

control of prices and the way money is spent is now used to orchestrate the achievement of goals established through the (information-based) politico-bureaucratic process. "Customers" are typically no longer private individuals conforming to the image evoked when the term is employed by economists and politicians, but corporate giants purchasing on behalf of thousands, if not millions, of people - for health services, local authorities, airlines, national governments and international defence alliances. Citizens have the utmost difficulty influencing the way the two thirds of their "income" which is syphoned off in direct or indirect taxation is ultimately spent.

The extent of these changes is not generally recognised. In all countries of the European Community, approximately 45% of GNP is spent directly by governments. This does not include local authority expenditure or expenditure by the nationalized (or quasi-nationalized) industries. When this is added on, the figure comes to some 65%. This still does not include the effects of legislation requiring firms to do such things as provide pensions for their employees or install safety and pollution-control equipment or requiring private motorists to insure their cars. Nor does it include grant and levy legislation which is designed to ensure that people spend much of their "own" money in ways deemed appropriate by government. When these are added, the total comes to some 75%. One can argue about the figure of 75%, and one can argue about such things as how much control governments actually have over trans-national corporations or the way in which citizens spend transfer payments ... but the general conclusion that governments now control a major part of the spending in modern economies is indisputable.

These changes have come about for the best of reasons. An economy managed by the invisible hand of the marketplace gave us little control over the quality of the urban environment, crime, the inequitable distribution of income, plague and disease, environmental despoilation and pollution by producers or consumers, or even continued economic development itself. The immense social costs of dealing with the by-products of an industrial civilization, and providing the education, highway, and regulatory infrastructure required for its effective operation, were not subject to market forces. Only an extension of explicit management will give us control over international forces which have until now been beyond control - such as the worldwide depletion of physical and biological resources, destruction of the biosphere, population growth, exploitation of the Third World, international movements of money, tax evasion and unjustifiable marketing practices by trans-national companies, and war. Only an increase in world management will enable us to both improve the quality of life at dramatically reduced resource and energy costs in Western societies and improve the quality of life of the vast majority of the inhabitants of the globe.

The significance of these observations is this: while it has frequently been obvious that there was a need to evaluate particular policies - and especially pilot programs (Searle, 1985) - the central importance of evaluation and social accounting in modern society has generally not been appreciated.

Not only has the importance of such activity been underestimated - with the result that the establishment of more and better social research and development units has not been identified as one of the key developments needed to find better ways of running modern society - there has been little discussion of either the institutional arrangements which are required if social researchers are to perform their role effectively or the concept of science and research which should inform decisions about which research to fund.

In order to underline the importance, and clarify its nature, of the social research which is required, and in order to begin to discern something of the structures and expectations necessary if that research is first to be carried out and thereafter used, the results of two programs of research will now be briefly summarized.

Housing Research.

In the course of research conducted at the British Building Research Station between 1959 and 1963, Stone (1961a&b) and I (Raven, 1967) found that high-rise family housing:

- was unacceptable to most of its occupants: it imposed a sedentary way of life (because being active would disturb neighbors); it bred isolation (residents had difficulty getting to know their neighbors because they could not see them from their living rooms and therefore did not recognise them when they met); it was unadaptable to their particular needs (because they could not alter it in the way that - as the growth of DIY has since demonstrated - many owners of two-storey housing do as a matter of course); it led to a deterioration of family relationships (because parents were unable from their kitchens to supervise

children at play outside and the noise children made was disturbing inside); and access was often difficult (because the elevators failed or were vandalized).

- . was more costly to build than equivalent two-story housing.
- . was more costly to maintain than two-story housing.
- . accommodated fewer people per acre than two-story housing - which also had the advantage, if properly developed at the same density, of providing garages, gardens, and access to public open space.

Despite this high quality research - little action was taken. Building high-rise housing continued into the 80s. The disaster is now recognised for what it is and these expensive tall blocks are being demolished.

However, apart from emphasising that the first set of conclusions could only have been established through social research, the main point I want to make here is that we need to evolve structures and procedures which will make it possible to ensure that action is taken on the basis of good information. Later in this article I will argue that psychologists have a crucial role to play in promoting the evolution of such structures and in developing and operating appropriate procedures.

