

Knowledge and Politics in the Use and Formation of Research.
Paper given at Seminar, University of Bergen, 18-19 May 2006

By Maurice Kogan

Modes of Knowledge and Patterns of Power by Maurice Kogan,
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ABSTRACT

The paper attempts to identify the extent to which modes of knowledge can be associated with different patterns of and assumptions about power.

It analyses the extent to which knowledge can be viewed from both an internalist perspective relying on the prestige of epistemic communities and on socially relevant assumptions resting within social contexts. It discusses the factors affecting types of power patterns, such as: the nature of sponsors' objectives and the uses to which they might put knowledge; epistemic characteristics; the nature of the resource required, and the stage of finalisation reached. It sketches the range of models of sponsorship to which knowledge is subjected - from that of the free standing and autonomous individual through different patterns of sponsorship to the directly managed.

It questions overdetermined perspectives of knowledge and power whose mutual impacts may be strong but not easily predicted or defined. It considers whether particular knowledge modes denote or support particular modes or styles of public activity, policy or government. It notes the characteristics of government which affect its ability to relate to research; government's mechanisms for commissioning and using research; knowledge needs of policy-makers; reception of research; take-up for policy-making; models of research- policy relationships and characteristics of receptors.

Modes of Knowledge and Patterns of Power by Maurice Kogan, Brunel University, England*

The given title of this talk implies, rightly, a tension or a dialectic between knowledge and politics in the formation of research. The first implies contemplation and rationality whereas politics might lead us to the wild side. Well, we will see.

In this talk I will follow two themes that have occupied my mind for some while. * The first will be the different formats of knowledge and the power or political dimensions which affect its formation and exploitation, and the second the relationship between government – which might serve here as a proxy for politics- and knowledge. We could broaden my mandate to include those parts of disciplined enquiry, in Cronbach and Suppes' (1969) useful phrase, which may not be research in the received meaning of the term but which are nevertheless a product and a user of knowledge

Modes of Knowledge and Patterns of Power

First, I will consider the extent to which the characteristics of knowledge affect the part it plays in politics.

Knowledge may be viewed from either an internalist perspective relying on the judgements of epistemic communities, or those perspectives which partly or wholly gain legitimacy from social relevance. The factors which affect the power that knowledge may generate include: the nature of sponsors' objectives and the uses to which they might put knowledge;

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epistemic characteristics; the nature of the resource required, and the stage of finalisation reached. There are different patterns of sponsorship to which knowledge is subjected - from that of the free standing and autonomous individual through different patterns of sponsorship to the directly managed. In discussing the reciprocal relationships between power and knowledge, we question overdetermined connections between knowledge and power whose mutual impacts may be strong but not easily predicted or defined.

The underlying argument is as follows. Specialist knowledge has intra-mural or internalist power. It is governed by accepted rules of certification within epistemic communities, and in this mode may be free of political pressures and processes. But its second level of power is secular, and depends on the scientist being able to persuade the non-scientist that the work is useful or interesting. The converse might be true. Knowledge that begins by appealing to the ‘shared meanings of given social communities’ or ‘social robustness’ might gain power with user groups who share its epistemic ideology. But those groups then might need to demonstrate sufficient of the test and demonstration features of hard science for it to be accepted as fully part of the scientific, intra-mural system, and to gain credibility outside the scientific power groups.

Within epistemic communities and their bases, the dominant source of power is an emphasis on specialisation and peer evaluation related to it, which justifies exclusiveness – the specialist possesses knowledge not available, or less available, to others. Those within the

peer group gain power and authority by their participation in the knowledge. In that sense, power is not a shared meaning but an exclusive and esoteric meaning.

This is a perspective backed by Bourdieu (Bourdieu, 1975). He argues that even the purest science is a 'social field, with its own distribution of power and its monopolies, struggles and strategies, interests and profits.' 'The scientific field is the locus of a competitive struggle for the monopoly of scientific authority.' The better resourced and the more autonomous the field, the more tightly drawn becomes the group of people that determine the holding of authority: ie the key competitors in the field. This thus distances science from the idealised notion of scientific community and insists that 'the operation of the scientific field itself produces and presupposes a specific form of interest.'

