to any research activity or to research commissions. The enthusiastic 'conflict' strategy, however, is compatible with the construction of hybrid systems - where scientists and administrators or politicians lead research programmes and funding agencies together without a clear differentiation of roles - and other alliances between social scientists and policy-makers, as described by Elzinga (1985).

Our preliminary taxonomy of 'investment strategies' demonstrates some of the outcomes of differences between organizations as research utilization contexts. But it leaves other problems unsolved, e.g. *how* organizations *adapt as* or *develop into* knowledge utilization contexts of a certain kind, and how this 'development' is related to inter- and intra-organizational power. In the case of the conflict over neuroleptic drugs, where the possible user of the negative information is a profession closely linked to a system of institutions, we confronted ways of keeping unwelcome information out of the picture. The strategy for research use of city '5' can also be interpreted as a buffer strategy for information on the work actually done in the organization. The quoted program officer in city '5' explicitly declares that research always should be subordinated to institutional demands, and the results from city '3' add up to the same. Even if the agency director in that town declared that he reached out for technical knowledge, actual research knowledge on what happened in his agency was patently unwelcome. The knowledge policy of the agency was one of strict control, and research was not seen as a legitimate influence on local politics.

In cities '1' and '4' no such 'buffering' strategies were visible in research utilization. This, however, does not indicate that in their practice as human service organizations these agencies are less haunted than any other by the problems of 'loose coupling' and 'buffering away' of information and work experience. (See Perrow, 1978; Hasenfeld, 1983; Sunesson, 1985). Still, those agencies have adopted a 'conflict' oriented strategy that openly aims to affect local social policy. These different utilization investment strategies can be seen as organizational indicators or accounts of the perceived relation between the organization and the environment, and this perception, consequently, decides the buffering strategies of the organization vis-a-vis research. Agencies that are less conflict-avoiding have been found to be more prone to seek out research and to

expose themselves to social scientists that want to lay bare the somewhat uncomfortable 'technical' aspects of work.⁹

Thus, to conclude, in a tentative framework adopted to welfare agencies, different types of organized utilization contexts can be perceived. 'Control' agencies avoid social conflicts and, accordingly, try to avoid harmful or upsetting knowledge. 'Conflict' agencies, on the other hand, have a research utilization strategy that facilitates active intervention into the discursive system via hybrid systems or soliciting. The negative strategies are not cognitively productive in the short run, which is shown by our data from the research-avoiding city welfare departments. At a later stage, however, scientization of existing treatment practices and professional discourse - that were not originally based upon scientific knowledge - may affect and direct the production of social science research knowledge.

The theory of 'buffering', the idea that organizations 'buffer' their core activities to protect them from demands and information that could impede their success and survival, can help us explain the ways organizations develop as utilization contexts for research. Thereby, we can also come to an understanding of some of the preconditions for the impact of utilization contexts on research.

One of the emerging ideas of this article was that the 'strategies' of research use in organizations could be classified as knowledge policies connected with knowledge 'investment strategies'. The strategies we encountered in our study were, to be sure, seldom explicit and conscious or even rational ones, but still it was easy to discern rather systematic patterns of knowledge policy that were reflecting different ways of handling conflict or potential conflict, and different ways of envisaging knowledge demands.

The 'control' strategy, the knowledge policy that is set on the deflection of all invasive knowledge attacks against the organization, is easily recognizable as a buffering technique, just as the non-recognition of danger may be a buffering technique in the nuclear context. At the same time, the 'control' strategy is discursively unproductive, and does not lead to alliances with experts and scientists, and could be seen as a denial technique. The control over research utilization that is attempted in these organizations is a restrictive gate-keeping method where all uncensored knowledge seems to be potentially intimidating.

The 'conflict' or 'social policy' strategy, however, stimulates demands for knowledge and research and fosters hybrid and soliciting networks between members of the utilizing milieus and the scientists. The more conflictual the research use, the more useful research arguments become exchange-values, a form of symbolic currency. The pursuit of such a strategy is 'productive', and makes an impact on the discursive level not only by creating the 'facts' for social science (all human service organizations do that. See Foucault, 1980), but also by consciously presenting them to social scientists. Here, the self-protecting work of the organization is not the 'buffering' away of environment menaces, but rather the creation of alliances with science as one of several potentially important elements in an effort to gain control over the outer environment.

Notes

1. The study was conducted in 1984 and 1985. We interviewed agency directors, local politicians and social workers in 15 Swedish cities and municipalities, among which were the three largest cities in Sweden. This research is fully reported in Nilsson and Sunesson, 1988, and partly in Sunesson and Nilsson, 1988, and Sunesson, Nilsson, Ericson and Johansson, 1989.

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Respondents (social workers, administrators, agency directors, city politicians) from fifteen cities and towns were interviewed for approximately ninety minutes about their use of social scientific research, according to their own definitions of "use" and "research". Research documents and research projects referred to were identified after the interviews.

2. Our standpoint on these matters differs somewhat from the fashionable one advocated by the British sociologists of science, Gilbert and Mulkay, 1985. Without advocating a reduction of accounts to just-so-stories on what "science really is", or "what we really do with research results" we still see the accounts, that is, what is said in interviews, as indicative of the social context - or the rule and power system where they have been created. Furthermore, in one aspect, discourse - as a given order of speaking and writing - does exist as an entity before and independently of the individual scientist and his individual reader or listener, and likewise, research utilizer. This "common" discourse, that we refer to here, is a set of shared theoretical, methodological and philosophical principles.

On the other hand, there is also ample empirical evidence for Gilbert's and Mulkay's proposal that some of the facets of this discourse are officially upheld by scientists in spite of their knowledge that actual practice differs very much from what it prescribes. That could easily be generalized to other knowledge-processing systems than science.

3. Of course, what we say here does not mean that there could not later develop discourses that build upon the fait-accompli of an existing repressive system, just like penology developed after prison was created.

4. Marin's account is written in the vein of the so-called 'Starnberg'- school in the theory of science, the thesis of which is that the days of great scientific

exploits are over, and that science, even social science, now concentrates on applications. In the course of that development, scientists go courting to the representatives of power competing to solve policy problems. See Böhme, van den Daele, and Krohn, 1973.

5. Some of these ideas come near the problem often described by the term 'loose coupling' Cf. Weick, 1976 or March and Olsen, 1976. In their article 'The Structure of Educational Organizations' in Meyer and Scott, 1983, John Meyer and Brian Rowan provide the following explanation of what that term means: 'Structural elements are only loosely linked to each other and to activities, rules are often violated, decisions are often unimplemented, and if implemented have uncertain consequences, technologies are of problematic efficiency, and evaluation and inspection systems are subverted or rendered so vague as to provide little coordination'. The word "buffering" has, of course, been found in the same treasure box. Its use here is, in some respects, loosely coupled to the original Meyer texts.

6. Within the same research programme, another two studies have been made, one in 1985-86, of research utilization among city planning professionals representing different interests (Ericson and Johansson, 1990), and in 1990-91 Kjell Nilsson made a study of the utilization of working-life research (Nilsson, 1991; Nilsson and Sunesson, 1991).

7. This research was fully reported in Nilsson and Sunesson, 1988. In this paper, we cannot report on all the 15 cases in the study. Only four cities/cases will be cited here. The reason for singling out these cases was their strategic importance for the development of our attempts to present a taxonomic understanding of research utilization contexts and user strategies.

8. ? in the cases where no data are available.

9. We have to introduce two important reservations here.

First, city welfare agencies are not, in fact, single 'actors'. They are often very heterogenous also when it comes to research and knowledge use. Our characterizations of utilization contexts are based upon several interviews with people in different positions in the organization, but what we call the strategy of the agency is, in fact, the strategy of the managers. People in other positions of the organization may have other leanings. This is described in some detail in Sunesson and Nilsson, 1988.

It is possible that some of the discussions make less sense in some other societal sectors, while they seem translatable to some. This has been investigated

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and reported in Nilsson, 1991 and Nilsson and Sunesson, 1991. Some of the results, however, seem to hold for different countries. See the discussion in Sunesson and Nilsson, 1988.

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The Utilization of Working-life Research

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The Utilization of Working-life Research

In the research on how social science results come to use, the very concept of utilization has been fundamentally reconceptualized during the last fifteen years. The rational, or instrumental, model of knowledge use has been abandoned and a much more diversified process is now envisaged by utilization students. This development parallels the critique of the rational-instrumental conception of organizations within organization research. (See for instance March, 1978; March and Olsen, 1984, 1989; Meyer and Scott, 1983; Olsen, 1985; Sunesson, 1985; Brunsson and Olsen, 1990.)¹ Studies have been made of different types of utilization, where direct instrumental use is just one of several ways of using scientific knowledge (Rich, 1977; Larsen, 1980; Weiss, 1978, 1979, 1980, 1981; Weiss and Bucuvalas, 1977, 1980a, 1980b). It has also been shown that the context where the research originates, as well as the utilization context, play crucial roles in determining if and how knowledge will be used. (Sunesson and Nilsson, 1988; Sunesson et al., 1989; Nilsson and Sunesson, 1991.)

In this article I will present some results from a study of the use of social science results on working life by trade unions, employers' organizations and government in Sweden.² The study is similar, though more limited in size, to two earlier studies with almost identical methods which dealt with the utilization of social research in Swedish city and municipal welfare departments (Nilsson and Sunesson, 1988), and the use of social science in the building sector (Ericson and Johansson, 1990).³ The overall utilization context is, of course, different. What characterizes the utilization context for the research on working life and industrial relations, compared to research mainly directed towards the

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welfare sector, is the immediate presence of the relations and conflicts between capital and labour.

The presentation of results in this article will, firstly, focus on the "type of use", following Weiss's categories⁴, by the respondents and their organizations, and secondly in what way different types of use or nonuse are connected to the utilization context. The context of origin of the research constitutes a third theme.

Different explanations have been put forward to explain the perceived under-utilization of research in policy-making. Some have to do with technical obstacles in the diffusion process, for instance practical impediments for potential users, problems of mediation between social scientists and users, or obstacles that have to do with the technical character of research or research reports (Baklien, 1983a; Karsten, 1983; Larsen, 1980; Premfors, 1989; Van de Vall and Bolas, 1981; Weiss and Bucuvalas, 1977). One type of explanation is connected with the theory of "two cultures", that is, different worldviews, language, reward systems, etc, in the scientific community and among policymakers prevent research utilization.⁵

I will discuss the extent to which non-utilization of research can be explained by technical obstacles such as the ones mentioned above, or by the commonly alleged gap between two different cultures - the knowledge producer's and the knowledge user's.

Finally, I will go into the relation between different research utilization strategies, types of use, and the political context in which these strategies and utilization patterns are situated.

Working-life Research in Sweden

Research on working life in Sweden as an institutionalized activity dates back to the end of the 1940's. From its origin until the middle of the 1960's, working-life research was dominated by the employers' perspective, who, by creating and commissioning research bodies forged an alliance with the social scientists. (Berner, 1986; Björkman and Lundqvist, 1981; Fridjonsdottir, 1987; Gunnarsson, 1980.) This alliance between social scientists and employers in the working life area began to crack in the mid 1960's onwards - as a result of labour market unrest, political discontent, radical critique at the universities against this kind of research, and growing ambitions from the trade unions to influence social science.

In 1972 the state founded the "Work Environment Fund", a body that today is the main commissioning body of working-life research and development. In 1976 the Swedish Center for Working Life was established in connection with the law on co-determination at work (MBL). It was to carry out research on the effects of MBL and on the conditions in general for a democratization of working life. Contrary to the previous period, working-life research during the seventies (apart from research directly connected with the employers' own organization) was dominated by a trade union perspective. It was a decade of labour market and shop-floor reforms where questions of power and democratization were in focus.

This new type of working-life research was explicitly critical even towards the fundamental system of capitalism. The consequence was that the previous alliance between employers and working-life research was, to a great degree, replaced by an alliance between trade unions and social scientists in this area of

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research, even though trade union officials disliked the critique from these scientists as it included their own practices. (Boglund, 1981; Kronlund, 1981.)

This type of partisan working-life research proved to be a disappointment to the trade unions as were the MBL law and the wage earners funds. The employers' resistance to any fundamental change, together with the economic crisis, stifled the ambitions of the unions. Consequently working-life research in the last decade has tended ♦ towards a reorientation in line with the present consensus among the organized interests of the labour market: that research should concentrate on matters of practical work organization, and not on power relations (Glimell, 1990).

Empirical Results: Types of Use

In my study of the utilization of working-life research, respondents were asked about their knowledge of research and research results pertaining to working-life and industrial relations, and the "functions" thereof for themselves and the organizations they belong to. The categories used in analyzing the interviews are derived from Weiss (1979):

- * Instrumental use: Research used for problem solving.
- * Political/conflict use: Research used as an argument or a weapon in a more or less explicit political conflict.
- * Enlightenment: Research leading users to conceptual reorientation or change in thought patterns.
- * Interactive use: Research interacting with other forms of information to build a knowledge background for policy formation.
- * Tactical use: Research promoting Hawthorne effects or being part of "avoid and delay" tactics.

In the interviews, 143 instances of research utilization were recorded. The respondents specifically mentioned "nonuse"⁶ as a way of dealing with specific research results in 33 of these 143 cases. Although as much as 23 percent of the reported research results were said not to have been utilized, all respondents gave examples of research actually used. The respondents were generally well informed about research in their areas and thought it important that their organizations kept abreast with it. Further on, I will come back to what kind of obstacles that seem to lie behind the instances of non-utilization.

In 102 instances, a specific "function" or "type" of research utilization could be identified. The distribution of these is presented in table 1.

TABLE 1
Functions of Research for the User (N = 102)

<i>Function</i>	<i>Percentage of utilization instances</i>
Instrumental	15
Political/conflict	32
Enlightenment	33
Interactive	10
Tactical	10
Total	100

These results confirm the relative rarity of direct "instrumental" use of applied social science research, which is in accord with several earlier findings (Huberman, 1987; Weiss, 1980; Sunesson and Nilsson, 1988). "Conflict" and "enlightenment" use dominate the utilization pattern in this study. In comparison to the earlier study on research utilization in welfare departments, there is a

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somewhat lesser degree of instrumental and enlightenment use and a more frequent incidence of political and tactical use among working-life professionals. This result can be explained by the utilization context, which is characterized by fundamentally conflicting interests, a fact that also helps to explain the higher degree of nonuse by the respondents in this study compared to the one in welfare agencies.

The Context of Origin of Research

A salient result from our study of the utilization of social research in welfare agencies was the direct connection between the context of origin of the research and the way it was used. Research and evaluations produced within the utilizing organizations themselves were much more frequently used instrumentally than research produced by external institutes and universities. Such "external" research was, however, dominant among cases of enlightenment use. (Sunesson et al, 1989; see also De Martini and Whitbeck, 1986; Van de Vall and Bolas, 1981.)

In the present study, it was possible in 72 instances out of the 102 connected with a specific type of research utilization to find out whether the research had been initiated by external scientists or by users. The origin of research could also be identified in 22 of the 33 nonuse cases. Of this total of 94, 50 cases were initiated by external scientists and 44 by users. These 94 cases are distributed as presented in table 2, which shows how user and external scientist initiated research are utilized. I have presented the nonuse cases separate from the other functions to make the figures comparable to the ones in table 1.

TABLE 2
Type of Use and Context of Origin (N = 94)

<i>Use</i>	<i>Ext scient initiated</i>	<i>User initiated</i>
Instrumental	0 %	31 %
Political/conflict	29 %	27 %
Enlightenment	59 %	16 %
Interactive	3 %	8 %
Tactical	9 %	18 %
Total	100 (N=34)	100 (N=38)
<i>Non-utilization</i>	32 % (N=50)	13,5 % (N=44)

These results confirm the findings from the study of research use in welfare departments: that instrumental use is much more frequent when it comes to internally produced or user initiated research, while research that has the function of giving new ideas or reconceptualize policy normally has its origin outside the user organization. Nearly 75 percent of the research used for enlightenment has its origins in the social science community. Research from both origins seems to be equally useful as political weapons, the user initiated presumably because of its relevance; university originated because of the legitimacy it can provide to a specific policy. The difference in degree of non-utilization for research initiated by social scientists compared to user initiated research is not surprising. The former, of course, is more likely to contradict the policy interests of the users than research initiated and, in many respects, controlled by them.

Context of Utilization

Use of working-life research takes place in a conflict arena where the organized interests of labour and capital are in conflict. This context of controversy, fundamentally influences both the characteristics of this type of social science research and its utilization.

At least 75 percent of the instances of research utilization mentioned by the respondents in this study were directly related to a partisan interest in this field of conflict. The rest of the utilization cases were divided between those connected with specific local contexts, (mostly local research projects jointly managed by employers and trade unions), and those that had to do with demand for knowledge in a situation of insecurity and change in the organization's environment. Research use connected with these two later categories does not imply the absence of conflict in these contexts; instead, that the specific research results utilized in these instances have functions for the user that are not immediately related to partisan interests and conflict. In these later context-categories only instrumental and enlightenment use were to be found. Around 30 percent of the cases of the enlightenment use were related to the need to cope with uncertainty and change, and 30 percent of the instrumental utilization-cases were tied to a local context not directly connected to any political or conflict interests.