There is, however, something else to be learnt from other housing research undertaken at the same time (Willmott, 1963; Willmott & Young, 1960, 1966). Not only did people want a wide variety of different types of housing and wish to avoid the grey uniformity which is associated with public housing, the creation of vast single-class suburbs - many as large as whole towns - made it very difficult for young people who aspired to other ways of life to make contact with like-minded people and gain sufficient insight into their values and way of life to make meaningful choices. Furthermore, bureaucratic rules made it difficult for tenants to establish the community support networks which are associated with "unplanned" working class communities - and this forced many people to lead isolated lives of demeaning dependence on welfare agencies and tranquilisers.

These further observations illustrate that not only do we need some (social-research based) means of ensuring that public servants attend to the needs of their clients and try to invent better ways of meeting those needs, we also need to: (a) legitimize the notion that choice is required in public provision, (b) provide the public with the (social research based) information they need to make meaningful decisions, (c) provide public servants with the (social research based) tools they need to administer that choice, and (d) (in part through social research) evaluate and improve each of the choices so as to better meet the needs of those concerned.

If we require such an elaborate infrastructure to administer public housing effectively why have it at all? First, because it was necessary in Britain after the second World war to build housing - and whole new towns - on an unprecedented scale. Second, because those for whom public housing was intended had, in the past been (and in many countries still are) very badly catered for (and sometimes mercilessly exploited) by builders, landowners, and landlords. Third, because, although those concerned had a clear need for housing, they often lacked the resources which would have been required to transform that need into an economic demand. Fourth, because, even when they did have the necessary cash, they often did not have the collateral information and power needed to ensure that they were not exploited. And, fifth, because the knock-on effect of a large number of impoverished families who lived in poor and insanitary housing (both immediately in terms of disease and crime and, in the longer term, through the community's inability to make use of the considerable talents which undernourished and alienated youth could otherwise develop) would be so great. (It may be noted that these needs still exist). In short, if one left it to the market, one did not get enough provision and a large proportion of that which was provided was socially unacceptable and had serious negative consequences for everyone in society. One has only to consider Tokyo and Taipei to see this process at work today. Thus, despite the revulsion which many people feel when they see British and East European apartment blocks, and despite the fact that the governments concerned could undoubtedly have done much better at a lower cost, the products of the operation of the free market in similar conditions elsewhere in the world are infinitely worse.

There is one more lesson to be learnt from housing research. Public servants were, and remain, remarkably blind to issues which involve linkages between departmental responsibilities. One of these has to do with the linkages between housing policy and economic development. To accumulate the "points" required to demonstrate "need", one had both to have children and to have lived in the same locality for many years. If one moved

from one local authority to another one went back to the bottom of the waiting list. This markedly restricted geographical mobility. One survey showed that 84% of public housing tenants in England were unwilling to move under any circumstances.

Adam Smith and Hayek argued that it is precisely this inability to appreciate connections, relationships, and cumulative consequences which is the strongest argument for leaving such decisions to the invisible hand of the economic marketplace. Unfortunately, it was precisely the failings of that marketplace which led to the attempts to manage these processes. What is more, with the aid of information technology, we are now in a much better position to study and identify relevant relationships and consequences than was the case when Smith was writing. The conclusion to be drawn is that we need to establish policy research, evaluation, and development units whose brief it is to examine such issues, and then to find some way of ensuring that public servants take account of the results. It was the absence of this evaluation and improvement process - and neither the presence of communism nor the absence of the "free market" - which was the problem in Eastern Europe.

The Educational System.

Another, and in many ways even more disturbing, set of examples of the failure of public servants to act on information and consider the needs of their clients comes from education. Education was one of the first sectors of the economy to be socialized. There were two main reasons for this: (1) education is intended to benefit everyone in society and not just those who pass through the system, and (2) the poor are in no position to pay for the education of their children and, as a result, society is deprived of those children's talents.