Recent attempts rely on 'social robustness' (Nowotny, Scott and Gibbons, 2001) implying more democratic or inclusive forms of evaluation, although this is, perhaps, more a programme for action than a statement of what now dominates the fields of knowledge. Much earlier, Trist's definition of domains (1972), too, implied multiple reference groups. In contrast to disciplinary knowledge, socially robust forms may generate power by their appeal to wide constituencies including those holding power within client and practitioner groups. Lindblom (1990), too, has articulated the case for demotic forms of 'probing' which would demote the power of academic specialisation. In the post-modernist mode, as developed in Foucault (Foucault, 1977) power is defined as the capacity to act possessed by social agents by virtue of the enduring relations in which they participate...`It has a 'materiality' deriving from its attachment to structural roles, resources, positions and relationships.' This analysis can apply to knowledge which could be particularly exemplified by the power of academic disciplines. The hermeneutical model, the more democratic or inclusive forms of evaluation, Lindblom's probing, and Trist's domains all imply that the power that they generate may come through persuasion and interaction and their perceived utility.

The spectrum of knowledge

Turning now to the nature of knowledge itself, there are several accounts of differences between different disciplines and areas of knowledge (eg Biglan, 1973 a, 1973 b; Whitley, 1977; Becher, 1989). There is a spectrum of knowledge ranging from 'hard' and rigorously defined states to 'soft' forms which are less capable of meeting the criteria of being 'explanations which are at once systematic and controllable by factual evidence' (Nagel, 1961) 'Internalist' models (ie those relying on exclusive and intramural governing arrangements) have exerted a powerful influence not only upon scientists but on those who have admiringly observed science's growth and strength. In the 'internalist' view, science is an authoritative and self-regulating universe. The nature of scientific work, its evaluative criteria, its institutional norms and structures are regarded as logically connected and rooted in the relationship between science and the physical world. The goals of science are 'the extension of certified knowledge' (Merton, 1957). Science uncovers regularities of nature through accurate observation, conjectures and empirical testing. It expresses and explains them in laws that are both as precise and as general as possible. The criteria of scientific merit are thus accuracy of observation and measurement, replicability of experimental work entailing rigour in design and control, validity and systematic importance or profundity of theory. The derivative and tightly interconnected technical and moral norms of logical consistency, emotional neutrality and impartiality are strongly embedded in Merton's classic statement of the four sets of 'institutional imperatives' of modern science: universalism, communalism, disinterestedness and organised scepticism, and in the additional norms, identified by himself and others of, for example, originality, humility and independence. In this list, be it noted, universalism and communalism are credited with belonging to the intramural versions of scientific power.

The 'hard' versions of science sustain legitimacy through their claims to impenetrable specialisation backed by peer review. For the knowledge that scores highest is that which is hard and tight, perhaps positivistic and quantitative in the social sciences. It might gain even more power if it is geared to key public issues and explained through multiple media – the science of DNA would be an example. It is these 'hard' norms and criteria that attract most

deference from policy makers – in the UK the top hard scientists receive peerages and knighthoods and are placed in key research council and other chairmanships.

However, within the internalist model, Polanyi (1962) argued that the validity of scientists' work is enforced not by objective proof but by the exercise of responsible judgement. For Popper (1972), the power of science is rooted not in its outcomes but in its methods of putting its propositions to the test. The internalist perspective was to some extent undermined by Kuhn's belief (1972) that paradigms challenging previous conceptions are determined not only cognitively but socially by disciplinary communities. Mulkey (1979) further argued that recognition by the profession is scientists' key objective of and that the scientific community was not a republic but a complex nexus of problem-focused, discipline-centred and wider networks of elites able to perpetuate themselves through interaction between differential allocation of resources, differential capacity to recruit the best talent, and a privileged informal communication system. With Kuhn and Mulkey, power rests not solely on epistemics but also on social arrangements.