"Obstacles" for Research Utilization

A special problem is provided by those instances where research mentioned by the respondents was not used by them. Nonuse has often been explained by different "technical obstacles". One type of obstacle has to do with the character of research, such as difficult scientific language, or that documents are too extensive or incomprehensible. Another type of obstacle is related to the process of communicating research findings to the user. A third type of obstacle is found in the utilization context, such as inadequately organized information channels, that the staff lacks time to read, or that they have insufficient or inadequate education or knowledge to grasp the major points in research results. Sometimes nonuse is assigned to a "gap" or distrust between the "two cultures" - the scientific and the political-practical.

Of the 33 instances of nonuse of particular results known by the respondents, 25 were related to a specific reason. The most frequent cause of non-utilization, accounting for more than half of the 25 cases studied, was the political content of the research in question. In a political conflict some research results are useful for some but not for others, and the "non-users" can very well be obliged to consider and acknowledge research that they themselves decide not to use. Another five nonuse cases related to factors in the user's organization such as problems of governance, the organizational infra-structure, jammed communication channels or activists leaving their jobs. Accordingly, more than three quarters of the 25 instances of non-utilization could be explained by factors in the utilization context.⁷

Five of the nonuse occasions were attributed to some kind of deficiency in the research by the respondents. In three of these five instances the results were politically negative for the "non-users". In none of the five cases were the

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deficiencies attributed to technical problems of readability or lack of understanding of the content. On the contrary, the results were very well understood: the perceived problems with the research were bad quality science in four of the cases, or irrelevancy in relation to the studied phenomena. Only in one instance was nonuse accounted for in terms of distrust of social science or the existence of a "cultural gap" between science and users.

Interestingly, when the respondents were asked to give a statement in general (not related to any specific research), on what they thought were the main obstacles to research utilization, they put a lot more weight on technical obstacles than they did on concrete cases. Seventeen of the 20 respondents mentioned problems that had to do with the character of research (10 respondents), dissemination and communication to the user (10 respondents), or cases that can be described as a cultural gap (eight respondents); but only four of these respondents mentioned any of these three factors in explaining the nonuse of some specific research. These seemingly contradictory results could, of course, be accrued to the fact that these statements are made through a felt lack of acquaintance with the research area. Here, dissemination problems and other technical obstacles seem to provide a nearby and likely explanation for such a state of affairs. This "self-imagined ignorance", is not consistent with another finding, where all the respondents were rather well informed about the overall research area of working life, and the fact that their explanations of nonuse of "specific research" also included broader categories of research than single results.

The results presented here point in the same direction as the results from the study of research documents we made in connection with our study of research use in welfare agencies, where we found no connection between the technical properties of the documents and the degree of use (Sunesson et al, 1989). This

was also the case in a similar analysis of research reports in the study of research utilization in the building sector (Ericson and Johansson, 1990). These results speak against the hypothesis that non-utilization or under-utilization of research depend mainly on technical obstacles in the research results, or in the dissemination and communication between the scientific community and the potential users. We rather believe that other factors connected with politics and power in the utilization context will decide if and how research results will be useful in practice.

Contexts of Utilization and Utilization Strategies

I have described above the general utilization pattern of working-life research. And, as is shown in these results, the use is connected both with different utilization contexts and contexts where the research originates. These patterns differed, however, between organizations, which differed in utilization strategies, and in ways of handling conflicts in relation to their surrounding environments. As users, they were not just passive receivers of research results, which some models of the diffusion process may suggest. How these organizations relate to social science can be described in terms of investments, where scientific knowledge is treated as an organizational asset that has use-value and exchange-value like other organizational resources.⁸ The ways to use investments in working-life research differ between organizations, and correspond to different utilization strategies for dealing with conflicts and environments.

In the next section I shall discuss these different research utilization strategies in relation to types of use and the political context in which these strategies and utilization patterns are situated. The organizations that represent different utilization strategies in this study are the state - represented by the ministry of

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labour, the Swedish Employers' Federation (SAF), the blue-collar trade union confederation (LO), the white-collar trade union confederation (TCO), and national trade unions.

*The State: Political Regulation Strategy*⁹

The utilization pattern reported by state officials is dominated by political-tactical use and interactive use. These two functions, or types, account for 65 percent of the total instances of utilization.¹⁰ The interactive function of research is more frequently mentioned by state officials than by respondents from other organizations, while instances of enlightenment use are below average.¹¹ About 60 percent of the research mentioned by state officials, where origin could be identified, were initiated by social scientists.¹²

An interesting result is that more than half of the user-initiated research was not utilized, compared to only 10 percent of research initiated in the scientific community. Eighty percent of the non-utilized research was user-initiated. In politics, exchange-value in form of scientific legitimacy seems to be important for the research if it is to have use-value.

One respondent from the ministry describes the high exchange-value of research to underpin political arguments:

"If research results can demonstrate clear connections between piece-work and work-injuries, or between night-work and early retirement, then, of course, the research results are of immense importance as arguments and as reasons for directly recommending political change." /State 14/

Research may interact with other considerations, like the demands and views of different organized interests in the political process:

"Social science is one factor. I mean, if you work at the ministry of labour and prepare a government bill, you have to consider the views of the LO, and the views of the SAF. I mean, a research result *may* involve that you have to go into new talks with the LO, and tell them that the solution that we had suggested might not be so good after all, and that maybe we should do it another way instead. My opinion is that research results are considered in the process preceding political decisions." /State 17/

The utilization pattern represented by these state officials is situated in a context of conflict where issues on the political agenda determine the demand for knowledge. In this connection, several policy-problems were mentioned. One of these problems is the rising costs for the state in connection with work-injuries, which among other things has brought about an expanding demand for research on work organization.

The current deregulation of state administration is a development that makes evaluation research, for example, more important as an instrument for controlling performance than it used to be when control was exerted by more or less detailed rules and regulations:

"If you look at the welfare sector as a whole and the welfare policy, equity has meant that you should have a general solution that should be identically applied everywhere. Then, you have not been able to evaluate it because it was the same for all. While today you begin to tread on another path, try to find smaller and different solutions, which also means that the evaluation instrument becomes both more natural and useful." /State 14/

The descriptions by state officials of how they want to employ research in the policy process exemplifies a utilization strategy. I have labelled this research utilization strategy by the state as a "*political regulation*" strategy¹³, a strategy characterized by research use for policy-making, management and control of the organizational, political and economical environment.

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The state is trying to accomplish this employment of research in policy-making by investing in research expertise and alliances with social scientists. An obstacle when trying to build an expertise and an alliance with social scientists is that the organized interests of the labour market exert a great amount of control over working-life research. Most of the funding of this kind of research, for instance, is controlled by boards dominated by representatives from trade unions and employers' organizations. This is a factor that might explain why (in a survey study of research use among higher state civil servants,) the ministry of labour and the civil services related to this area scored low on research utilization compared to other departmental areas (Premfors, 1989). The ministry does not initiate working-life research itself, which currently makes it dependent on research controlled by these organized interests of the labour market.

"The Work Environment Fund is extraordinarily independent in relation to us. The organized interests of the labour market mean that it is their money, therefore we should not interfere too much in what the fund is doing... The same goes for the Working Life Center; they do not get their money from us, but some kind of fixed grants that we actually can't influence very much.

All research projects commissioned by the fund are reviewed by the organized interests of the labour market. And it is very influenced by their conceptions... When it comes to labour market issues the government makes the decisions, but in questions of working life or work environment the trade unions have an immense influence." /State 21/

This power constellation in working-life research¹⁴ has resulted in a decreased scientific legitimacy, a fact that tends to make it less useful as a political asset. Social science may then lose some of its exchange-value as symbolic currency in political conflicts and policy-making, hence some of its use-value for the user.

"One of the problems with the Working Life Center was the fact that the trade unions wanted to influence the research, wanted to use the social scientists more in development projects... But experience proves that this

doesn't work. It isn't considered as real research, and if it is, it doesn't get the scientific imprint that it was thought to bring about... It is definitely a question of legitimacy... You must safe-guard the autonomy of research and you must safe-guard the scientific criteria in order to achieve the status that is a precondition for it to be respected." /State 17/

The sector research policy by the state is thus aimed at decreasing trade union and other labour market organizations' control over working-life research in order to increase the scientific legitimacy and status of the social science in the area. Therefore, the ministry has initiated a reorganization of working-life research in this direction (SOU, 1990). In practice this means greater autonomy for the social scientists doing working-life research, although the organized interests of the labour market will still dominate the board of the most important commissioning agency. Along with the strategy to invest in expertise on working life, this type of sectoral funding is perceived as fundamental to promote research that is useful for policy-making.

"As I think it extremely important that the scientific community is governed by the scientists themselves, it is also extremely important to retain the sectoral research in order to promote research that is useful for policy-making... I mean, there has to be basic research, but in order to make research useful as a basis for policy-making it must be directed towards application." /State 17/

This research policy can be said to represent the interest of the state of policy-relevant knowledge for the *general* interest of the sector. In order to accomplish this, the definition of research problems should not be controlled by the *specific* interests of the organized interests of the labour market, but by social scientists governed by sectoral definitions.

The "political regulation" strategy of the state can be summarized with the following characteristics: It is aimed towards investment in social science that is directed at the general policy interest of the working life sector, as defined by

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the state, which demands a scientifically legitimate research that also renders social science high exchange-value as an asset in political conflicts. This requires a less direct control of research by trade unions and other organized interests of the labour market. Another trait in this strategy is investment in research and evaluation aimed at control when public service and administration are deregulated.

The Swedish Employers' Federation (SAF): Capital Prognostic Strategy

The utilization pattern demonstrated by the respondents belonging to the Swedish Employers' Federation (SAF) is dominated by enlightenment use.¹⁵ All research mentioned, where the origin was identified was initiated by external social scientists. Confirmation of the results presented in table 2 above, which shows a correspondence between enlightenment use and research initiated in the scientific community.

The enlightenment use of social science corresponds to a high degree of use in a context of uncertainty and change, where traditional "regulation" of working-life relations is perceived as inadequate. Forty percent of the utilization instances are situated in such a context. An additional 20 percent are related to economic situations. The rest are related to local contexts or contexts of explicit conflict.

What may be surprising is that political use of social science is absent in these accounts of research utilization. One explanation for this fact could be that working-life research has a character that makes it more useful for political purposes by, for instance, trade unions. In the working life area the employers do not have to use research to legitimate their control of production politically in contrast to the trade unions who are interested in changing the existing

working life relations. Political use of research by the trade unions is normally connected with ambitions to reform working life conditions, engage organizational changes and increase influence at work (LO, 1989; TCO, 1989 and 1990). Another reason for the absence of political and instrumental use by SAF, which will be discussed below, has to do with the utilization strategy of this organization.

In a changing and insecure environment for business, the SAF representatives have a need for knowledge that can reduce insecurity and help manage societal changes. Enlightenment use of research goes hand in hand with the ambition to formulate a political strategy. This research utilization strategy is described in the following manner by one of the SAF respondents:

"The role of social science and behavioral science is of course very important in times of profound societal change. The industrial society, with all its institutions and structures that have developed during the last hundred years, is shaken in its foundations. Already another society is developing...

Maybe the biggest issue of working life in the nineties, I think, is the question of how we may bring about a sufficiently rapid, sufficiently extensive, competitive renewal in all fields. Because the transition is happening so fast, the life cycle of business ideas gets shorter, you need to learn anew all the time... So I think that social scientific research, in all areas, is very important for us who are, as it were, actors in the changes of working life and society...

I think it is totalities that influence my attitudes, that make me see things in a new way... I think this goes not only for me. In times like this, I rather think the usual problems are about a better understanding of what is going on, to understand how not to walk backwards into the future."
/SAF 9/

The conclusion for this respondent is that social science must be more independent in relation to different organized interests and users of research, although he still argues for sectoral funding and control of working-life research.

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This view is also compatible with the employers' interest of status quo regarding power relations in the working life area, where research should not be used politically in favour of changing these relations. The low frequency of instrumental use of social science, expressed by the representatives of the SAF, may be explained by the ambitions of the employers to maintain control over problem solving in production. What the SAF are interested in is research in the working life area that may be useful for enlightenment purposes. A sectorally defined research, without control over the specific problem definitions, is consistent with this orientation of research use. This strategy, in relation to what is defined as "research" may also be understood in connection with the fact that employers' organizations and management in industry control large research resources of their own, as well as resources to buy consulting services. Commercial consulting, more easily adapted to the buyers needs than research, seems to offer the kind of "half-knowledge" (Marin, 1981) that employers and management find useful, since persuasion and production of meaning constitute an important power technique in modern organizations. Political governance of organizations and instrumental problem solving may thus be more identified with these activities than by what the respondents signify as "research". (For consulting as a tool of governance see Brulin, 1987; Premfors et al, 1985; Czarniawska-Joerges, 1988).

I call the utilization strategy of the Swedish Employers' Federation a "*capital prognostic*" strategy, one that is designed to deal with societal uncertainty and change, where scientific analysis of social and economical development is a tool for illuminating the road ahead and for reflection on how to act in favour of continued capital accumulation. In a world that is rapidly changing, social science research for enlightenment is considered useful for the design of political and economic guidelines in the business community. Although the power of

capital is not enough to control a changing environment, knowledge of these changes and investment in expertise to influence and handle them enhance power since it increases the chances to survive in this environment. A "non-interventionist" approach in relation to the specific definitions of research problems is connected with a low degree of political and instrumental use of social science, which may be consistent with a status quo strategy regarding control and power relations in the working life area.

White-collar Union (TCO): Compensatory Interventionist Strategy

The utilization pattern of the white-collar trade union confederation, the TCO, differs from those of the other organizations in this study in a significant way. Enlightenment use of social science is totally absent in the accounts of research utilization of the TCO representatives. All instances of reported use of working-life research belong to the political or instrumental type.¹⁶ Research initiated by social scientists has a somewhat larger share than average among the reported instances of research utilization, where origin was identified by respondents in this organization. But more than half of these cases of social scientist initiated research belongs to the non-use category.

The guiding principle for the TCO in its utilization strategy is that social science research shall benefit the interest of the organization and its members (TCO, 1989; TCO, 1990). This strategy is connected with a demand for increased control by the users over social science, which means that funding of research should be determined to a larger degree by what policy-makers deem useful than by internal scientific criteria.

"What is wrong with research is that it is internal scientific quality and status that decide the character of research at too great an extent.

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Relevancy and external utility for society aren't equally important." /TCO 12/

The organization is trying to influence social science by investing in alliances with social scientists, and urging for the development and commissioning of new research areas and a new type of social science expertise.

"The role of the trade union is to influence research so that we can get the type of knowledge we are interested in. One way of influencing reality is to influence research, which in turn influences reality." /TCO 12; (see also TCO, 1990)/

This strategy includes the demand for new scientific research areas with professorial chairs and Ph.D.-training; that is, research areas that are to have a direct relation to the training of those professional groups who constitute the membership of the organization (Premfors, 1981; TCO, 1989). A case in mind is provided by the nurses who have succeeded in creating an academic research area connected with their professional practice.¹⁷

"We don't think it is always to the best that the doctors control everything in health care, as is the case today. And this view may of course coincide with the interest of SHSTF /a national union for nurses/ to establish professorial chairs." /TCO 3/

Another example is the TCO's demand for academic jobs and research connected with the professional practices of personnel managers. This "scientification", as it is identified by the respondents, is, however, conditional. The respondents are critical towards a development that would make their own policy demands as a trade union wholly dependent upon scientific results and arguments, something that would be in contradiction with democratic principles.

"On the one hand, if there is evidence in favour of our policy, we will of course use that knowledge. On the other hand, we are very strong opponents towards the attitude that certain questions, certain demands that

we as a trade union have, must be supported by research results... For instance, this tendency with experts in the work environment area..., it is just legitimating that all the time someone else should decide the limits for what can be done. And that is extremely dangerous, because democracy, if we limit it to democracy at work-place level, will be stone dead if you adhere to that view." /TCO 3/

The rationale behind the utilization strategy of the TCO is that the policy of the organization should not be directed by social science, but, on the contrary, social science should be governed by the interests and policies of the organization (see also TCO, 1989). A basic conception about research and its utilization, as it is expressed by the respondents as well as in policy documents (TCO, 1990; see also Premfors, 1981), is that the relation between users and social science is a question of resource distribution. As a trade union, then, they mean that they are entitled to a greater share of social science in society.

This utilization strategy by the white-collar trade union confederation, the TCO, I call a "*compensatory interventionist*" strategy. It aims at influencing social science to work in the interest of the organization and its members - to produce social science results that are useful in union policy and in strategies of professionalization of different membership groups. It is a strategy that is consistent with a utilization pattern dominated by political - and instrumental - use of social science, and where the enlightenment type of use is rare. Research that is initiated and controlled by the user seldom has an enlightening function, whereas research aimed at problem solving or political use seem more in line with such a control strategy in relation to social science.