At the other end of the spectrum, there is knowledge implied in Nagel's account of 'common sense', and Lindblom and Cohen's Ordinary Knowledge (1979). Yet, if the 'softer' forms of knowledge do not display 'the organisation and classification of knowledge on the basis of explanatory principles' they may yet seek 'to discover and to formulate in general terms the conditions under which events of various sorts occur, the statements of such determining conditions being the explanations of the corresponding happenings' (Nagel, p.13). They may appeal, however, as much to the demotic and lay perceptions of what applies and what works as to any esoteric form of knowledge structure. (This should not be taken to imply that non-parametric knowledge cannot be rigorous, elegant and, for that matter, esoteric).

The hard and venerable legitimacies have not been supplanted so much as paralleled by new ones. Knowledge may be authorised as much by its social robustness and relevance as by its epistemic containedness. It can be derived from communicativeness which is central to the hermeneutic and experiential modes of knowledge, though some of those working in the hard sciences might question whether one can always have confidence in what is being

communicated. The power generated by knowledge might thus be affected by three sets of characteristics. One concerns its communicativeness and appeal to social utility. The second concerns who determines the objectives of enquiry - researchers or government or industry. The third gets to the heart of our concerns, following Whitley (1977) and Weingart (1977), in relating the epistemic style and status of the research to its power.

On communicativeness, Rip (1997) observes that the authority of basic science is legitimised by being fundamental and subject to rigorous testing, but also by the promises made of it. Industry shares the scientific view that basic science will yield results, a view shared by some of those participating in the UK Foresight Initiative (Henkel et al., 2000) who maintained that Foresight needed different forms of knowledge, both 'hard' and 'soft'.

On the objectives-setting dimension, it has been noted that 'applied research might be more readily usable by a policy system than basic research, but policy-makers tend to relate more willingly to natural sciences than social sciences.' Research that follows priorities determined by the researchers themselves, according to the 'internalist' norms of science, is more often, though not always, going to be basic. Applied research is more likely than basic research to be following an agenda driven by forces other than the scientific imperative where 'this provides some of the circumstances that might encourage utilisation' (Buxton et al, 2002, pp ii-iii)

'The underlying power relationships can be various... For the most part the relationship is that of a market in which exchange and negotiation are the styles adopted. In such cases knowledge is exchanged for resources and legitimacy. Some market arrangements, however, allow for quite substantial tenurial rights which weaken the pull of the market and emphasise the need for well constructed negotiation and exchange. (OECD, 1995)'

On the epistemic set of considerations, we look for the ways in which the knowledge content in itself affects its power or autonomy. Whitley's comparison (Whitley, 1977) of restricted and unrestricted or configurational science shows how the cognitive structures of different

sciences give rise to different forms of organisation and so to different degrees of cohesion and power. The arithmetical ideal and the aim of expressing theory inhibits challenge in restricted sciences such as physics, concerned with a small number of properties of objects which can be quantitatively related. The high degree of specialisation needed creates clear boundaries within these sciences, bureaucratisation in the organisation of research and success in attracting resources. Configurational sciences, such as social sciences concerned with small numbers of highly structured entities exhibiting a large number of properties, are essentially poly-paradigmatic. Their conceptual boundaries are 'highly fluid and permeable. In consequence their organisation is less structured and there is greater scope for dispute and fundamental challenge.' It can be inferred that this in turn affects their power outside their boundaries.

So, too, does, the 'finalisation' thesis of van den Daele, Krohn and Weingart (1977) make the link. It identifies three phases of discipline development: the exploratory, pre-or polyparadigmatic phase, the phase of paradigm articulation and the post-paradigmatic phase. In the first and third phases problem orientation and discipline development are compatible. But when work is beginning to crystallise on the development of key theoretical models, usually the research programme is dictated by 'internal' needs incompatible with external problems.

Adding to the epistemological debate about the most appropriate forms of production of knowledge intended for utilisation, Trist (1972) argued that domain-based research represented a third category alongside basic and applied research. Domain-based, or policy-oriented, research is essentially inter- or trans-disciplinary and the crossing of new boundaries and the creation of new syntheses may advance both knowledge and human betterment. It also entails wider reference groups, beyond the scientific or clinical communities. Along similar lines, Gibbons et al (1994) claim to identify a shift from the traditional discipline-centred mode of knowledge production that they characterise as Mode 1, towards a broader conception of knowledge production described as Mode 2. In this, knowledge is generated in a context of application and addresses problems identified through continual negotiation between actors from a variety of settings. The results are communicated

to those who have participated in their production. Although the degree of change described by Gibbons et al could be exaggerated, this general approach, as with that of Trist, is compatible with attempts to identify power through utilisation by explaining research production in terms of the interests of at least some potential users.

Modes of governmental power

We should now turn to the second of my themes and consider whether particular knowledge modes denote or support particular modes or styles of public activity, policy or government. The knowledge-policy-making-practice relationship is partly disclosed by examination of the receptor function activated by government in commissioning, evaluating and using research (Kogan and Henkel, 1983, 2000, 2006), although social science research, whether concerned with policy or practice issues, has no encouraging history of application. There are a large number of explanations for a lack of take-up of knowledge for policy or practice (OECD, 1995, Sadlak and Altbach, 1997) eg the notion of a schism between two cultures (Caplan, 1975) and a lot of researcher complaints about the non-receptivity of policy-makers.

The classic and idealised models of government assume that government has its own power and power relationships and regulatory, allocative, rewarding and sanctioning functions. They refer to science and government as somewhat autonomous entities going their own ways without interpenetration or significant mutual effect. The simplicity of these classic assumptions has been drastically undermined in the last forty years. We accept that both science, or, more broadly, in Cronbach and Suppes' term (1977), disciplined enquiry, and government inhabit different worlds and client groups. But increasingly they have been pulled into each others' orbits.

To unravel this theme we might note: the characteristics of government which affect its ability to relate to research; government's mechanisms for commissioning and using research; knowledge needs of policy-makers; reception of research; take-up for policy-making; models of research- policy relationships; characteristics of receptors.

The characteristics of government which affect its ability to relate to research

Government has to be convergent, so that policies are consistent with each other. It works on a broad and often unmanageable canvass and must be reductionist if it to act decisively in the face of complexity and conflicting interests and sustain order and control. At the same time, to meet any kind of democratic mandate, it must support development. Yet, because it must face many trans-policy interests, including professions whose claims on policy-making are based on knowledge, its very organisation is tribal and multi-modal (Kogan and Henkel, 1983, p3). It must act through a range of modes which include both persuasion and negotiation and the coercion of law; rational discourse based on research must compete with these.

In all, positivist modes of research are more useful to policy makers than critical and interactive modes. In these days of heroic policy-making, rather than accept the arguments derived from hermeneutic or other qualitative forms of discourse, systems have instead lent support to arithmetical forms of evaluation and audit such as is practised by inspectors or consultants who start with the premises of policy-makers in a clear and pre-structured way (Henkel, 1991).

The work of Think Tanks, too, is primarily that of policy analysis, that is to say, they take largely existing knowledge and reshape it towards meeting problems that are perceived to be on the policy agenda. How far they reflect and how far they help to shape the *zeitgeist* is a matter for contemplation. By contrast, research, that is enquiry based on demonstrated methods and adding to knowledge, can be used for praxis, but that which is most highly prized, and not just by academics, assumes that all questions are open and are likely to remain so after the research is completed. The idealised version remains that of 'the disinterested search for truth' responding not to policy-makers' criteria but to those of the Republic of Science (Polyani, 1962). Applied research of repute tries to have it both ways. This involves negotiating the objectives of research with sponsors but retaining freedom over methods and to reach and publish conclusions.