In accordance with the problem-solving aspect of the TCO's utilization strategy, which stresses the use-value of research, the respondents urge for more concrete development projects and give lower priority to the more academic social science research on working life. The fact that much of the university

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science mentioned by respondents belongs to the nonuse category might be consistent with such a policy, and with the idea that greater control over social science may increase its usefulness.

The problem with a utilization strategy that puts such emphasis on controlling research to enhance usefulness is that the political use of social science is dependent on its symbolic exchange-value, which is derived from its scientific legitimacy and status. Without exchange-value, the political use-value of social science results diminishes. This is partly recognized by the respondents, and the organization seems to try to solve the dilemma by a strategy that combines investments in new scientific expertise, and alliances with social science with a greater formal autonomy for the scientists.

"You also have to see to it that this research is qualifying, that the quality is high, and the status is high... There is a contradiction here. And, as I see it, you have to solve this by defining the role of the organized interests of labour market more towards structuring important areas, structuring problems that need to be researched, while the social scientists independently carry out the actual research." /TCO 12/

But the research policy of the TCO is still directed towards controlling the problem definitions so that working-life research will produce knowledge for the specific interest of the organization and its members. This is a policy that differs from the one expressed by the state, where it is not the specific interests of particular labour market organizations that should directly control the definitions of problems, but a general sector research policy. In contrast to the SAF, the TCO and its members do not control research resources of their own, which make them more dependent on, for instance, research conducted at the universities and other outside research institutes. This is one factor that might explain the strategy of direct influence and control over working-life research.

The research utilization strategy of the TCO, which I have called a "compensatory interventionist" strategy, is characterized by a utilization pattern dominated by conflict use of social science, investment in policy-relevant social science, and a "scientification" of the professional practices of its members in order to increase their status in relation to other professional groups. These investments in expertise and professionalization can be seen as one way of getting control over some areas of social science, which is perceived as an asset that now is too unevenly distributed in society.

Blue-collar Trade Union Confederation (LO): Non-interventionist Compensatory Strategy

The accounts of research utilization among the respondents belonging to the blue-collar trade union confederation, the LO, are dominated by the enlightenment and political type of use. Nearly half the instances of reported utilization cases belong in the enlightenment category, and around one third to the political.¹⁸ There was no case of direct instrumental use among the reported instances of utilization. The dominance of enlightenment and political use in the utilization pattern correspond to a high degree with use of research initiated by social scientists.¹⁹ And, contrary to what was the case among respondents from the TCO, the number of nonuse cases among these is low.

The reported utilization instances are situated almost exclusively in a context of explicit conflict or in a partisan context.²⁰ It is important here to note that these contexts, characterized by politics and conflicts, at the same time are in a state of uncertainty and change. There is uncertainty *and* conflict about the future relations between the LO and the SAF - where should negotiations over wages take place, locally or by the centralized organizations as in the past?

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There are conflicts around future relations between trade unions and employers as Swedish capital becomes less dependent on the national state. The so called "Swedish model", where employers, trade unions and the state at top level bargained around labour market issues, is in decline.

"If you look at it historically, then we have had this Swedish model: that is, this special division of responsibilities between the organized interests of the labour market and the state; on who runs what, and how negotiating systems and such things have been organized. There we have a long history, and it has been working well right until the sixties. Now the whole shit is rapidly falling apart, and there are few who believe we can return to this old way of doing things. What we need is something new... And we must find new ways of dealing with this. Because it has been so vigorous and well functioning earlier, the call for research in this area has not been very loud. But it is coming now, it *must* come now, and it will come now. Because it is always like that when we have problems. If we don't see any solutions of the problems, then we say: 'We need research, we need investigations'. /LO 2/

Changes in the overall environment, economic as well as political, have created conflicts as well as a need for trade unions like the LO to rethink their policies. The relatively extensive use of social science for enlightenment purposes may reflect this need of developing new guide-lines for future trade union policy. The combination of enlightenment and political use of social science is consistent with a trade unions interest of defending its position and strength in a time of societal change.

Like the TCO, the LO views research as an important power asset unevenly distributed in society. This corresponds to a utilization strategy that involves compensation for lack of research resources (Premfors, 1981; LO, 1989). The differences in utilization patterns in comparison with the TCO might in part be explained by the fact that the TCO is an organization that as such has not been involved in negotiating wages and other conditions for employees, as this has

been the task of the different national unions within the confederation. The TCO is an organization directed mainly towards overall trade union policy in a variety of political areas, not directly connected with the immediate employer-employee relationship. As an organization, it may not perceive the same need as the LO to redefine its role and policies; therefore, the demand for "enlightenment" knowledge is less.

The utilization strategy of the LO includes investments in alliances with social scientists in the working life area, and a build-up of social science expertise in their own organization, including the creation of an institute for economic research.

The respondents representing the LO are aware of the fact that the exchange-value of social science in political conflict situations is related to its scientific legitimacy. In their opinion, the low scientific status of working-life research, which is a result of too strict a control by the users, makes it less useful. Therefore, they argue for more autonomy for social scientists and that academic criteria be the guiding principles also in an applied social science such as working-life research. This means a drastic change in position during recent years, a result of a crisis of legitimacy for some social sciences close to trade union interests. Not all of the respondents - and not all of the trade union officials - have converted; but the main tendency is in the direction towards an awareness of the fact that to be useful in trade union politics, working-life research must have a quality stamp from the scientific community.

"The academic system is, after all, a kind of quality-test. If you try to avoid the academic in the sense that you don't want to expose yourself to the academic discussion - the academic critique - then this weakens the actual use of that project. If we from the trade union would adopt a project and start to use it, and at the same time there is strong critique from other groups of social scientists, the consequence for us, when we

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shall discuss it with our opponents, is that we are in a much weaker position." /LO 4/

The change in strategy by the LO may in part be attributed to different political conjunctures. In the ideological climate of the seventies, the interests of labour was considered legitimate as such, which also rendered "partisan" working-life research legitime. The strategy for influencing and controlling social science and its definitions of problems, according to the respondents, is now more indirect, through investments in alliances with social scientists and sectoral funding of research.

I have called the utilization strategy of the LO (with investments in legitimate social science that may produce research with high exchange-value for conflict use, as well as knowledge about a changing and uncertain environment that the organization is trying to manage and control) a "*non-interventionist compensatory*" strategy.

Blue-collar Union in the Public Sector: Combined Defence and Personnel Investment Strategy

This study of the utilization of working-life research includes respondents from five different national trade unions. Here I will present one them as a user of social science, the "blue-collar" union in the public sector, the Kommunal (Cities and Local Government Employees' Union), which mainly organizes women staff members in the health and social services. It is the largest national trade union within the LO, with about half a million members.

The utilization pattern of this organization is dominated by the political and instrumental use of social science.²¹ The utilization cases are evenly divided between research initiated by social scientists and research initiated by users.

But of the cases mentioned where research is initiated by social scientists, more than half belong to the non-use category.

The utilization context is a tough political environment where the public sector is under political attack aiming at privatization and effectivization at the same time as it is deregulated. Until recently, the public services have been governed by rules and regulations, and has consequently been characterized by a low degree of research and development.

Another problem for the members of this union is that at the work-place, for instance in the health sector, they experience pressure from college trained staff (such as registered nurses) who belong to the TCO, and, according to the respondents, try to expand their professional influence by alliances with the expanding field of nursing science at the expense of other health service employees (see also Elzinga, 1989).

"Within health care there is a very strong medically oriented knowledge tradition, where the doctors are at the top of a medical pyramid... And that goes further down to the nurses, who are directly under, who have a very strong need to assert their professional domain, both upwards and downwards. And in our opinion, our members get very much into a jam...

This nursing science that the nurses are doing is mainly research aimed at strengthening their own professional role..., that they are using as a platform for their claims that caring and caring functions are something only they shall be responsible for, try to take away the responsibility of other staff. We see this in the wards. Today there is a tremendous tension between different categories of staff within health care... Nursing science is used as a club to smash the skulls of those beneath." /Kommunal 1/

What has dramatically altered the conditions for this national union is that ideological arguments no longer suffice to defend their policy regarding the welfare state, hence the interests of its members. Ideological arguments have lost a lot of their legitimacy, all the more since the Social Democratic party, with traditionally close ties to the trade union movement, now advocates a

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"modernization" of the public sector. These problems have forced the union to invest more in research and development to defend their members' interests.

"Now when you discuss privatization and co-operatives and such things instead of managing it publicly more and more, then it is very much a question of beliefs; that you believe that it would be cheaper, that you believe that it would be better. And if we are to have a chance - in the long run, I mean - now it isn't enough with ideological arguments any more, that is not important; they don't give a damn about them, not even Social Democratic politicians. Then we must have economic facts about the economic consequences of choosing a certain form of management. We also need facts of a softer character, like how you can measure the result of certain activities depending on the form of management.

And the only thing that may be accepted and respected that we can produce is research. Considering how much is at stake right now, we, as an organization, have a greater interest of initiating different kinds of research projects of this kind." /Kommunal 1/

The new strategy is directed towards alliances with social scientists, local staff development, and changes in the work organization. One aim of these development projects that are run together with social scientists is to demonstrate that public service can be efficient, and that changes should be made within the public organizations instead of launching large-scale privatization. Another is to defend their members interests through staff development and training when public service organizations are reorganized.

This utilization strategy, which can be called a "*combined defence and personnel*" investment strategy, is consistent with a utilization pattern that combines political with instrumental use. This strategy is realized through investments in social science that can produce knowledge and legitimate arguments to be used in a context of political conflict and organizational change in the public sector.²²

In table 3 I have summarized some of the utilization characteristics of the different user organizations in this study: their utilization strategies, the aim of these strategies, the type of use that is connected with these strategies and aims, and the origin of research used - research initiated by social scientists or by users.

TABLE 3

Utilization Strategies and Utilization Pattern

<i>Organization</i>	<i>Strategy</i>	<i>Utilization aim</i>	<i>Type of use</i>	<i>Origin</i>
State	Political reg.	Conflict/Control	Pol. inter.	Scient.
SAF	Capital prog.	Expertise	Enlightenment	Scient.
TCO	Comp. interv.	Control/Expertise	Polit. instr.	User
LO	Non-int. comp.	Conflict	Enlight. pol.	Scient.
Kommunal	Defence, pers.	Conflict/Expertise	Polit. instr.	User

The *political regulation* strategy of the state is, on the one hand, aimed at using social science in political *conflicts*. This requires the full scientific legitimacy that research originating in the scientific community can supply. On the other hand, the state aims at using social science as a mean of *control* when public service and administration are deregulated.

The *capital prognostic* strategy of the Swedish Employers' Federation is an *expertise-oriented* strategy aimed at dealing with societal uncertainty and change; where social scientific knowledge is important for the ability to conceptualize a viable strategy for continued capital accumulation. The enlightenment that social science can provide is, in this context, one factor that facilitates influence over a changing environment.

The aim of the TCO's *compensatory interventionist* strategy is to support the professionalization strategies of its members who aim at being a scientifically

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based *expertise* with the aid of social science. Research resources are perceived as being too unevenly distributed in society, and the aim is to influence and *control* social science to produce results that are useful in union policy.

The *non-interventionist compensatory* strategy of the trade union confederation, the LO, is aimed at supporting social science that can promote its interests in a context of labour and capital *conflict*. Because of dramatically changed circumstances, like the demise of the "Swedish model", there is also a need for "enlightenment knowledge" that is necessary for the ability to influence what is happening in the environment. For these aims, research initiated in the scientific community is most useful; it has a higher exchange-value in conflicts, and it has a capacity to bring new insights to the user.

The *combined defence and personnel* utilization strategy of the Kommunal, the public sector trade union, is directed towards using social scientific results (because of their higher degree of legitimacy as compared to ideological arguments,) in the *conflict* concerning the future development of services in the public sector. This development is combined with the promotion of research projects that involve investments in staff development as these public sector organizations are changed - which demands new kinds of *expertise*.

When analyzing different research utilization strategies, it is possible to conclude that there exist some general aims or purposes towards which most research use are directed. These aims, or maybe "functions", I have summarized in the words conflict, control and expertise.²³

Conclusions

This study of the utilization of working-life research shows that the ways in which research is used is directly connected with the utilization context and

strategies developed by the organizations that are active in these contexts. And if social science results are not used it is here one finds the explanation, not in the possible existence of technical communication problems between social science and research users.

Another conclusion is that user initiated research and research that has its origin in the scientific community are useful for different types of use. Social science, with an academic origin, which renders it scientifically legitimate, is more useful for conflict or enlightenment purposes, while user initiated research is more useful for problem solving.

The users of working-life research are not passive receivers of research results produced by social scientists; they are not just waiting for scientifically acknowledged research that can be used for conflict, control or development of expertise to emerge. On the contrary, they are very active in promoting the kind of social science that corresponds to their organizational purposes. This is done by making alliances with social scientists and by promoting funding of the favoured type of research.

For the organized interests of the labour market - trade unions, employers' organizations and the state - working-life research and social science in general has developed into an important asset that can be used in the struggle for power over working life conditions and in the struggle between labour and capital. Hence the ambitions of all parties to gain influence and control over the direction and content of working-life research.

Notes

1. A rational-instrumental conception of organizations has been a precondition for the "problem-solving" or "engineering" model of knowledge use (Weiss 1978, 1979).

2. The empirical data were gathered in 1990. Twenty interviews were made by government representatives (ministry of labour), trade union officials and their aides and representatives from the central employers' organization about their utilization of research on working life. These respondents were either top level representatives or administrators responsible in the organizations for looking after research in the working life area.

The distribution of these respondents were as follows: Four representing the state, two the Swedish Employers' Federation, five the blue-collar trade union federation, the LO, three the white collar trade union federation, the TCO, and six representing five different national trade unions - of which four belonged national unions in the private sector and two to a national union in the public sector.

Supplementing these interviews with research users, six scientists were interviewed about their experiences of how their own as well as other research on working life was used.

Each interview was about one-and-a-half to two hours long, and tape recorded.

The small number of interviewees from each of the organizations raises questions about to what extent it is possible to assign what these respondents say about research utilization to the organization as a whole. The reason that I let the respondents answer for the whole organization, is the fact that they have been strategically chosen because they were either top level officials in the organizations or directly in charge of research and development in the field of working life.

Another reason for treating individual interview responses, even when they are small in numbers, as representing organizations has to do with the fact that in the analysis I connect statements of type of research use and contexts of utilization with (organizationally) specific utilization strategies. When there is a coherence between these units of analysis, I interpreted this as organizational traits and not just expressions of the individual respondents. These utilization strategies, as expressed in the interviews, are in most cases also corroborated by the organizations' official documents.

3. What comprises the "building sector" in this study are the organizations that are involved in planning, construction and management of housing.

4. Weiss distinguishes between instrumental, political, enlightenment, interactive and tactical types, or functions, of research use (Weiss, 1979).

5. The "two culture" hypothesis (a concept taken from C. P. Snow's book from 1959, *The Two Cultures*) was originally founded on the assumption that natural scientists, representing modern science, have a quite different world view than other academically educated people with, for instance, a humanistic education; and that this leads to ever increasing difficulties of understanding between the two groups.

Later, the expression has been used to also describe the relation of other sciences to laymen. Even for social science, the more specialized and technical it becomes, the more difficult it gets for the public to take part in the discourse. This should lead to the exclusion of the public from this area. (Baklien, 1983b; Caplan, 1979; Dunn, 1980; Knorr-Cetina, 1981; Premfors, 1979; Snow, 1959; Webber, 1983, 1986).

6. These cases of nonuse are arrived at in the same way as other types of research use are. The respondents were first asked about their knowledge of working-life research, then how they had utilized the particular research that they referred to. This means that the reported nonuse pertains to research that they were actually acquainted with.

7. In a survey study of research utilization among higher state civil servants, Rune Premfors asked the respondents about the main obstacles to research use, if it was connected to the 'research', the 'dissemination of research findings' or to 'decision making and practice'. More than half of the respondents saw factors in the utilization context as the main obstacle to research use. Obstacles in the dissemination process ranked second (about one third of the respondents). Only one tenth of the respondents considered the character of research to be the main obstacle to research use. (Premfors, 1989)

8. For another way of using value-concepts in this research area, see Machlup, 1979.

9. As it was a Social Democratic government at the time of this study, 1990, the respondents that were politicians belonged to that party.

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10. Political use 35 percent, tactical six percent and interactive 24 percent. Political and tactical use of research by state officials corresponds with average frequency by all the respondents in this study (see table 1). The total number of instances of specific types of research utilization, including nonuse, reported by state representatives was 27.

11. Twenty-four percent.

12. Sixty-one percent compared to an average of 55.

13. My use of the concept "regulation" has been inspired by the "regulation approach" within political economy, with which it has some similarities. (See for instance Andersson, 1987; Boyer, 1988; Jessop, 1989)

14. An example of an organization Elzinga (1985) calls a hybrid scientific network is where external representatives have much influence on research.