If research is bound by criteria of demonstrated method and openness, policy-making and practice are ideally related to criteria of relevance and in that pursuit will take account of Ordinary Knowledge (Lindblom and Cohen, 1979). The assumptions made about government could start with the schematic models of Easton and others who assumed that there would be values and interest inputs from the social and political environment which government would reduce ultimately into 'an authoritative allocation of values', or policies. This was challenged by Lindblom, Wildavsky and others for whom policy-making was incremental, disjointed, episodic and incapable of leading to a synopsis of wants and needs on which to act. Others (eg Rein, 1983) depicted the policy process as having no clear beginning or ending and the way in which power is exercised as being as decisive as the purpose for which it is exercised.

The governmental characteristics relevant to our theme are broadly epistemological and social or institutional. On the epistemological characteristics, policy-makers depend on a wide range of knowledge - that picked up from the press, or provided by their own evaluative creations, or from enquiries that they commission or, to a lesser extent, that provided by independent research. They may be affected by percolation of deeper and critical knowledge, but essentially policy-making needs knowledge which is applicable to those discrete problems which are capable of solution. The word 'decision' means to cut away; policy-making involves a reduction of interests and value positions so that the world can go forward.

All principal kinds of knowledge- positivistic, theoretical-critical and applied/action research – may have a part to play in illuminating policy and practice. It is assumed that whilst these three kinds of knowledge relate separately to linear, illuminative and collaborative forms of transmission and use, there are no absolutely contingent relationships between, for example, positivistic knowledge and linear forms of transmission. There are propensities for certain kinds of knowledge to be particularly useful at particular levels of systems, but such associations should not be regarded as iron clad. The stage of development of research may well affect the issue(Van den Daele, Krohn and Weingart,1987; Weingart, 1997).

The complexity of government's tasks affects its ability to tolerate the uncertainty introduced by research. There is a necessary tension, between policy and research, because they represent 'two different cultures with different requirements' (Caplan,1977). This issue is partly explored

by accounts of the nature of policy-making and the characteristics of the policy-makers who might be the recipients of research. This line of enquiry has been opened up in the USA (Caplan, 1975), the UK (Kogan and Henkel, 1983, 2000, 2006), Sweden, Finland (Rekilä, 1998). However, most accounts have failed to include any account of the nature of policy making, and the policy-makers who might do the receiving and tend to relate simple dichotomies which are not untrue yet not illuminating. There are, however, empirical sources which may be of help to the present discussion (eg Caplan, 1977; Weiss, 1979; Kogan and Henkel, 1983; Bardach, 1984; Premfors, 1991; Henkel, 1991; Buxton and Hanney, 1994).

Both the nature of the knowledge that is generated and the social and institutional characteristics of main players are the primary factors in determining transmission and transfer. Interactions within government are decisive for its relationship with research. Many governmental systems have internal brokerage mechanisms which commission and promote the assimilation of research and other forms of knowledge (Kogan and Henkel, 1983; OECD, 1995). Characteristically, a policy division is regarded as the 'customer' for research and, in theory, should identify policy or practice problems for research (Rothschild, 1971). In such systems, the role of research managers is critical. They may encourage customers to identify research to be commissioned, and monitor and advise researchers. Some interviewed in the UK had taken on the perspectives of the researchers and were critical of the short-termism of customers, and took on an advocacy role on researchers' behalfs. In Sweden, in the 1970s and 80s, they went beyond brokerage, Eskil Björklund identified new approaches which he mounted on largely his own initiative (Trow, 1991) which created new areas for independent and critical enquiry as much as policy-led concerns.

There are elements of research initiation and control that create power patterns which might frame knowledge creation, and the extent to which sponsors set or influence the setting or objectives. Gornitzka (2003), in her study of Norwegian agricultural and fisheries research policy, concluded that 'science policy instruments, such as research organisation and funding, are potent factors affecting the research process.' First, sponsorship. Some knowledge creation is free of external sponsorship but this is increasingly unusual. Academics may submit to prescriptions on the objectives and forms of outcome of a project, when receiving resources from a government department or private firm. Publication may be restricted although it is unlikely that the sponsors will seek to dictate the methods used. Private

foundations' demands on the objectives and forms of outcome of a project, once funded, are likely to be non-existent or minimal. In the past, in the UK, the research councils were regarded as a source of independent funding, although they varied. They increasingly have moved from the responsive to the initiatory mode, and are prescriptive about, for example, researcher contact with user groups.

But where funding sponsorship has become more assertive on objectives and forms of outcome have methods or epistemic characteristics been affected? Has there been 'epistemic drift' (Elzinga, 1985)? For the most part, if by 'epistemic' we mean knowledge rules and criteria, apparently not (see our studies of the Foresight Initiative (Henkel et al, 2000) and Henkel, (2000) on academic identities). It would be surprising if they had, since sponsors sponsor research to create knowledge they cannot create themselves.

Take-up for policy-making

Many countries have tried to create systematic policy analysis systems. Some rely to some extent on research, whilst others do not conform to a knowledge based model, but to the heroic or individualistic model which relies on value setters who know what they want, and set out to get it without recourse to supporting or opposing evidence. One recent British minister put it, 'we don't need research to tell us what to do, we know that already.' That is a legitimate point of view in a democracy: election legitimises the weakest and craziest of policy beliefs. They derive from value preferences that can, but need not be, affected by knowledge. 'Research can help you achieve your objectives... but it can't tell you whether to go comprehensive (ie end selection to secondary education). That's a basic value judgement' (Crosland in Kogan, 1971).

We can find plenty of examples of research which gain a strong wind from political preferences of their time. A strong UK example of take-up, dating from the optimistic early 1960s, was that of the research for the Robbins Report (1963) which legitimised the expansion of higher education. It demonstrated, by using evidence from Douglas and others, that able people were leaving school at 15, and thus weakened the assumption that there was a limited pool of ability. It also used research which demonstrated the importance of human capital and the link between educational investment and the economy. Quite similar impacts of research

on the expansion issue were noted for Sweden (Premfors, 1984). But these researches would have gone into the sand if they did not support political preferences of their times.

A second example is the influence on current social and employment policies and practices by reflective thinking on gender and ethnic issues. Some of this work is rooted in sociological, psychological, anthropological and legal studies. But it would be fair to say that its initiation, take-off and impact result as much from its connection with the remedy of perceived injustice as to its research qualities and content.

Another example posits the use of critical and theoretical research which operated in a percolative and illuminative fashion. The critique of knowledge production and power relationships advanced in the sociology of knowledge- a field in which interpretative scholarship rather than empirical or analytic research has been most evident - must have done much (we cannot be sure because it has never been researched) to reduce the status of the university as a protected and specialist institution and the sapiential authority of the professoriat. In this case scholarship changed paradigms or 'assumptive worlds' and then lent force, albeit indirectly, to the democratisation of higher education. From the argued positions thus set up it was easier to give a stronger place for junior staff, students and external client groups in the governance of the university.

From these social science examples, it need not be the content of the research, or even its truth, that counts but the *zeitgeist*. The 'successful' research well matches the intelligent wisdom of its time. If it is wisdom that accords with the views of those currently in power then it will certainly be listened to. If knowledge addresses macro-policies it has to wait for the political agenda to move in its favour. Social and distributive issues are bound to depend on political evaluations for their pursuit in action. So much of the knowledge needed for policy planning is probably taken for granted or generated by government's own staff or derived from Cohen and Lindblom's (1979) Ordinary Knowledge. At the same time, is it possible that the research not only responded to but also reinforced or helped to disseminate the effects of the *zeitgeist* which favoured expansion? Somewhat different considerations apply to hard science.

Models of research policy relationships

Turning to models of the research –policy relationship, Bardach (1984) showed how research reaches those for whom its utility exceeds the disutility of obtaining it. British policy-makers have complained that they lacked the time and other resources to act as efficient receptors of commissioned research (Kogan and Henkel, 1983). Bardach notes that cooperative relationships grow up with consumers when producers try to reduce the cost to them of obtaining information.

Caplan et al. (1975) outline three theories which may explain a gap between policy and research: policy-constraint theory: policy is unable to handle the 'rational' findings of educational research; knowledge-specific theory in which research is limited within a small framework of theories and empirical variables; and 'two-communities' theory in which policy-makers and researchers adhere to different cultures, each with its own language, norms and values. Caplan et al advocate the usefulness of the third of these theories, and are thus led to conclude, unsurprisingly, that good communication is necessary.