15. All reported instances of specific types of use, excluding non-use, belong in this category. A reservation should be made about the data on type of use by these respondents representing SAF, as these amount to just ten instances of use or non-use. These results are presented here as having significance (although the data is scanty) because they are consistent with the respondents accounts regarding utilization strategy.

16. One third of the reported instances of specific types of research use, non-use cases not included, belonged to the instrumental, while two thirds belonged to the political type of utilization. Reservations should be made here due to the small number of utilization instances in each category, the total number - including non-use cases being 16. Corroborating this result is the fact that the utilization strategy of the organization, as expressed by the respondents in this study as well as in their own written documents on research policy (TCO, 1989; TCO, 1990), is consistent with such a utilization pattern.

17. For the institutionalization of nursing science, see Elzinga, 1989.

18. Enlightenment use 48 percent and political use 30 percent. In total, 30 instances of specific types of utilization, including non-use cases, were reported by the respondents.

19. Where the origin of the research could be identified, 75 percent were initiated by social scientists.

20. About 95 percent of the cases. The rest were directly connected with situations of uncertainty and change.

21. Twenty-three percent instrumental use and 46 percent political use. The number of specific utilization instances - non-use cases included - amount to 18 in total.

22. Although the number of specific utilization cases is small, there are other national trade unions in this study that illustrate the connection between utilization strategy, utilization contexts, and how social science is used. One special utilization strategy, for instance, is demonstrated by the printers' union. This union has, ever since the seventies, tried to establish relations with social as well as other scientists to develop an expertise on technological development in the printing trade. Instead of just relying upon collective agreements on the work organization, this union has given priority to attempts to influence and control the development of technology and its consequences for the organization of work.

In the utilization pattern connected with this strategy and with the rapid change in the printing industry, enlightenment use is frequent, even when the research in question was user initiated. This pattern of research use is consistent with a utilization context characterized by uncertainty and change, and a utilization strategy where the union, in order to defend its members from the consequences of technological development, is trying to formulate a policy on the basis of scientific knowledge. A strategy that could be called a **union technology policy**. This strategy is described in the following manner by one respondent:

"In the seventies, new technology was flooding the newspapers. So there was, of course, much conflict where the printers didn't want to give away terminals for journalists to write on and such things. And there we have been helped, so to speak, to try and look into the future, how it may look when the new technology is fully used.

What the employers have experienced is that during the seventies and the beginning of the eighties they tried incredibly much new technology, but we worked with a work organization that was suited to the sixties. The result was that they didn't achieve the - so to speak - rationalization profits they thought they would; they didn't reach the productivity that they expected. Now, afterwards, they have realized that 'damn it all, we probably must change the work organization'. And then we have presented our proposals; and then they have thought that, well, this is probably all right; and then they have tested it and found that, wow,

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things are moving if we apply the ideas that the social scientists and we then...

If you want to secure employment, secure meaningful jobs, and manage, for instance, foreign competition, you can never do it just by applying legislation, or making agreements. It is through the organization of work and dialogue with the guys that develop the technology; and that you become superior in that." /Printer 18/

23. Thus **Conflict, Control and Expertise** (in Swedish *Konflikt, kontroll, expertis*) is the title of a monograph, the subject matter of which is the patterns of social science research use in the Swedish welfare system. (Nilsson and Sunesson, 1988)

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**Utilization Patterns and Strategies in Policy Sectors:
A Comparison Between Policy Sectors I**

Kjell Nilsson

Utilization Patterns and Strategies in Policy Sectors

The Austrian sociologist Helga Nowotny has initiated a number of studies on the utilization context of social science research. One of her basic ideas (Nowotny, 1982) is that research results are utilized in specific contexts that are influenced by political conjunctures. Nowotny sees conflicts as the most important factor for explaining the use of social science. Those "problems" that social science are studying, are in fact conflicts that are redefined, "scientificated" into research problems, aimed at giving an interested party scientific backing of its policy. The demand for applied social science, then, is not so much directed towards solving problems as towards creating political arguments to promote and legitimize policy. Nowotny's hypothesis is that the use of research becomes more frequent and extensive in conflict situations, especially when characterized by social mobilization and clearly articulated political stand-points.

Societal conflicts also tend to create controversy within the scientific community. Sociologists of science in the United States have, for instance, studied scientific controversies around questions like nuclear power, fluoridation of drinking water, DNA research, and environment (Nelkin, 1979). Thomas Brante (1986), who has made a study of scientific controversy between nuclear scientists on the nuclear power issue, concludes from these studies that "the greater the socio-political consequences a technical question entails, the greater the chances are that the experts will polarize along predominant political lines".¹

Aant Elzinga (1986)² has distinguished three types of "*operational modes*" of applied science which can be seen as research strategies formulated as responses to the pressure that the utilization context and strong user organizations exert.

Utilization Patterns and Strategies

The first, which he calls an "*adaptive and responsive*" mode, is characterized by close relations to central policy makers where the scientists are responsive to these policy makers' main interests and definitions of problems. There is a strong tendency in this mode to identify with the goals of the users, whose perspectives influence the direction as well as the content of research. The organizational context of this mode is connected with groups and commissions directed at solving specific problems.

A second mode is called a "*reflective and disciplinary*" mode. In this mode social scientists try to keep a relative distance in relation to the interests and the influences on problem definitions by the organs of power. In this mode, autonomy of the scientific community and a more reflective and penetrating research are pronounced, and status and legitimacy are sought in relation to academic disciplines.

The third mode of operation Elzinga calls a "*participatory and action oriented*" mode. This is a mode where scientists actively orientate themselves towards problem definitions of broader social movements, rather than towards the definitions of central political authorities.

Janet Weiss' (1979) has suggested that research use and the influence of social science in policy sectors should be investigated by looking at how they are organized as utilization contexts, so that it is possible to understand how research is initiated and used. She presents five aspects of sectoral policy making that are important for the utilization of social science results: 1/ the degree of centralization in policy-making; 2/ the characteristics of major policymakers, especially their professional training; 3/ the institutional history and procedures in linking research and policy; 4/ the nature of the decisions in the sector; 5/ the availability of alternative sources of information and ideas with which social science must compete.

When studying the utilization of social science in three different policy sectors - the social service sector, the building sector³, and the working life sector, we found that different utilization patterns were directly related to the utilization context and connected with specific strategies of control, power and conflict (Nilsson and Sunesson, 1988; Sunesson and Nilsson, 1988; Ericson and Johansson, 1990; Nilsson and Sunesson, 1991a; Nilsson, 1991). Research utilization strategies, and the ways social science was used, varied within as well as between these policy sectors. But the characteristics of the different policy sectors, how they are organized and how power and control are distributed and exercised, play a fundamental role in how the organizations appearing in the field develop into knowledge users, with specific utilization patterns and strategies.

In this and a following article I will compare the utilization of applied social science in these three policy sectors, using Janet Weiss' categories as a starting point. The different sectors are also analyzed as different conflict fields with specific characteristics. The utilization patterns - types of use and origin of the research used - and strategies will be discussed in relation to sectoral differences. Finally, the modes of operation of applied social science in the three policy fields - social work, "building", and working life - will be discussed, thereby comparing what makes social science research useful, or non-useful, in the different policy sectors, and if different control and utilization strategies are more or less discursively productive.

The different strategies and patterns of research utilization in the three policy sectors is the topic of this first article. In the following one (Nilsson, 1991c), I will continue with an analysis of how the sectoral differences and the organization of research relate to the use of social science.

Sectoral Research in Sweden

By "sectoral research policy" we understand a national policy to acknowledge and meet knowledge demands within specified policy areas. Before the second world war, there was hardly any sectoral research policy in Sweden. During the war the Swedish state began to organize certain technological research within such a framework, for instance by the creation of a state committee for building research. The forties was mainly characterized by an expansion of research councils that was established within the different science areas.

In the beginning of the 1960's, the ideas of a centrally governed research policy that could meet research demands from a variety of fields in society took root. A rational philosophy of governance aimed at scientization of all sectors of society should be realized in practice. (Elzinga, 1982, 1985; Wittrock, 1984, 1985; Premfors, 1986.)

In the building sector, a sectoral research organization with funding and governing bodies developed early. As mentioned above, a state committee for such research was formed already during the war. In 1959, financing and execution of research were separated, with a building research council as the funding agency and the research institute the National Swedish Institute for Building Research as the conductor of research (Hatje, 1978; Stevrin, 1978). Research on working life in Sweden as an institutionalized activity dates back to the end of the 1940's. The Swedish Employers' Federation in 1952 founded the Swedish Council for Personnel Administration, which was meant to be a Swedish equivalent to the English Tavistock Institute of Human Relations. In 1972 the state founded the Work Environment Fund, a body that is the main funding agency for research and development in the working life area today.

The Swedish Center for Working Life, established in 1976 in connection with the law on co-determination at work (MBL), was to carry out research on the effects of MBL and on the conditions in general for a democratization of working life (Berner, 1986; Björkman and Lundqvist, 1981; Fridjonsdottir, 1987; Gunnarsson, 1980)

A sectoral funding agency that financed social research was to come later. The Commission for Social Research (DSF) was founded within the Ministry for Social Affairs in 1974. DSF has recently been transformed into a research council for social research, with a majority of social scientists at the board. "Social work" as an institutionalized research area as well as a subject in the education of social workers, has not existed more than 15 years in Sweden. Today it is established as an academic research area in the social science faculties at the universities. In the case of "social work", the development of sectoral research together with the professionalization ambitions of the social workers, has resulted in the institutionalization of this type of research at the universities, which distinguishes it from working life research and social science research in building and housing sector (Brante, 1987; Nilsson and Sunesson, 1988).

Utilization Patterns in the Three Policy Sectors⁴

I will start the presentation of the utilization of research in the three policy sectors - the building sector (BS), the social service sector (SS) and the working life sector (WLS) - by comparing their different patterns of research utilization. Table 1 shows the distribution of the "types of use" or "functions" that research has for the user. "N" is the number of utilization instances where a specific type of use is mentioned.⁵ The categories used are derived from Weiss (1979):

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- * Instrumental use: Research used for problem solving.
- * Political/conflict use: Research used as an argument or a weapon in a more or less explicit political conflict.
- * Enlightenment: Research leading users to conceptual reorientation or change in thought patterns.
- * Interactive use: Research interacting with other forms of information to build a knowledge background for policy formation.
- * Tactical use: Research promoting Hawthorne effects or being part of "avoid and delay" tactics.

TABLE 1

Functions of Research for the User

<i>Function</i>	<i>BS % (N=76)</i>	<i>SS % (N=295)</i>	<i>WLS % (N=102)</i>
Instrumental	27	20	15
Political/conflict	24	25	32
Enlightenment	24	40	33
Interactive	20	10	10
Tactical	5	5	10
Total	100	100	100

In the social service and working life sectors, the use of social science research is extensive, while it is less used in the building sector where technical knowledge dominates. This was especially clear with respondents representing construction companies who did not use any social science research at all. (Ericson, Johansson, 1990). What table 1 shows is the distribution on types of use of the social science actually used.

The utilization pattern in the social service sector is characterized by a higher degree of enlightenment use than the others, while political use is more frequent in the working life sector.⁶ Within the social service sector, conflict use was more frequent than average among agency directors. The building sector differs from the other two by the relatively high degree of instrumental use and the low degree of enlightenment use. In this sector clear conflict use of social science is limited to two categories of respondents: politicians and representatives of the tenants association, and the real estate owners' association.

A salient result from all three studies was the connection between the context of the origin of the research and the way it was used. Instrumental use is much more frequent when it comes to internally produced or user initiated research, while research that has an enlightenment function normally has its origin outside the user organization. The high degree of instrumental use in the building sector is due to frequent references to local development projects by these respondents. Later in this article, in connection with the sector characteristics, I will discuss the low frequency of enlightenment and political⁷ use in this sector. If we look at the origin of research that is used in the different sectors, table 2, there is a clear correlation between the utilization patterns, as shown in table 1, and the place where research originates - if it is internally or externally initiated, by users or by external social scientists.

The high frequency of instrumental use and low degree of enlightenment use in the building sector correspond to a high degree of internally originated research and a relatively low degree of use of research originating from external social scientists. For the social and working life sector, I have differentiated between different user organizations. The organizations that mainly utilize externally produced research - the state, the Swedish Employers' Federation

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(SAF) and the trade union confederation, the LO - are also characterized by a utilization pattern dominated by political and/or enlightenment use.

TABLE 2

	Context of Origin		
	External	Internal	
<i>Building Sector</i>	38	62	(N=132)
<i>Social serv. Sect.</i>	49	51	(N=330)
- state	87	13	(N=39)
- local pol.	59	41	(N=63)
<i>Work. Life Sector</i>	55	45	(N=98)
- state	61	39	(N=18)
- SAF	100	0	(N=7)
- TCO ⁸	75	25	(N=8)
- LO	75	25	(N=20)
- Kommunal ⁹	55	45	(N=11)
- local union	12	88	(N=17)

Utilization Strategies and Utilization Patterns

Three overall purposes, or utilization aims, can be distinguished as the main reasons for investing in social science research for policy formation. Some authors see one or two of them, some discuss all three (Wildawsky, 1979; Sarfatti Larson, 1990; Elzinga, 1990; Lindblom, 1986; Nilsson and Sunesson, 1988). The first is aimed at managing organizational and political *conflicts* and is directly oriented towards political use of research. A second utilization aim is directed towards governance and *control*. The third is to create and define an

expertise, and aim increased knowledge within the organization and among staff through professionalization and training, while also defining what is acceptable and not acceptable knowledge in the organization.¹⁰ Although it is possible to separate these general aims analytically, they may very well be related in practice. The purpose of professionalization is often, more or less consciously, connected with a conflict strategy.

Within the framework of these general research utilization aims I will discuss the specific strategies that are represented in the different policy sectors, and how they are related to the ways in which social science is used.

Most of the organizations in the social service sector and all in the working life sector had actively developed research utilization strategies in order to strengthen their power to handle conflicts, increase the capacity to govern and control organizations and environments, and build up expertise. This in contrast to the building sector, where the use of social science research were more limited. These utilization strategies, which are situated in sector specific environments, determined the ways these organizations used social science results and the relations between the user organizations and social science.

The Building Sector

The most active research users in the building sector were the politicians, the city administrators, the consultants and respondents representing publicly owned housing. They had personal ties to social scientists and had sometimes developed relations with social science departments or institutes at the university. The other categories of respondents were, at most, passive receivers of research information.

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Apart from a general problem-solving attitude, the overall picture regarding the building sector at the local and regional level, which were the focus of this study, is the absence of elaborated research utilization strategies in contrast to the organizations in the other two sectors. The fact that activities and conflicts are regulated and institutionalized in specific ways in the building sector makes the importance of research use as a means of power low.

The Social Service Sector

In the social service sector we distinguished four distinct types of research utilization strategies.¹¹ Two of these were typical conflict strategies, the third was more aimed at creating and strengthening of expertise, and the fourth was a control strategy directed at defining expertise.

One of the conflict strategies represented by four agencies we call a "*social-policy*" strategy. These agencies invested in social science research in order to promote certain social policies, both locally and nationally. Knowledge as a political means to win conflicts and support a standpoint in welfare politics was emphasized. The utilization pattern is characterized by a high frequency of political as well as enlightenment use. Much of the research used was of academic origin, which is consistent with a conflict strategy as the use-value of research is dependent on the exchange-value connected with scientific legitimacy. Using research as a means in conflicts often involves creative, interpretive and conceptualizing elements, a fact that can explain the relatively high frequency of enlightenment use among the conflict agencies.

Another conflict strategy was found in one of the agencies, which may make it difficult to generalize. But this agency demonstrates features that has led to the development of a specific type of utilization strategy, a strategy we call a

"*short term political*" strategy. Research was commissioned to support and enhance short term campaigns and crusades. Agencies in this category are dominated by local politicians, not by civil servants. In this type of utilization context, the use of research, often local development projects, is dependent on the influence of these local politicians. Professionalization and bureaucratic control are less important, and research is used as arguments in favour of a specific policy. The dominance of local research projects, initiated mainly by ideological reasons, makes enlightenment use rare. Social scientists that are involved in these projects are mainly used for problem solving, apart from legitimizing the actual policy with their academic credentials.

Two agencies represented what we have characterized as a "*personnel investment*" strategy. This category is similar to the "social-policy" strategy but is more intent on organization and staff development and education. Investment in research is more focused on professionalization than on immediate conflict use, as in the social policy agencies. The use of social science is less centralized compared to agencies representing an outright conflict strategy, where research often is mobilized in relation to immediate threats from the environment. Another characteristic in the utilization pattern is the dominance of local research material. The use of academic research is almost exclusively limited to cases of cooperation with external social scientists around local research projects.

Some agencies dominated by administrators had developed a professionalization and utilization strategy, where the content of social policy tended to disappear in favour of an emphasis on bureaucratic control. In two of the studied welfare agencies knowledge was mainly used as a means for maintaining administrative control. We have called this strategy a "*bureaucratic control*" strategy. The content of research was not an important issue in these agencies,

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and its possibilities to give new insights seemed to be of little importance, or consequence. Instead, a need for control over both research and the organization dominated the perspective, and investments in research were only considered as a means to secure organizational stability. This strategy is characterized by a low degree of research use and efforts to hold back local research initiatives. Research was seldom used for problem-solving, and had very low use-value and no exchange-value. (For another way of using value-concepts in the area of research utilization, see Machlup, 1979)

The "bureaucratic control" strategy tend to protect the organization - buffer - from unwelcome knowledge that is not in line with bureaucratic procedures (Nilsson and Sunesson, 1991a, 1991b)¹². This is in contrast to organizations with a conflict strategy, where research use is aimed at gaining control over the surrounding environment, rather than over the own internal organization. The "social-policy", the "short term political" as well as the "personnel investment" agencies may be described as cadre-organizations (Rothstein, 1986; Therborn, 1978), where commitment to the policy issues and specific welfare principles is sometimes a necessary condition for certain tasks. This means, in contrast to more bureaucratically controlled agencies, that staff and organization is not controllable just by administrative means. Recruitment and conceptualization are more important than administrative control.

The Working Life Sector

The organizations in the study of research use in the working life sector were all active utilizers of social science research. I will here briefly describe some of the utilization patterns and strategies found in this sector. These are represented by the state (ministry of labour), the Swedish Employers' Federation

(SAF), the white-collar trade union confederation (TCO), the blue-collar trade union confederation (LO), and the national blue-collar union within the public sector (Kommunal).

The utilization strategy of the state is, on the one hand, aimed at using social science in political conflicts. This requires the full scientific legitimacy that research originating in the scientific community can supply. On the other hand, the state aims at using social science as a mean of control when public service and administration are deregulated. I have called this strategy - characterized by political reform, reproduction and management - a **"political regulation strategy**. The utilization pattern is dominated by political use and interactive use.

The utilization pattern demonstrated by the respondents belonging to the Swedish Employers' Federation (SAF) is dominated by enlightenment use. This corresponds to a utilization strategy aimed at dealing with societal uncertainty and change, where social scientific knowledge is important for the ability to conceptualize a viable strategy for continued capital accumulation. The enlightenment that social science can provide is, in this context, one factor that builds up knowledge and expertise to handle a changing environment. I have called this utilization strategy a *"capital prognostic"* strategy.

The utilization strategy pertaining to the white-collar trade union confederation, the TCO, I call a *"compensatory interventionist"* strategy. Research resources are perceived as being too unevenly distributed in society, and the aim is to influence social science to produce results that are useful in union policy and in the strategies of professionalization of different membership groups. This strategy is characterized by a utilization pattern dominated by political use of social science, investment in policy-relevant social science, and a "scientification" of the professional practice of its members in order to increase their status

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in relation to other professional groups. The enlightenment type of use is rare in this utilization strategy.

The utilization strategy of the blue-collar trade union confederation, the LO, is aimed at supporting social science that can promote its interests in a context of labour and capital conflict. Because of dramatically changed circumstances, like the demise of the "Swedish model", there is also a need for "enlightenment knowledge" that is necessary for the ability to influence and have some kind of control over what is happening in the environment. For both these aims, research initiated in the scientific community is most useful; it has a higher exchange-value in conflicts, and it has a capacity to bring new insights to the user. Like TCO the LO wants working-life research to compensate for the greater research resources controlled by the employers. The LO are less prone, though, to demand direct control over this type of research. I have called LO's utilization strategy a "*non-interventionist compensatory*" strategy.

The utilization pattern of the public sector trade union "Kommunal" (Cities and Local Government Employees' Union) is dominated by political and instrumental use of social science. The utilization strategy of Kommunal is directed towards using social scientific results because of their higher degree of legitimacy as compared to ideological arguments in the conflict concerning the future development of services in the public sector. This development is combined with the promotion of research projects that involve investments in staff development as public sector organizations are changed, which demands new kinds of expertise. This is a strategy I have called a "*combined defence and personnel investment*" strategy.

In table 3 I have summarized some of the different utilization strategies, with their connected aims and utilization patterns.

TABLE 3

Utilization strategies and utilization patterns

<u>Strategy</u>	<u>Utilization aim</u>	<u>Type of use</u>
<i>Building Sector</i>	Problem-solving	Instrumental
<i>Social Service Sector</i>		
Social-policy	Conflict	Political, enlight.
Short term political	Conflict	Political, instrum.
Personnel	Expertise	Instrumental
Bureaucratic control	Expertise/Control	Nonuse
<i>Working Life Sector</i>		
Political regulatio	Conflict/Control	Political, interact.
Capital prognostic	Expertise	Enlightenment
Compensatory interv.	Control/Expertise	Political, instrum.
Non-intervent. comp.	Conflict	Enlight, political
Defence, personnel	Conflict/Expertise	Political, instrum.

The general aims of research utilization noted in table 3 - *conflict, control and expertise* - are, of course, not always the same as to concrete content although they are labelled in the same category. Research use in conflicts in the "social-policy" agencies differ from the "short term political". In the former case the investment in research is aimed at furthering general social policy principles, in the latter to support local political campaigns.

The conflict strategies of the TCO, the LO, and the national union the Kommunal, belong to the same category as they are directed towards, more or less the same environment of opposing interests in the labour market. A factor that may explain the absence of a conflict strategy, and political use of research

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by the SAF, is the fact that the employers are in power in the working life area, whereas the trade unions are trying to change these relations.

The different control strategies vary in relation to the object they aim to control. The "bureaucratic control" strategy in the social service sector and the "political regulation" strategy of the state in the working life area are aimed at control over their own organizations, while the control aspect of the strategy of the TCO is oriented towards research and knowledge creation.

In the case of the TCO and the Kommunal, the strategies aiming at defining expertise are combined with a conflict strategy. In both cases the purpose of professionalization is to strengthen the position in relation to conflicting interests. In the "bureaucratic control" strategy, the definition of expertise is related to the aim of maintaining control over the organization and protecting it against threats and instabilities in the environment.

Conclusion

Investment in social science as a power resource is connected with certain general aims of policymaking - managing organizational and political conflicts, governance and control, and the creation and definition of expertise. In this article I have discussed how different knowledge policies - utilization strategies - determine the ways in which organizations use social science research. These strategies varied within as well as between the three policy sectors.

Specific utilization strategies not only determined how research was used; they also favoured certain kinds of research. Organizations characterized by a conflict strategy generally favoured academic research because of its higher exchange-value in conflicts, due to its higher scientific legitimacy; while organizations

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with a problem-solving attitude rather used internally initiated or produced research.

The significance of policy sector characteristics for differences in research use between sectors and their interaction with the organization of research will be discussed in a following article.

Notes

1. Brante, 1989:287.
2. My interpretation of Elzinga is inspired by Fridlitzius, 1990.
3. What comprises the "building sector" in this study are the organizations that are involved in planning, construction and management of housing.
4. The study on the utilization of social research in Swedish city and municipal welfare departments was conducted in 1984 and 1985 in 15 cities and municipalities, among which were the three largest cities of Sweden. Seventy-seven social workers, agency directors, and local politicians were interviewed about the utilization of research in the agencies. A number of politicians and decision makers on the central, national level were also interviewed. Supplementing these interviews with research users, some social scientists doing research in this area were interviewed, making the number of respondents 91. This study is fully reported in Nilsson and Sunesson, 1988 and partly in Sunesson and Nilsson, 1988; Sunesson, Nilsson, Ericsson and Johansson, 1989; Nilsson and Sunesson, 1991a; Nilsson and Sunesson, 1991b. The research was made possible by a research grant from the Swedish Commission for Social Research, DSF 1983:190-1.

The study of the building sector was conducted in 1986 and 1987 by Birgitta Ericson and Britt-Marie Johansson. Their study of the utilization of social science research was concentrated on different organizations in this sector in the city of Malmö. They interviewed in all 29 persons connected with this policy sector. These respondents were four city politicians (Building and Real Estate Board) and 10 administrators (Real Estate and City Building Board) responsible for this area of policy, two state representatives at the regional level (State Board of Housing), six representing building-contractors real estate developers, two building consultants, three representing construction companies, and two representing the real estate owners' association and the tenants association. This study is fully reported in Ericson and Johansson, 1990. The research was supported by a Swedish building research council grant, 850948-2.

The empirical data in the study of the working life sector were gathered in 1990. Twenty interviews were made by government representatives (ministry of labour), trade union officials and their aides and representatives from the central employers' organization about their utilization of working-life research. These respondents were either top level representatives or persons responsible in the

organizations for looking after research in the working life area. The distribution of these respondents were as follows: four representing the state, two The Swedish Employers Federation, five the blue-collar trade union confederation (LO), three the white collar trade union confederation (TCO), and six representing five different national trade unions - of which four belonged to unions in the private sector and two to a public sector union. This study has been reported in Nilsson, 1991 and partly in Nilsson and Sunesson, 1991b.

5. The respondents were first asked about their knowledge of research in the area, and then how they had utilized the particular research that they referred to.

6. When comparing research utilization between sectors with figures like the ones in table 1 one should bear in mind that the characteristics of the respondents are different in the three policy sectors. The studied organizations as well as the interviewees are, for instance, situated at different levels within the organization and the policy sector. Much of these differences are connected with the fact that the sectors are differently organized and the kind of tasks/activities the organizations in these policy sectors perform.

In the social service sector the relevant activities, and much of the research utilization, takes place in local welfare agencies. The structure of the working life sector is different, with employers' and trade union organizations at different levels, and where much of the working-life research is related to activities of the central, national organizations. The task of the building sector, to construct housing, is performed locally at municipal level - involving both political bodies and private enterprises, partly governed by funding and regulation at the central level.

As these differences have governed the selection of respondents one would imagine that it is difficult to compare the relative degree of research use between sectors. My argument is that these sector differences are one of the principal factors behind the different utilization patterns. It is therefore relevant to make such a comparison of type of research use between the studied sectors.

For the different categories of respondents see note 4.

7. Although the relative frequency of political use is similar to the social service sector, this type of use was, as mentioned above, limited to certain user categories.

8. Here it must be noted that most of the externally initiated research reported by representatives of the TCO belong in the "non-use" category. These cases of non-use are arrived at in the same way as other types of research use (see note

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4). This means that the reported non-use pertains to research that the respondents were actually acquainted with.

9. A blue-collar national trade union.

10. Thus **Conflict, control and expertise** (In Swedish *Konflikt, kontroll, expertis*) is the title of a monograph on the pattern of social science use in Swedish welfare agencies (Nilsson and Sunesson, 1988)

11. Welfare agencies are not homogenous "actors", but often very heterogenous when it comes to research and knowledge use. What is characterized as utilization strategies of the agencies are in fact the strategies of the managers.

12. For the concept of buffering see also Meyer, 1983; Meyer, Scott and Deal, 1983; Thompson, 1967.

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**Utilization Strategies and Policy Sector Contexts:
A Comparison Between Policy Sectors II**

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Utilization Strategies and Policy Sector Contexts

In this second article on social science use in the building, social service and working life sectors in Sweden I will discuss how differences in the structure of these policy sectors affect utilization, and how the organization of research relate to policy-making. Those aspects of policy sectors that Janet Weiss (1979) identified as important to explain research use is my starting-point.

- * The degree of centralization in policy-making.
- * The education and professional background of the policymakers.
- * The institutional history and procedures in linking research and policy.
- * The nature of decisions in the policy sector.
- * The availability of alternative sources of information.

According to Weiss a centralized system of policy-making is less likely to utilize research knowledge for enlightenment purposes. She argues that definitions of problems and policy in heavily centralized sectors tend to be formulated within the sector itself, and that knowledge is acquired mainly from internal sources. At the same time, centralized control makes it more likely that policies decided at the top are implemented in the sector as a whole. Therefore, centralization may facilitate instrumental use of social science, according to a social engineering model.

Enlightenment use is more likely to occur in a decentralized sector, according to Weiss. Central policymakers in decentralized sectors have a greater interest in commissioning social science research to acquire knowledge about what is going on at the local level when they cannot rely on internal information channels. Local policymakers in a decentralized sector may, on the other hand,

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favour political use of social science in order to further their interests in relation to other local agencies and the centre.

The education and the professional background of the policymakers seem to be a relevant variable in connection with the degree of use of social science in a policy sector. It is feasible that policymakers trained in the social sciences themselves are more prone to use social science research. Policy sectors that are dominated by some kind of acknowledged professional expertise are likely to be more resistant to outside social science knowledge, compared to policy sectors without a clearly defined expertise. The use of social science in sectors with "strong" professions, like medicine and law, tends, according to Janet Weiss, to be limited to a narrow social engineering function, where the users are the ones that define and specify the problems to be investigated.

The third factor affecting the use of social science, discussed by Janet Weiss, is the organizational characteristics of policy institutions, their institutional history and procedures in linking research and policy. The first aspect concerns previous experience of research use and the historical relation between social science and the organizations in a policy sector. Institutional procedures, the second aspect discussed under this heading, has to do with the extent of formalized procedures for collecting and evaluating information and evidence, where explicit procedures decrease the use of social science knowledge.

The fourth variable, mentioned by Janet Weiss, that may influence the extent and the type of use of social science in a policy sector, is the nature of decisions in that sector. The notion of "decisions" is not here used in a rationalist sense, implying decisions that occur at a specific instance where choices or decisions are "taken". But even if no visible decisions are "taken", or explicit choices made, policy is arrived at. The character of these policy decisions may vary between different policy sectors. Weiss discusses two variations in the nature of

decisions: the degree of controversy and the "technical complexity". In controversial areas political and conceptual, use of social science is more likely to occur. "Technical complexity", as I understand it, is connected with the requirements of expertise in decision-making, an expertise that is partly defined by the character of the decisions, which in turn affects the possible influence of social science.

The fifth aspect affecting the degree and type of research use discussed by Weiss, is the use of alternative sources of information, that is, other than research. Social science research is, of course, always just one source of information for policymakers. But the character of other sources may influence the extent of research use.

Although she will acknowledge that there are other factors of policy sector formation that determine the degree of use of social science, and that the five dimensions interact with each other, Janet Weiss' treatment of the dimensions as separate is questionable. As they are defined they do not constitute discrete variables. Instead they blend into each other in a way that confuses the analysis. The elements that are defined as "institutional procedures", for instance, are also found in the "technical complexity" aspect of the "nature of decisions", the "alternative sources of information" factor, as well as in the degree of centralization. In my analysis, what Weiss discusses in relation to institutional procedures will consequently belong to either the centralization factor, the one that has to do with the nature of decisions, or alternative information.

Weiss does not discuss the relative importance of the different factors, or how they relate to each other. I would argue that although each factor may have some independent influence on social science use, the crucial factors are the "degree of centralization" and the "nature of decisions" in a policy sector. These to a large extent determine the content the other factors. The "nature of

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decisions", for instance, often define what kind of expertise that is required in the area, hence the professional background and education of the policymakers. A reason for treating policymaker characteristics as a separate factor is the fact that different sectors vary in the extent in which they define expertise and demand specific professional training, while the concrete background of professionals may also vary even within highly professionalized sectors as well as over time. The historical relation between policymakers in a sector and social science and the availability of alternative sources of information, other than social science, is also to a great degree influenced by the degree of centralization and the nature of decisions. To a large degree, these two factors determine what is relevant knowledge, thus the relation to social science research and other sources of information. At the same time, the existence, character, and experience of these different knowledge sources may affect the actual use of social science.

Accordingly, I have chosen to redefine and use the factors "degree of centralization" and "nature of decisions", but somewhat differently from the way Janet Weiss defines them. Weiss defines a "centralized" policy sector as governed and controlled by a central authority. Such a definition would not capture the institutionalized power relations and practices that influence the utilization of social science research in the building, social service or working life sectors in Sweden. Her definition also puts too much weight on the formal aspects of power and control in a policy sector. A sector with a formally centralized authority may very well be characterized by different policies, procedures and conflicts among organizations and agencies than sectors with less formal control structures.

Therefore, I have replaced Weiss's concept of centralization with "institutionalization" as a first crucial factor for explaining social science use in

the different policy sectors. A high degree of institutionalization is characterized by institutionalized procedures and practices, agreements between organizations, lack of competing policies, and a low level of conflict within the policy sector.

For this reason I have not, as Weiss, treated the degree of conflict around policy issues as an aspect of the "nature of decisions", but redefined this factor in my analysis. The relevant aspect of the "nature of decisions" will be the way these define expertise - and hence knowledge needs - in the different policy sectors. The nature of decisions and the definition of expertise are to a large extent determined by the character of tasks that are performed. Therefore, this factor will be defined as the degree of "technical definition of expertise".

These redefinitions of Weiss's concepts of "centralization" and "nature of decisions" is in line with the ideas in organization analysis about "loose coupling" between "technical" task activity and the organization as institutionally defined (March and Olsen, 1976; Meyer, 1983; Meyer and Rowan, 1977; Meyer, Scott and Deal, 1983; Sunesson, 1985; Thompson, 1967; Weick, 1976). The difference is that I have translated these concepts for application in the analysis of policy sectors instead of organizations. This way of developing Janet Weiss's ideas and concepts to explain social science use with the traits of different policy sectors, makes it possible, I will argue, to explain much of the differences in the use of social science research in the building, social service and working life sectors.