Caplan (1977), again, in a study of 204 federal policymakers, noted how the decision making orientations of 70% of them could be divided between clinical, academic and advocacy modes. Whilst the first group gathered information so that they could make an unbiased diagnosis of the policy issues, of both the internal logic and from the external logic, of political and social ramifications, of the problem, the academics were concerned mainly with the internal logic whilst those with an advocacy orientation used research opportunistically and sometimes to substantiate a case primarily based on political considerations. Their perspective was almost wholly external.

The power of established academic groups remains strong. The best-established groups will concern themselves with issues and depend on methods which derive from and can feed back to established disciplines. These exercise a normative as well as an institutional pull, it being academically desirable to advance conceptualisation in an established field of work. At the same time, a second culture, sponsored not only by governments and the EU but also by research councils in some countries, asserts the primacy of operational relevance. The science-relevance tension is evident in all areas of policy study.

The range of relationships has been categorised several times and most recently synthesised into seven models which range from linear knowledge- driven or problem solving to interactive and illuminative models (Buxton and Hanney, 1994). Work conducted by policy analysts later discredited the linear perspective (Nisbet and Broadfoot, 1980; Weiss, 1982; Weiss, 1989; Husén, 1989). It is assumed that while research can directly influencing decisions, it more often it shapes policy-maker perceptions and agendas.

The reception of research depends on the national political and administrative culture and of the point in the cycle of positivism- exploratory - managerialist research at which a system is. In Sweden, the evidence of take-up is impressive for the earlier post-war decades. But Premfors (1984) reflected that it was not so much the research studies as the more general intellectual activity connected with them that might have affected attitudes.' ...The use in policy making in Swedish higher education has been relatively marginal... I have observed no major instance where research has made a difference, an instance where similar policy measures could not or would not have been taken in the absence of research.' And this was before the two classic prerequisites of Swedish policy-generation, the Royal Commission and the remiss (or consultation) procedures, were displaced by intuitive ministerial decisions.

Characteristics of receptors

Whether or not the research has an impact, there is national variation in bureaucratic and political approaches to it and the receptivity of policy makers seems to depend in part on bureaucratic recruitment and other characteristics. Countries differ greatly in the backgrounds of policy makers and other research users and in the extent to which links are institutionalised. In the countries where the connections are strongest, for example, Sweden, Norway, Finland and the Netherlands, that relationship has been enhanced by the fact that quite a few of the senior administrators have had research experience. Many have taken degrees that contain a strong element of individual research. No doubt these relationships always depend upon the wishes of individual ministers as well as on the educational backgrounds of bureaucrats. But many of these institutional relationships are long standing

Examples of knowledge-policy connections

A general account of changing policy moods (Wirt, 1983) depicts a cyclical process in which public services might be set up and institutionalised so that power is exercised through dominant professions until the laity – politicians, interest and client groups- become dissatisfied and take power away from them. But, before long, replacement policies lead to new forms of professionalisation and institutionalisation which perhaps a generation later will become challenged in their turn. Each wave of professionalisation produces its own knowledge justifications.

Henkel (1998) has noted the ebb and flow of different conceptual and epistemological assumptions in public evaluation. There was an earlier shift from the positivist to the hermeneutic paradigm and ‘the associated change of emphasis to formative rather than summative evaluation.’ Within social evaluation, in the positivist phase, methods included the social survey, statistical analysis and psychometric testing and the preferred evaluative model was the randomised controlled experiment. But over time ‘awareness of the instability of social services undermined the claims of the experimental model. There was a shift towards description and the relationship between inputs, processes, context and outcome. Anthropological perspectives concerned with the interplay between milieu, process and inputs were advanced so pulling towards more context-specific approaches.’ Now we are trudging back to positivism.