The factors that will be discussed in connection with these policy sectors then are:

- * The degree of institutionalization in policy-making.
- * The technical definition of expertise.
- * The education and professional background of the policymakers.
- * The historical relation between policy-making and social science.

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* The use of alternative sources of information with which social science must compete.

Degree of Institutionalization

The building sector may be described as a sector with a high degree of institutionalization. Although not formally governed or regulated by any central authority involving a large variety organizations and interests (public and private, political and commercial) in the process of planning, financing and construction of housing, the area is characterized by more or less fixed procedures, practices and relations between these different parties. This institutionalization revolves around the core technical activity of construction. In this sense, the core task activity to a large degree determines institutional arrangements.

As a consequence, overall utilization of social science research is low, instrumental use proportionally higher, and enlightenment use considerably lower compared to the other two sectors. Even conflict use of social science research is limited (see Nilsson 1991). It is also obvious that the building sector has been a less controversial arena than the other two policy sectors. A relatively low degree of political use of social science in this sector is consistent with this fact.

The management of conflicts has been institutionalized to such an extent that there is no need for use of social science as arguments in policy formation. It is only in areas where established solution are not at hand that research comes into consideration as a political means. For example: in local development projects, where the organized interests in the building sector are facing situations

in which their respective tasks are not defined beforehand. (Ericson and Johansson, 1990; Benner, 1992)

Currently the building sector, as other policy areas in Sweden, is facing a development of deregulation concerning *formal* state rules and regulations, but the institutional arrangements governed by the core technical activity of construction may not be affected by this development, hence neither the utilization of social science.

In comparison with the building sector, the social service sector in Sweden is a less institutionalized policy sector, as I define this concept, with competing policies and a high level of controversy around policy issues. At the same time, the work of individual welfare agencies takes place within organizational unity, contrary to the case in the building sector, where the task to plan, construct and manage housing is divided among a number of organizations. This combination of homogenous local organizations and conflicting policies within the sector as a whole, promotes investments in conflict use of social science that may strengthen arguments for certain policies.

The structure of the social service sector seems to correspond more or less to the kind of "decentralized" policy sector Janet Weiss defines as susceptible to conceptual research use. Compared to the other two policy sectors, this is also the case. Forty percent of the utilization instances that belong to a specific type were enlightenment use. In the working life sector, the corresponding figure was 33 percent, and in the building and planning sector 24 percent. The predicted high degree of political use of social science research by local agencies is less obvious in the empirical data. Political use is, for instance, more common in the working life sector, if one looks at the sector as a whole (Nilsson, 1991).

But there are great differences in utilization patterns within the welfare sector. The agency directors are more extensive conflict users than the average, and the

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various utilization strategies make use of social science in different ways. The agencies with a "bureaucratic control" strategy score low on political use as well as on other types of research use. This is also the case with the agencies characterized by a "personnel investment" strategy, while the utilization strategies of the "social-policy" and the "short term political" agencies are directly designed for conflict use of social science (Nilsson and Sunesson, 1988 and 1991).

The variations in utilization strategies in the social service sector may be explained by the fact that neither the institutional arrangements nor the core task activity are uncontested. If one is to characterize this sector according to these dimensions compared to the building and working life sectors, it holds a middle position with medium influence of both task activity and institutional demands in defining knowledge needs. In the building sector the technical task activity dominates over the institutional factors, and in the working life area the institutional dimension is the most determining factor for the use of social science research.

The relations between labour and capital are mainly regulated by the labour market, the state - through labour market policy and labour laws - and collective agreements between trade unions and employers. At the same time, the working life sector is internally divided in sub-sectors, for instance the private and public sector, which make it difficult to treat this policy sector as a homogenous entity. In what sense, then, can one analyze the degree of institutionalization of the working life sector?

I think it is conceivable to discuss the question of institutionalization in this sector by looking at the historical development in different areas. For instance, the development of collective bargaining and agreements between trade unions and employers' organizations, the development of corporatist structures

involving trade unions, employers, and the state, and the development within the public sector. It is in this light that the utilization patterns and strategies of social science research in the working life sector may be understood. One way of looking at the question of institutionalization is from the stand-point of social science, by examining to what extent there exists a homogenous centre commissioning and initiating working life research.

This century has witnessed a continuous centralization of the relations between trade union and the employers' organizations, with increasing pace after the Social Democrats took over the government in the 1930's. The agreement between the LO and the SAF in Saltsjöbaden 1938, more or less coerced by the state, stands as the symbol for the so called "Swedish model" of industrial relations (Johansson, 1989; Söderpalm, 1980). The development of centralized bargaining between the LO and the SAF is paralleled by a centralization within respective organizations. Negotiations and agreements between trade unions and employers moved from the local to the national union level, and then to the confederational level in the post-war years.

At the same time, corporate structures were created, which meant, for instance, that representatives of the trade unions and employers took seats at the boards in various state bodies connected with the labour market sector. Centralized agreements, corporate governance and industrial peace characterized the Swedish labour market in the post war years until the end of the 1960's. This was the period when the working life area was characterized by a high degree of institutionalization.

During the 1950's and 1960's, social scientists in the working life area can be said to have met a relatively homogenous "user" of their research. Most of the working life research was commissioned by the employers and their organizations, aiming at promoting the productivity of labour. The trade unions

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expressed no interest of their own in relation to social science. (Berner, 1986; Fridjonsdottir, 1987). The research utilization strategy of the employers may be defined as a classic "social engineering" model of research utilization.

One component of the "Swedish model" for peaceful relations between trade unions and employers disappeared with 1960's: the industrial peace that had characterized the Swedish labour market the previous decades. A strike-wave from below, (also directed towards the top of the trade union movement,) starting in 1969 in the mines in the north of Sweden, had a fundamental impact on labour market relations as well as on working life research. During this period the interest of the trade unions in influencing social science was growing (Fridjonsdottir, 1987).

The rift in labour market relations and the emergence of the trade unions as research users, both at central and local level, may be considered as a decreased institutionalization of the working life sector. This development had profound effects on the creation and use of social science. Conflict use on part of the trade unions, and non-use on part of the employers, might well describe the utilization of working life research in the seventies.

The result of the working-life reforms in the seventies, represented by the law on co-determination and wage-earners funds, and the working life research connected with them was a disappointment to the trade unions. The employers' resistance to any fundamental change, together with the economic crisis, stifled the ambitions of the unions. The agreements between employers and trade unions that was signed in the beginning of the 1980's regarding co-determination at the work-place stressed productivity and working conditions instead of increased power for labour (Persson, 1991).

The development of working life research in the 1980', as a consequence, tended towards a reorientation in line with this development of the relations

between the trade unions and the employers. Research concentrates more on the practical work organization, and not on power relations (Glimell, 1990). In the latter half of the eighties, improvements in working conditions and work organization was a mutual interest of employers and unions as a result of a shortage of labour power, due to full employment. This was the situation when I conducted my study of research utilization in the working life sector.

At the same time, it should be noted that the development in the working life area in the 1980's has led to the final demise of the "Swedish model". There is, for instance, uncertainty and conflict about future relations between the LO and the SAF - where should negotiations over wages take place, locally or by the centralized organizations as in the past. There are conflicts around future relations between trade unions and employers as Swedish capital become less dependent on the national state. The SAF has announced that it no longer supports the corporate composition of different state bodies and has announced that their own representatives will withdraw.

An interpretation of the development in the eighties is that the market has taken over the role of corporate structures in regulating labour market relations, and that the relative consensus between trade unions and employers regarding, for instance, research on and improvement of the work organization, is a result of the shortage of labour power, a market phenomena that reversed in 1991, with the highest unemployment since the war. So if one is to characterize the development during the eighties in terms of degree of institutionalization, I think it is fair to say that it is a continuing tendency towards decreased institutionalization, combined with a weakening of trade union power, due to the internationalization of Swedish capital.

In the working life sector, the most ardent conflict arena, conflict use of social science, was more frequent than in the other two policy sectors. Regarding the

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degree of enlightenment use, it held a middle position. The utilization patterns differ considerably, though, among the different organized interests of the labour market.

A high degree of both political and conceptual use characterize several of the studied user organizations, both in the social and working life sector. This may be explained by the fact that conflict use of research in controversy, often, at the same time, produces enlightenment, or maybe "endarkenment", as it shapes parts of the discourse in which conflicts are fought.

In the public sector, as described by both government officials and representatives of the national union Kommunal (Cities and Local Government Employees' Union), research use had been less relevant in the past as central regulation and/or ideological principles to a great extent governed decision-making.

The blue-collar trade union confederation, the LO, which, more than the white-collar confederation, the TCO, has to redefine its role after the demise of the "Swedish model", shows a high degree of enlightenment use. While TCO, on the other hand, scores low on enlightenment use and high on political use. For the employers' federation, the SAF, a high degree of enlightenment use seems to be connected with the need to cope with changing market conditions. The SAF and the LO, with a high degree of enlightenment use, are also the ones that rather utilize research with the origin in the academic community. The blue-collar national union in the public sector, facing decentralizing and privatization in public services, demonstrates a high degree of conflict use.

My interpretation is that the decentralization and deregulation, and marketization in the working life sector has resulted in the development of different research utilization strategies among the organized interests of the labour market. The SAF and the LO have a strategy of using social science that

involve a demand for knowledge to foresee future development that can aid in the conceptualization of policy to meet that future. The national trade union, Kommunal, on the other hand, is fighting against cuts and privatizations in the public sector, and has adopted a defence strategy that looks for social science results that can be of assistance in political conflict, and in staff development necessary to meet critique of low efficiency in the public sector.

Maybe it is possible to interpret the professionalization strategy of the TCO as a way to meet the tendency to cut down on the middle layers of employees when decentralizing in public administration as well as in industry. One group, for instance, organized by the TCO, whose tasks tends to be decentralized from central administration (to be performed at the production sites and whose professional practice the union wish to develop into a fullfledged research area), is the personnel officers.

The Technical Definition of Expertise

Regarding the technical task activity and the way it points towards specific expertise, the building sector is the most alien to the use of social science research. This sector is populated by a large number of organizations with varying characteristics representing the political system as well as the market. No single organization is in full control over the different phases of planning and construction of housing, or has sufficient knowledge and resources to produce the end product which has made them dependent of the existing technology, organizational structures and division of tasks. This dependency in practice means (mainly dictated by economic reasons), that the technology in construction determines the core tasks of other organizations in this sector.

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Within construction, the expertise is defined as technical, and the use of social science is not considered relevant. And the influence it exerts on the work of the other organizations also limits *their* use of social science research. Several respondents in Ericsons and Johanssons study, belonging to organizations not directly involved in construction, asked for enlightenment knowledge that could guide them in their work, knowledge, they meant, that was not produced by the research carried out in the building sector. But the technology within the policy sector limits the possibility to apply this type of knowledge, although it is required, and, at the same time directs the research that is actually performed.

As mentioned above, the technical task activity in the building sector is more important than the institutional factor in defining expertise and relevant knowledge, hence the use of social science.

In the social service sector, what is defined as expertise is social science based, whereas the dominating expertise in the building sector is based on technology. Expertise in the social sector is not so clearly defined as to make research use redundant, it has not the status of a self-regulated profession. It is common, though, that social workers motivate their actions within a professional discourse, sometimes alien to research knowledge, based on their practice as professionals. This antagonism between professional and social scientific discourses may be one factor that can explain the low degree of research use in, for instance, "bureaucratic control" agencies.

This state of affairs may be ascribed to the fact that the core tasks not by themselves define expertise and relevant knowledge. Expertise in this sector is to a large extent institutionally and historically determined. It is defined *both* by the character of tasks and institutional factors, which may explain the high degree of utilization of social science as an aide in defining professional knowledge in the area.

The policy formation in the working life sector is taking place within as well as between organizations with conflicting interests. There is no recognized *academic* expertise in this sector (maybe with the exception of economists). The parallel in the working life area to the professionals in the building and social sectors is the elected officials of the different organizations whose discourse is a political one.¹ Research utilization is to a large extent directed towards the environment, not towards the working of the user organizations. It is directed towards influencing institutional arrangements rather than to any "technical" work processes. The higher degree of conflict use of social science research in this sector is consistent with this kind of institutionally defined tasks.

As political discourses vary over time (as do social science discourses), their relation to social science may be more or less compatible. In the fifties the discourses of employers and working life social scientists were compatible. And the political discourse of the trade unions during the seventies was compatible with working life research, while the discourse of the employers were not.

The logic that capital imposes on the actors in the working life sector also defines the relevancy of social science research and forms its content, in general as well as conjuncturally. As a consequence, the use of working life research, and the content of that research, varies to a great extent with economic and political conjunctures.

Characteristics of the Policymakers

The education and professional background of the policymakers are often determined by the core "technical" activity, but as the institutional demands and task activities tend to be loosely coupled, the same may be true of the coupling

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between task and staff characteristics. As a consequence, this factor may have some independent influence on the use of social science research.

In the study of research utilization in the building sector, 18 of the total of 29 interviewees had an academic degree, 12 of these in the social scientific humanistic field. Eighteen of them were working in what could be characterized as a "social scientific" area within the building sector. The rest were employed within pure technical areas of work. (Ericson and Johansson, 1990).

Despite the relatively large proportion of interviewees with a social scientific education and background, most of them worked with planning and other social scientific issues, while utilization of social science research was limited. This points to other powerful factors within the building sector that determines knowledge use. The determining factor, which other branches of activity in the sector or the educational background of the policymakers cannot counter-balance, is the core technical task of construction.

An overwhelming majority of those working within the social service sector have a social scientific education at the university, and they have been working within the welfare sector during the most part of their working life. Although this sector is characterized by a common educational and professional background, these professionals have difficulty developing into a recognized and legitimate expertise in the "strong" sense. They need the backing of social science research to back their claims and policy stand-points. As we have seen, utilization of social research in this sector is extensive. The "bureaucratic control" agencies had other reasons for not using research than an atypical professional profile.

Among the respondents in the study of the utilization of working life research, the educational background differed. About half of them had some academic education, predominantly in the social scientific field, but some also had

engineering educations. Those without any academic background were mainly elected trade union officials. The educational background seems to have little importance for the use of social science research in this sector. Those with a technical background, for instance, did not differ in their research use.

This indicates that it is not individual characteristics per se that decide the use of social science research. Educational or professional backgrounds seem to be significant first when it is an expression of the ways expertise is defined within a policy sector.

Historic Relations Between Policy-making and Social science

In this section I will try to characterize the historic relations between social science and policy-making in the building, social service and working life sectors in Sweden.

The building sector developed into an important area for state policy first after the second world war. Two major economic and political aims in the 1930's and 1940's lay behind this development. The first was to stabilize economic fluctuations, investments in housing were to be used as a strategic instrument in the government's economic and labour market policy; the other, the social political, was connected to the "population issue", where the housing shortage and low technical standard were considered to have contributed to a low birthrate (Jacobson, 1991).

The commissioning of research by the state was mainly directed towards the problem of creating a more stable housing market to avoid fluctuations in production and technical problems connected with increasing housing standards. This latter type of research was concentrated on delimiting problems that could

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be translated into norms and recommendations. From the end of the 1940's and during the fifties and sixties, social scientific studies were carried out concerning housing habits. These studies were much used in the construction of housing and had a great influence on their designs. (Stevrin, 1978; Ericson and Johansson, 1990).

The role of social science in the building sector has varied considerably. Its importance was probably at its height in the forties and fifties, as it influenced norms and regulations for the construction of housing. One factor behind the impact of social science on construction during the first decades after the war was the inadequacy of existing housing, both numerically and in design. This role of social science more or less disappeared during the sixties as the results of the earlier research were institutionalized in rules and regulations which more or less were "built into" in the technical task of construction.

In the seventies and onwards social scientists were once again engaged, but not to influence construction as in the forties and fifties, but to aid in problem-solving in the newly built housing areas where the emerging social problems had come into focus. The use of social science from the mid seventies onwards have mainly been concentrated on the social consequences of current housing production, which is likely to be of less interest to the construction companies as they are not the ones responsible for what happens after their task is finished. Social science use since the seventies has also mainly been concentrated on the subsector that is responsible for the management of these housing areas (Ericson and Johansson, 1990).

The social science research in the social service sector has developed in close contact with the practice field of social work. A number of local research projects that combine scientific originality with a radical critique of the traditions in human service organizations seem to have influenced how social

science should be performed in this research area. Many of these projects originated in connection with the reorientation of social work in the second half of the 1960's, a reorientation that among others was represented by a large number of directors of welfare agencies. The social scientists in Sweden have entered into a unique alliance with these radical agency directors. A result of this alliance was that a "user-perspective" could influence the type of research that now characterizes this branch of social science as an academic research area.

This alliance between policymakers and social scientists is an important factor in explaining the extensive use of social research in this sector, Especially the "social-policy" agencies that can be defined as part of the alliance. The bureaucratic control agencies, on the other hand, can find no allies within social science that will support their position, hence the difficulty to find research that will produce knowledge that is useful to them.

Those agencies that have found research useful are agencies that have allowed social scientists to make research they find also essential for internal scientific reasons. The fact that these agencies also have shown an awareness of what a relatively autonomous social science can be used for, (in its capacity of high exchange value in conflicts) may, together with the alliance factor, have contributed to the extensive research use. (Nilsson and Sunesson, 1988; Stål and Svedberg, 1987).

Research on working life in Sweden in the form of industrial sociology as an institutionalized activity, dates back to the end of the 1940's. In 1952 the Swedish Employers' Federation founded the Swedish Council for Personnel Administration, which was meant to be a Swedish equivalent to the English Tavistock Institute of Human Relations. From its origin until the middle of the 1960's, working life research was dominated by the employers' perspective,

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who, by creating and commissioning these research bodies forged an alliance with the social scientists. (Berner, 1986; Fridjonsdottir, 1987)). Studies of informal groups and job satisfaction was carried out, with the intention that the knowledge acquired could be used to increase productivity and adjust the workers to modern industry. This alliance between social scientists and employers in the working life area began to crack in the mid 1960's onwards as a result of labour market unrest, political discontent, radical critique at the universities against the narrowness of this kind of research, and growing ambitions from the trade unions to influence social science. In the seventies, both the financial and institutional arrangements connected with working life research were dramatically changed. In 1972 the state founded the "Work Environment Fund", a body that today is the main commissioner of working life research and development, where the organized interests of the labour market have a decisive influence. The Swedish Center for Working Life was established in 1976 in connection with the law on co-determination at work (MBL). It was to carry out research on the effects of MBL and on the conditions in general for a democratization of working life. The creation of the Work Environment Fund and the Working Life Center institutionalized trade union influence in this area of social science. The Swedish Employer's Federation was still funding research on their own; research directed towards a socio-technical approach of work-place reform.

Contrary to the previous period, working life research during the seventies was dominated by a trade union perspective where questions of power and democratization were in focus. It was a decade of labour market and shop-floor reforms, represented for example by MBL and the wage-earners funds. The new type of working-life research was explicitly critical, even against the fundamental system of capitalism. The consequence was that the previous

alliance between employers and working life research was to a large degree replaced by an alliance between trade unions and social scientists in this area of research, although trade union officials often disliked the critique from these scientists that included their own practices (Boglund, 1981; Kronlund, 1981). As mentioned above, the result of the MBL law, wage earners funds and this type of partisan working life research was a disappointment to the trade unions due to the combined effects of employer resistance and economic crisis. As a result of the consensus between trade unions and employers that research should be concentrated on practical work organization and not on power relations, working-life research in the 1980's tended to reorient itself in this direction (Glimell, 1990).

The history of the relations between working life research and the organized interests of the labour market is one factor that may help to explain why some users have found social science useful and others useless in different periods. But I would argue that the changing degree of institutionalization, due to political and conjunctural developments described above, is decisive for the character of working life research and, consequently, how useful it is perceived to be for the interests of labour and capital. In this sense, working life research is probably the most sensitive to conjunctural changes of the three research areas discussed in this article.

Alternative Sources of Information

Among the tree policy sectors discussed in this paper, the building sector is the one that relies most on internal information channels, according to institutionalized practices and procedures (Björklöf, 1986). Social science

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research actually carried out seems to be more or less superfluous. Either research results are produced that are incompatible with the narrow technical task-oriented spectre of policy-making, and are considered useless on that account, or they are produced to confirm what is already known from other sources of information. One of the complaints on building and planning research in the utilization study of this sector actually was that research to a great extent was directed towards things the policymakers already knew (Ericson and Johansson, 1990).

In the social service sector influential alternative sources of information are, for instance, practical experience and public political debate. Policy formation in this sector is often more influenced by public opinion, moral and political sentiments than by social science. National policy on treatment of drug addicts, for instance, is a typical example of this (Bergmark and Oscarsson, 1988; Sunesson, 1990). For policymakers in the working life sector, information from local officials is often paramount in connection with the formulation of policy.

But the central management of large organizations may sometimes engage social scientist even to acquire information from within their own organization. The national trade union Kommunal is such an example. This union engaged social scientists to study the members' attitudes towards their union and its policy. According to one of the respondents from this union, they could not rely on the information received from local level officials, as it was considered biased by the opinions held by the union activists themselves. That bureaucracy generates knowledge needs that internal information channels cannot satisfy, was also noted in the study of research utilization in the welfare sector, where the demand for research knowledge was less extensive in small cities (Nilsson and Sunesson, 1988).

Modes of Operation of Applied Social Science

In this section I will try, in relation to Elzinga's (1986) typology of varying modes of operations that pertain to different areas of research, to characterize the applied social research in the building, social service, and working life sectors.² I will discuss what makes social science useful, or useless, in the different sectors, and if different strategies of utilization and control differ regarding discursive productivity - to what extent it succeeds to bring about useable knowledge for the user.

As mentioned earlier, sectoral research in the building and planning sector, commissioned by the state, dates back to the 1940's. The establishment was connected with reform policies at the central, national level. And during the forties and fifties it influenced construction designs in housing. As construction processes developed into a more or less fixed formula in the sixties its influence on policy-making diminished. The character of organizing and commissioning research seems to mirror the high degree of institutionalization of the sector as a whole. Local users seems to have had little to do with planning, initiation and management of research, a clear difference compared to social science research in the other two policy sectors.

The characteristics of applied social science research in the building sector come close to the "adaptive and responsive" mode of operation, where social scientist are responsive to the interests and problem definitions of policymakers, and where the main use is for problem solving (see also Benner, 1992). This type of organization of research, in close touch with the reform policies of the state, can be considered a discursively productive strategy on part of the policymakers during the forties and fifties. They received instrumentally useful

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research knowledge that was used.

When economical and technological factors totally came to dominate the construction process in the sixties, and as previous knowledge creation was "built in" as standard in the construction of housing, there was no longer much use for social science for problem solving. Therefore, this organization of social science research in this sector, the close attachment to central policymakers and their technical problems, has become more or less discursively unproductive. The need expressed by local policymakers for enlightenment research seems difficult to accomplish in the "adaptive and responsive" mode of conducting applied social science research.

The organization of applied social science in the social service sector comes closer to what Elzinga calls a "reflective and disciplinary" mode, where social science has a relative distance in relation to the interests and influences on problem definitions by policymakers. This relative autonomy has been achieved by organizing this type of research within the academic world. This fact makes social science in this policy sector, in contrast to social science in the building sector, more useful in contexts of conflict by its scientific legitimacy, and for conceptualization, but probably less useful for pure instrumental use.

In this context, the research utilization strategies of the "social-policy" agencies have been discursively productive, as the co-operation with social scientists has been part of a conflict strategy for research use. Research in accordance with the "adaptive and responsive" mode would probably have been less useful for these policymakers because of its lower degree of scientific legitimacy. The utilization strategy expressed by the "bureaucratic control" agencies is closer to this "adaptive and responsive" mode, where direct control over the problem definitions of research might be a necessary condition for these agencies to receive useable research knowledge. This utilization strategy has been discursively

unproductive, as social science research in this policy sector thus has been organizationally and discursively incompatible with this type of user strategy.

A utilization strategy in the working life sector similar to the "bureaucratic control" strategy in the welfare sector is represented by the TCO. The main content of their strategy is trade union control over research, where the user's problem definitions direct research. In contrast to the case in the welfare sector, it has proven discursively productive, a fact that may be explained by the different organization of social science research in the working life sector.

The mode of operation of working life research from the 1970's onwards is similar to what Elzinga has labelled a "participatory and action oriented" mode, a mode where social scientists direct themselves towards problem definitions of social movements rather than those of central policymakers, as in the "adaptive and responsive" mode. This mode of operation in working life research has to a large extent meant an orientation towards the problem definitions of the trade unions. This may help to explain why the utilization strategy of the TCO has been more discursively productive than the "bureaucratic control" agencies in the welfare sector.

The discursive productivity of this type of user strategy seems to be decreasing, as the legitimacy of this kind of operational mode - and the research it has brought about - is questioned. A continued strong control over research renders it less useful for conflict purposes because of its lack of scientific legitimacy, and a development towards a more "reflective and disciplinary" mode may run against the ambition that social scientists adopt the problem definitions of the users. On the other hand, a development towards a reflective and disciplinary mode seems to be better suited to, for instance, the utilization strategy of the state. This strategy is in several ways similar to the "social-policy" strategy in the welfare sector. Both are concerned with the general

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problems of their respective policy sectors rather than specific organizational interests, which is compatible with a more reflective and disciplinary mode of doing research.

A characteristic of the "participatory and action oriented" mode of operation is its sensitivity to conjunctural changes. As it is not aligned with a strong central power, and does not have the shelter from the pressure of external users that strong ties to the academic world provides, it tends to reorient itself along with the conjunctural fluctuations in the policy sector, as has been the case with working life research.

Conclusions

In the previous article I discussed how research utilization patterns - type of use and origin of the research used - varied with different knowledge strategies that the studied organizations within the policy sectors had developed in order to handle and control changes and conflicts in the organizations and the environment. These utilization strategies of the organizations and their use of social science knowledge are to a great extent determined by the character of the policy sector as a whole. Those aspects discussed in this article - the degree of institutionalization, the technical definition of expertise, the characteristics of policymakers, the historical relation between policy-making and social science, and the availability of alternative sources of information as well as the mode of organizing research - have illuminated important differences between the three policy sectors that explains the variations in the use of social science.³

These factors that shape the different policy sectors' relations to social science are not independent entity; some are more decisive than others in their influence on the other factors. I have argued that the degree of institutionalization and

how the technical task activity define expertise are the most fundamental dimensions. The general structure of institutionalization and conflict patterns of the policy sectors, and the definition of expertise, determine to a great extent the use of social science knowledge. Educational and professional background of policymaker, historic relations between policy-making and social science, and alternative sources of information, treated separately, may strengthen or weaken the general character of research use determined by the more fundamental factors.

The organization of research - its mode of operation - varied in the three policy sectors. As the origin of research is connected with different types of use (see the previous article), the various modes of operation may be more or less compatible with different research utilization strategies. Within a policy sector, the organization of research and the knowledge created fitted into the knowledge policies of some organizations while it was less suitable for others. A reflective and disciplinary mode of organizing research seems more compatible with a conflict strategy and an adaptive and responsive mode with a problem-solving knowledge strategy, for instance.

What determines if and how social science will be used is the interaction between the character of a policy sector - especially its institutional organization and technical definition of expertise - the knowledge strategies of policymakers and the organization of research in the area.

Notes

1. In traditional studies of professions and professionals, the definition of what constitutes a 'profession' emphasized criteria such as professional autonomy, self-regulation, and the 'professional ethics that these groups develop. Lawyers, physicians and scientists were considered typical examples of professions defined in this way (Parsons, 1964). This functionalist and 'naive' conception of professionals has been replaced by a neo-weberian 'cynical' approach (Brante, 1988), where the concept of 'social closure' (referring to the exclusionary practices that professional groups employs) is used for studying strategies of professionalization (Collins, 1979; Parkin, 1979). Contrary to the traditional conception of professions as 'autonomous' in relation to bureaucratic organizations, Sarfatti Larsson (1977) relates the development of professional groups to the growth and change of these organizations.

This way of analyzing professional groups in relation to the general structure of society has been developed by Thomas Brante (1990). He points out that the 'professions' are not homogenous groups, members of the same profession have different employers or 'buyers' of their services. Hence Brante suggests that the study of professionals should be supplemented by a theory of 'professional types'. He distinguishes five different 'professional types': 1/ 'free' vocations, 2/ academic professions, 3/ professions of capital, 4/ professions of the (welfare) state, and 5/ the political professions. Usually university education and academic credentials have been emphasized in defining professional groups, but Brante argues that there are other ways of defining expertise and regulating admission, for instance in the political professions.

If using Brante's classification, professionals within the building sector (construction) would belong to the professions of capital; the professionals within the social service sector to the welfare state professions; and in the working life sector they would belong to the political profession.

2. My interpretation of Elzinga has been influenced by Fridlitzius, 1990.

3. Another study where Janet Weiss' categories have been used is Rune Premfors' analysis of the Swedish higher education as a policy sector (Premfors, 1984).

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**Strategy, Tactics and Maneuvering:
Utilization of Research in Three Policy Sectors**

Kjell Nilsson and Sune Sunesson

Strategy, Tactics and Maneuvering: Utilization of Research in Three Policy Sectors

What does the *scientification of politics* mean? As a research problem, the question of utilization of social science research in societal policy formation has shown to be a threefold one. Firstly, it has to do with the formation of standpoints in political and organizational conflict and the mobilization of adherents - and opponents - to policies. Secondly, it has to do with the employment of data and analysis for governance and control. Thirdly, it is part of expertise building, and thus the development towards professionalization. Conflict, control and expertise are the three salient recurrent problem areas of research utilization. Some authors see one or two of them, some comment on all three. (Wildavsky, 1979; Sarfatti Larson, 1990; Elzinga, 1990; Lindblom, 1986; Nilsson and Sunesson 1988)¹

While several case studies have tried to give detailed descriptions and explanations of the preconditions of knowledge and research utilization in diverse policy sectors (Premfors, 1984; De Martini and Whitbeck, 1986; Weiss, 1986; Sunesson et al, 1988), there are not many comparisons of research utilization between sectors. Surveys on the impact of social science like those of Van de Vall (e.g. Van de Vall and Bolas, 1981) merely hint at the difference between policy sectors. The call of Janet Weiss (1979) to study policy sectors as contexts that offer very different types of preconditions for research utilization has not been answered, even if some writers, like Premfors (1984) or Meyer (1983) have pointed out that the sector they work with, in Premfors' case a national higher learning system and in Meyer's case public education, have peculiar traits as contexts for knowledge use. Janet Weiss pointed to the importance of the

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centralization of the sectors, the characteristics of *policy actors* and *policy institutions* within the policy sectors, the nature of *decisions* taken and what *alternative forms of knowledge* (i.e., apart from science) that are offered in the policy sector.

In a recent paper, Nilsson (1991c) has used the results from three almost identically planned Swedish studies made in different policy sectors, to show that these categories make good empirical sense, but also that they are very entangled and should be modified. If so, they also shed light on the fundamental sociological problems of conflict, control and expertise.

The model used in the comparative study of social science research utilization in three policy sectors can be described as akin to the ideas of "negotiation economics" or political economy in the sense of recent organization research (Benson, 1977; March and Olsen, 1984). The welfare sector consists of homogenous and unrivalled local organizations, either bureaucratic or cadre organized (for this concept, see Therborn, 1978). The user of social science in these organizations is in a position to argue for the common good and for reformist reason.

In the building sector, however, any protagonist for social science finds himself in a quite different situation. The sociologists, or trained social workers of planning commissions, or the social relation departments of city housing corporations are in no position to dictate rules. Banks, real estate capital, big builders and trade unions dominate the decision process.

The labour market is defined by the polar opposition of labour and employers. The branches of social science that deal with industrial relations and general working-life research have had to adapt to that situation. The utilizer of social science in this sector is an aide to legislators or civil servants that work to

uphold labour legislation when not an outright spokesperson for some partisan interest.

In this paper we take this sectoral comparison into a specific problem area, that of the formation of specific research utilization strategies and tactics. In an earlier paper (Nilsson and Sunesson, 1991) we have maintained that the responses of organizations to their environments and the exercise of power within them can be shown to be related to research and knowledge utilization - including non-use - as a power technique, that is, as a means of action employed to strengthen an interest within an organization and in relation to the environment (Foucault, 1977). This way of understanding research utilization pinpoints the *use-value* (and sometimes exchange-value) of research knowledge as a *symbolic weapon* in conflicts, and the problem of explaining different *knowledge strategies*, ways of organizing knowledge utilization in organizations, as outcomes of the definitions of both power relations within the organization and the relations between the organization and its environment (For another way of using value-concepts in this research area, see Machlup, 1979). The employment of tactical buffering techniques to screen off uncomfortable knowledge (sometime in the vein of half-knowledge tactics, Marin, 1981) was apparent, as were strategic upbuilds of knowledge resources.

The specific purposes of this paper are to compare this result with what we have found about the research strategies of the organisations in the other policy sectors, and to investigate if our preliminary empirical categories make sense in other policy sectors.

In earlier studies, we used data from an investigation of research utilization in the social work area in Sweden. Here, we also use data from the other two studies mentioned above, one study of knowledge and research use among city

planners and planning commission members of a Swedish city, and one on the utilization of working-life research in Sweden.²

Utilization Strategies - A Background

The idea of viewing organizations as "*utilization contexts*" has been fundamental to the research reported here. The concept, as we use it, was originally influenced by Helga Nowotny, (1982). In earlier discussions, the "utilization context" was seen as the independent area where results were consumed. Contrary to this, Nowotny's idea was to envisage a complicated exchange relation between the performers of social science and the context that receive their results, the "utilization context". This context is not only a network of social relations, but a conflict arena. On this arena organizations, states, learned institutions, administrative agencies, private companies and fellow scientists all make significant appearances. The arena is made and structured by social forces and organized interests. The "utilization context" determines how knowledge and concepts are to be understood and used, according to the constellations of conflict blocs. (Nowotny, 1982; Weymann et al, 1986).