Yet, we must be cautious about assuming simple correspondences. For example, the styles attributed to positivist science – often used as a kind of liberal academic swear word- may be found in examples where knowledge has contributed to considerable human progress, including the reduction of privileged political or economic power. Medical epidemiological studies have been used to break rather than advance privileged hegemonies, as tobacco firms would ruefully agree. Whilst most educators would question the measurement and assessment of their performances against bench marks and numerical scores of outcomes, some forms of connoisseurial inspection could be too subjective and biased and exercised in favour of particular educational doctrines. The tradition of Blue Book exploration of social problems at the turn of the 20th Century was positivist in style but exercised the power of knowledge without any kind of institutional coercive

framework. The knowledge was authoritative in that it could cause changes in behaviour, but it did so by persuasion on key public issues, and in doing so it dislodged authoritative hegemonies.

The more recent history of education in the UK shows well how different forms of evaluative knowledge-seeking line up with assumptions about who should have the power and how it should be exercised. In the long past, higher education evaluation contained elements of both the summative and formative –depending on purpose and subject area, and administered by peer review that could be either exigent and external or connoisseurial and interactive. But the increasing desire of the state to break up academic hegemony, and to shift from standard setting by academics on their own criteria to standard setting on criteria set to public policy criteria, has led to drastic changes in the type of knowledge that is now created and employed. The state organisations assume that both teaching and research should have particular forms of outcomes which can be graded and thus measured, and which include contributions to the economy. The system is geared to ensuring that progress in achieving governmental targets can be measured and announced. The models of learning and research outcomes are tied to positivist assumptions about the efficacy of managerially endorsed criteria; academics and teachers are coopted into the elaboration of the criteria which are, however, set as governmental *a priori*s. The official knowledge is powerful because it is quantitative and therefore easily used for grading lists and summations and easily used to divert attention from the more subtle qualifications that apply to individual conditions and performance. This trend affects power structures in institutions as well as official national policies. Whereas a rector or vice-chancellor used to be in uncertain authority relationships with deans and professors there are now hard managerial lines of authority connecting them, and the system is strengthened by the presence of directorates for quality and other public policy dimensions which often depend upon outcome and quantitative forms of argument for their authority.

In the UK the return to positivism, which had begun to go into some reverse from the early 1900s in school policy, has been decisive. It has become possible for the state to ‘know’ what are the constituents of good education or research, in schools and higher education, how to achieve them, (through the pressures generated by outcome analysis, bench marking and associated rewards systems) and thus convert precise and quantified forms of knowledge into authoritative resource rewards and penalties. This assertion of arithmetical epistemics handily reinforces the shift towards

managerialism at all levels of the system –managers can more easily use figures which are thin whilst words are thick.

We may see in these examples a clear case of particular forms of knowledge seeking –public evaluation- responding to equally clear assumptions about the distribution and exercise of power.

Epistemics and politics

Finally, we should consider the extent to which epistemological concerns and criteria are separable from political issues. It follows not only from the extension of academic boundaries explored by Trist, with his domains subject to multiple reference groups, and Gibbons et al' (1995) Modes 1 and 2, but also the fluctuating fortunes of positivism and interactive or hermeneutical versions of knowledge as noted above, that these concerns and criteria are promoted partly out of the interior discourse of academics but also as part of largely political movements. The challenge of radical student groups to academic power in the 1960s and 1970s was part of a larger struggle for power, voiced largely as an attack on the authority of received knowledge, as indeed was academic resistance to it. Different forms of knowledge reinforce different philosophies of state and professional control as particularly exemplified in the remarkable story of the return of positivism in educational evaluation in the UK and elsewhere.

Yet few generalisations in this area are completely true or false. There remain academic groups who pursue internalist philosophies and practices in the certified surety that these remain the right way to advance knowledge. For the most part, the best of them secure the best academic prizes and the most esteem which are cashable as grants, prestigious academic posts, and in some subject areas, support and prestige in the outside world. At the same time, we have to note the increased power of 'soft' forms of knowledge as it is disseminated through extended higher education systems and through political groups not respectful of traditional academic virtues. Knowledge, like politics, is increasingly multi-modal.

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