This has clear repercussions on the scientists themselves, if they work in areas where there is social controversy. Their questions are directed towards problems that directly or indirectly have arisen in the imaginations of the would-be-users and in their reflections on their day-to-day practice. Their concepts are subject to invasion of interest-laden interpretations. What seems to be *knowledge problems* often are *conflicts* in disguise, as in drug control (Sunesson, 1990) and poverty policy (Nowotny's own prime example, 1982). Conflict processes can be suspected to lie behind the differences in research utilization between organizations. (Brante, 1989; Nilsson and Sunesson, 1991)

As our results show, the ongoing "scientification" of the process of policy-making and decision-making in several societal sectors has not had any uniform effects even within the organizations of a defined policy sector. It will come as no surprise, then, that between themselves, sectors will show even greater differences. An interesting factor, then, could be the circumstances under which the "scientification" proceeds, and what "scientification" supplants. To explore this, we are going to refer to an example, that at first sight may seem tangential, but it touches exactly the problem of making scientific results fill in for other types of arguments in a complicated human service dilemma. It is taken from a recent study by Brante and Hallberg (1991):

"Brain death was legally enacted in Sweden in 1988. The creation of the new law can be depicted as a 20 year long controversy where the utilization of scientific arguments interacted with economic, professional, moral, philosophical and legal factors. The reformers wanted to change the death concept. On the other side were those who defended the old concept. The discovery of 'brain death' as an irreversible condition, where blood flow and metabolism of the brain had terminated, and the techniques for diagnosis of that state, created a possibility to change the image of death. The heart function and breathing of the 'brain dead' patient can be upheld for a while with technical means. From now on, a new idea of death was propagated, that had to do with the capability of the organism to sustain life by itself. This was described as the more scientific concept. At the same time, transplantation technology developed, and the demand for organ material increased. This fact became pivotal in the debate. The defenders of the old death concept, where death is seen as the state where all evident life functions, like breath, have ended, accused the reformers of opportunism and pragmatism.

The controversy between a traditional standpoint and a modern, technical standpoint was ethical and cultural, and as such it is not soluble, since it contains basic incommensurabilities. Science cannot decide which death concept is the 'true' or 'right' one. Still, the conflict was made a scientific one, as politicians and philosophers surrendered their responsibility to explain the character of the conflict and handle it accordingly."

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In this case it seems that "scientification" was introduced, not to provide the legislators with better decision-making material, but to lift painful responsibilities. On the other hand, it was very useful and led to what both politicians and physicians wanted. The context thus made the neurological research findings valuable in a way that may seem completely capricious, and probably unintended (See also Cohen and Lindblom, 1979). The question was "scientificated" by the utilization arena, not by the scientists, and the function of research utilization turned out to be *tactical*.

Empirical Strategies in the Welfare Study

In the study of research utilization in the welfare departments we identified some specific strategies for investment in and utilization of social science research results, as recorded in table 1.

TABLE 1³

	<i>Utilization degree</i>	<i>Utilization aim</i>	<i>Research knowledge</i>	<i>Degree of centralization</i>
1. Soc.pol	HIGH	CONFLICT	HIGH	MEDIUM-HIGH
2. Staff	HIGH	EXPERTISE	HIGH	LOW
3. Control	LOW	CONTROL	LOW	HIGH, FORMAL
4. Short term	?	CONFLICT	?	HIGH, INFORMAL

The table shows some of the most important traits of the four strategies described. First, a *conflict-oriented, social-political* strategy that was connected with a *high* general degree of utilization of research, an aim to utilize research in *conflicts* or, as a political means, a *high* degree of knowledge about research

in the organization and a *high* or *medium* centralization of decision-making pertaining to research matters in the organization. The second strategy was a *staff or personnel oriented* strategy, which combined a *high* degree of use with an aim to create or strengthen *expertise* in the organization, by means of the dissemination of a *high* degree of knowledge about research, in a *decentralized* way. The third was a *control* strategy aiming at *bureaucratic control and expertise*, with a *low* degree of research utilization and general research knowledge in the organization, and *centralized* control over research and information policies. The fourth, based upon scanty data, is a *short-term political* strategy. Agencies in this category are dominated by politicians, not by civil servants, as in the three former types. The aim of research utilization is *highly political*, and the research policy is *informally* led in a *highly centralized* way. (Sunesson and Nilsson, 1989; Nilsson and Sunesson 1991).

These strategies could also be shown to have specific traits or results when it came to the *commissioning* of research, and they also differed clearly in *discursive productivity*, that is the extent to which they affected the orientation of research in the area. See table 2 for a summing up of these traits.

TABLE 2

	<i>Commissioning activity</i>	<i>Discursive productivity</i>
1. Soc.pol	HIGH	HIGH
2. Staff	HIGH	MEDIUM
3. Control	LOW	LOW
4. Short term	HIGH	LOW

The conflict-oriented or social-policy strategy favours the commissioning of research (even research with a wider scope than the immediate local and

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instrumental), and its champions take part in discussions with social scientists and try to actively inform them about perceived knowledge needs. The staff-oriented strategy leads to active commissioning activities, especially on the local level, with an instrumental leaning. It does not, however, affect the development of research very much. The control strategy shuns commissioning of research and is discursively unproductive. The politician-led type of investment strategy in research that we encountered was active, even aggressive. Research was commissioned to support and enhance short term campaigns and crusades, but the impact was one of organizational cooptation rather than influence on research itself. This type of utilization context, seldom found in Scandinavian welfare agencies, is somewhat like a type often described in the U.S. (Weiss, 1987)

To the differential traits given in these tables, several others could be added, such as the variation in activity of the users and the variation in the distribution of research knowledge, types of research use between hierarchical levels in the organizations, and the way use-value and exchange-value of research is stressed in the organizations. But the addition that is central in this context is another one; the category of *tactics*. While *strategies* are goal and investment oriented long-term adaptation paradigms, *tactics* are short-term, often defensive and opportunistic adjustment patterns.

The conflict strategy organizations were typically dominated by *upper-hand tactics*, that is, using the fact that one knows more of a thing to gain temporal advantage. This was regularly accompanied by defensive tactics applied by the opponents, as reported by a defeated ex-councilman:

"They have employed /social scientist/ X as a battering-ram, and used his arguments! Now, I am somewhat tainted by these battles... but also afterwards... they have used X and others as ploughs, and keep saying:

this is what the social scientists say, this is the way it should be. And we have extracted very much money for social welfare because they say that we must make things in a specific manner, because that is what XX says. This other bunch, YY and ZZ and the other social scientists, probably haven't been so inexpensive either." /16/

The control strategy was clearly characterized by *buffering tactics* to protect the organization from knowledge, as shown in an earlier paper (Nilsson and Sunesson 1991). And the staff-policy often combined a professionalization strategy with *mobilizing* or *cadre-building* tactics, as shown by this interviewee, an administrator of home care for the elderly:

"I think that these research reports in themselves..., that is the fact that you get attention, is in itself a source of inspiration. Something is happening, we get attention, and we must make something good out of it... /Social scientist X/ has been here, and interviewed every case worker in the services for the elderly here, and everyone have been involved in this." /56/

Strategies and Tactics in Building and Working life Sectors

In the building and planning circles of one city (as summarized by Ericson and Johansson, 1990)) we found an unaggressive, problem-solving utilization strategy, mostly intent on getting tools for tactical *patching up* what planners and builders had done wrong. Research utilization as well as knowledge was low, and the areas that could be influenced by research were narrow. This led to a low degree of discursive productivity, and low research commissioning activity that was restricted to problem-solving in a patchwork perspective. No special tactics for the use of science as a weapon or for the defense against it seemed to exist - the first may have been hopeless, and the other quite unnecessary, because since social science could influence so few things, no one

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needs a defense against it. The typical situation where research is used is described by this city administrator:

"The city housing corporation has large housing areas where a lot of problems have emerged. It is difficult to get stable tenants and the conditions promote social segregation. Nobody really knows what to do about it... When it comes to production and construction, where the companies know what to do, they are rarely interested in research, because there are fixed routines and procedures. But when you deal with this kind of problem, where nobody really knows anything, then you start to look everywhere, read books and articles, and then research is a possible source of knowledge." (From Ericson and Johansson, 1990, pp 72-73)

The utilization context for working-life research was more complicated, and varied according to the position in the conflict system of the diverse user-organizations. All respondents, however, had a research-organizing attitude, and almost all were involved in the commissioning of research. In this sector, the research utilizers we have studied are not in organization positions that give them access to immediate "operational" abilities. The policy sector simply does not work this way, since social science applications in working life do not govern the central aspects of business and capitalism, but the regulation of the *conditions* of production and work. This means that the people we studied were all *both* relatively well versed in the area, *and* distant from most practical consequences of it.

Government representatives in the study seemed to favour an overall investment strategy that was dominated by an interest of general reproduction and *regulation* of the area. The SAF, the central Employers' federation, showed a remarkable interest in gathering social science results that could *enlighten* them in the era of change that lie ahead for Swedish business. The degree of centralization of initiative and control over research utilization in the

organization seems to be low. The blue-collar trade union confederation, the LO, follows a conflict-oriented strategy for *compensation* for its disadvantaged in formal competence, as compared to the employers; but on the other hand, they share the employers' explicit interest in *enlightenment* research. Centralization seems to be almost as low as in the case of the employers. The white-collar confederation, the TCO, differs from the others as they lead a *control oriented* strategy that is oriented to the defense of its members and their calls for a secure, professional status. This policy tenet seems to be an official line of the TCO, and accordingly, the centralization of control seems higher here than in the former organizations. Table 3 summarizes these traits of the organizations. As you can see, the variation is very akin to the one found in the welfare sector.

TABLE 3

<i>Organization</i>	<i>Utilization aim</i>	<i>Centralization</i>
1. Government	Regulation, control	LOW/HIGH
2. Employers	Enlightenment, expertise	LOW
3. Blue collar	Conflict, enlightenment	MEDIUM
4. White collar	Control, expertise	HIGH
5. Building/planning*	Problem-solving	LOW

* Utilization degree: LOW
 Research knowledge: LOW

Table 3 differs from table 1 in that the factors "utilization degree" and "research knowledge" are obliterated, in accord with what we said above about the study of the working-life sector.

When it comes to research acquisition and the impact of the utilization context on social science in the working-life area, the same variations occur. While Government agencies stimulate research in the working-life area (also by

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explicitly putting matters on the agenda of the scientists), they try, nowadays, to avoid involvement in the scientific process and to disentangle themselves from hybrid scientific networks. (For this concept that refers to organizations where external representatives have much influence, see Elzinga, 1985) The employers' association have a moderate interest in commissioning research in the field, and seem to have some ideological influence on social science in the area. The LO, the blue collar trade union federation, earlier had the ambition to reshape the scientific endeavours in the field, but have changed their strategy due to the legitimation problems that resulted. The TCO, however, are still at the point where they try to exercise control over scientists, to "change" social science. Our building/planning case rates "low" on both commissioning of research and impact on discourse. These features of the organizations are summarized in Table 4.

TABLE 4

	<i>Commissioning activity</i>	<i>Discursive productivity</i>
1. Government	HIGH	INDIRECT
2. Employers	MEDIUM	MEDIUM
3. Blue collar	MEDIUM	HIGH going to LOW
4. White collar	LOW	HIGH
5. Building/planning	HIGH LOW	LOW

The tactics used in the building sector were already described as *patching-up tactics*. The ones followed by the users of working life research are very different. Those used by the Government representatives in the working-life sector are the same type of *upper-hand tactics* that we have seen before, that is

"knowing more to be able to win an argument". The director of a large Government agency in the field explains:

"This agency is completely tuned to assembling and digesting all knowledge in the area... Some areas are more spectacular or 'hot', like the controversy over computer monitors and radiation hazards. Then questions are put directly, I get questions, and reporters want me to express an opinion on behalf of the agency. Then I have to mobilize all knowledge resources." (State 16)

The LO uses different but parallel tactics. In accord with its assumed position of disadvantage, it has developed what could be called *keeping-up* tactics, attempts to keep abreast and au courant with other research users. A professional hired by the LO to handle social science matters gave this opinion:

"... the development into a knowledge society is more and more evident. I believe that in politics and union circles we become more and more dependent upon professionals, especially scientists who try to delineate, or give a clear picture of this systems-society, these systems-structures. It's so f-g complicated, so if you are going to carry out any policy, you have to reckon with science and research." (LO 2)

As already mentioned, the TCO have a more control and expertise oriented strategy than the LO. Their tactics are also characteristically different. The short term adaptation to the social science environment could be called *peg-in-the-hole tactics*, where science and research results are used to put into previously well-defined slots. Let us listen to a representative of the TCO:

"The role of the trade union is to influence research, so that we can get the type of knowledge we are interested in. One way of influencing reality is to influence research, which in turn influences reality." (TCO 12)

Finally, the employer's federation, SAF, strategically invested in social science and research in an expertise-building and enlightenment oriented perspective. Its

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short term manner, however, could be seen as *smorgasbord tactics*, where the non-committed utilizers shop around for nice and interesting tidbits.

"I mean, it's always relevant to find out what's going on in science. Then of course, we can have our own opinion of it. I think it's at least as interesting to learn from research findings that do not support the standpoints of the SAF, as from those that do." (SAF 5)

Tactics in Comparison

Janet Weiss (1979) hypothesized that the more institutionalized or centralized the policy sector or organization is, the less it will use external information to carry out its policies, since most of the questions originate within the organization itself. There are also sound reasons to believe, as Nilsson (1991b) points out, that policy sectors (or organizations) which are highly institutionalized tend to direct much of their attention inwards, rather than to problems in the environment.

Our initial study of social welfare departments demonstrates the accuracy of these notions. Concentration on control-strategies in bureaucratic organizations puts research use at a disadvantage and encourages knowledge-deflecting buffering tactics, while conflict-prone cadre organizations are great research users that develop upper-hand tactics to deal with the environment.

The problem of understanding organizations in the working-life policy sectors is a harder one, since the users of knowledge are not the "doers", a condition that will be increasingly widespread in service organizations under present developments. The operational scope of users is different, and the "likeness" in worldview between social scientists in the area, the science users, and the operationally responsible management is not to be taken for granted. The

fundamental "political economy" of the sector creates a different demand for expertise and determines the way decisions are conceived. Still, we can recognize most of the important results from our former study of social welfare departments in this latter one.

The expertise-oriented employer strategy and its smorgasbord tactics are rooted in a decentralized organization where the centre sees its job as providing enlightenment in the face of a rapidly changing environment. The blue collar union federation, LO, faces the same change, but has a historical disadvantage and tries to compensate and "keep up". The white-collar union federation, TCO, seems to be more centralized in its research handling policy and uses science and research more instrumentally and internally, especially to enhance professionalization. The Government agencies, like the unhurried social welfare departments, regulate a system, formulate policies and need to apply "upper-hand" tactics to show that they keep the reins in hand.

Consequently, the study of two complexes, the position of the policy sectors and research users in a power perspective (what we here call the political economy perspective) on the one hand, and the internal structuring of sectors and agencies on the other hand seem very fertile for understanding the strategies and tactics of research utilization.

Notes

1. Thus **Conflict, control and expertise** (In Swedish *Konflikt, kontroll, expertis*) is the title of a monograph by the present authors, the subject matter of which is the patterns of social science research use in the Swedish welfare system. (Nilsson and Sunesson, 1988)

2. The first study was conducted in 1984 and 1985. We interviewed agency directors, local politicians and social workers in 15 Swedish cities and municipalities, among which were the three largest cities in Sweden. This research is fully reported in Nilsson and Sunesson, 1988 and partly in Sunesson and Nilsson, 1988 and Sunesson, Nilsson, Ericson and Johansson, 1989.

The research was made possible by a research grant from the Swedish Commission for Social Research, DSF 1983:190-1.

Respondents (social workers, administrators, agency directors, city politicians) from 15 cities were interviewed for approximately 90 minutes about their use of social scientific research, according to their own definitions of "use" and "research". Research documents and research projects referred to were identified after the interviews.

The second study is based upon 29 interviews in the city of Malmö, Sweden, and was conducted in 1985-1986. It was following the same protocol as the above study, and was reported by Ericson and Johansson, 1990. The research was supported by a Swedish building research council grant, 850948-2.

The third study was based upon 20 interviews with potential research users in the working life area. The interviewees represent the Government and national agencies, blue- and white-collar unions on federation, national and local levels and the employers' federation. It was conducted in 1990, following the same procedure as the above studies. The study has been reported in Nilsson 1991a.

3. ? in cases where no data are available.

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