Good though the reasons for socialising education are, research conducted since 1965 (Johnston & Bachman, 1976; De Landsheere, 1977; Raven, 1977, 1983, 1988; Goodlad, 1983) shows that - all over the world - schools fail to foster the qualities which most people think it is most important for them to nurture - and which a wide range of research shows that it is most important for young people to develop (Flanagan & Burns, 1955; McClelland, 1961, 1962; MacKinnon, 1962; Taylor & Barron, 1963; Van Beinum, 1965; Fivars & Gosnell, 1966; Sykes, 1969; Burgess & Pratt, 1970; Price, Taylor et al., 1971; McClelland & Dailey, 1973, 1974; Klemp, Munger & Spencer, 1977; Raven & Dolphin, 1978; ITRU, 1979; Fores & Pratt 1980; Beuret & Webb, 1983; Dunn & Hamilton, 1985; Schon, 1987; Schwartz, 1987 - all of which are summarised in Raven, 1984a, 1992). The required qualities include initiative, the ability to work with others, and the ability to understand and influence society. Teachers fail to deploy the educational practices that are needed to nurture these qualities and have been recommended for over a century (Dewey, 1899, 1910, 1916; Kilpatrick, 1926; Rugg, 1926; Counts, 1932; Aikin, 1942; Wright, 1950, 1958; Rathbone, 1971; Barth, 1972). There are many things to be said about this discrepancy between precept and practice, but what is most germane to the theme of this article is that here we have a major domain of public activity in which there are widely shared (and demonstrably correct) goals, yet society is unable to translate those goals into effect. (The significance of this observation may be underlined by noting that stemming the destruction of the biosphere likewise depends on translating a widely endorsed goal into effect).

There are many reasons why schools tend to neglect these goals (Raven, Johnstone & Varley, 1985; Raven, 1989, 1990, 1992). The point to be noted is, however, that most of these barriers were not obvious until research was undertaken, and, even then, their discovery was usually "accidental" because little of the research was explicitly initiated with a view to identifying the forces which deflect the educational system from its manifest goals. Indeed, far from seeing the need for research, governments and administrators have tended to assume that it was sufficient to exhort teachers to attend to the goals they had identified: if the teachers did not, it "obviously" pointed to deficiencies in teacher training, commitment, or management. In reality, the problems are deep seated and non-obvious, having to do with the value conflicts which surface as soon as one tries to engage in effective education, beliefs about the way the public sector should operate, and the absence of the tools needed to manage individualized, competency-oriented, educational programs. A great deal of further research and development activity - much of it of a fundamental nature - is required if the barriers are to be overcome (Raven, 1977, 1983, 1989, 1990; Raven et al., 1985).

More specifically, the reasons schools have tended not to foster the qualities mentioned above include lack of understanding of the psychological nature of the desired competencies, how they are to be nurtured, and how progress toward them is to be assessed. The assessment problem is of particular importance because what happens in schools is mainly determined by what is assessed in the certification and placement process

and not by the priorities of teachers, pupils, employers, or even ministers of education.

However, there are more serious problems which only become apparent when one studies the nature of qualities like the ability to communicate, solve problems, or take initiative and the processes which lead to their development. It emerges (Raven, 1984a, 1992) that all such qualities are heavily value laden and involve beliefs about society and how it works. As a result, any teacher in a state school who takes the task of nurturing such qualities seriously is immediately confronted by some parents and pupils who demand that the activities cease. (The same happens to any administrator who takes environmental issues seriously). Private schools can, and often do, nurture such qualities and inculcate political beliefs, and their ability to do this - and not their ability to foster academic attainment - turns out to be their great strength. But it is also why they are often attacked. It also emerges that such qualities can only be nurtured by creating situations in which pupils undertake activities they care about - and in the process practice and develop these high-level competencies. Yet teachers have no tools to help them to identify individual pupil's values, concerns, and priorities or to monitor the growth of these high-level competencies whilst pupils are engaged in individualized, project-based, educational programs (Raven, 1991a&b, 1992).

If one follows the problems arising from the value-laden nature of competence through, it emerges that, if one is to nurture these qualities in any pupils it is necessary for the public service to: (1) create, and provide in each community, a variety of very different types of program which demonstrably and effectively nurture different qualities, and (2) collect, and feed to the public, information on the differential, short and long term, consequences of each of those programs. Clearly this involves both new expectations of public servants and a new interface between the public service and the public.

Nor is that the end of the matter.

Other problems become apparent as soon as one sets the insight that competence is value-based beside the observation that teachers and pupils tend concentrate on the goals that count in the certification and placement process. It follows that if we want them to attend to high-level competencies it will be necessary to assess them. Yet the assessment of value laden competencies involving political beliefs creates many dilemmas.

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Another problem is that the latent, sociological, functions of the educational system are in sharp tension with its manifest functions (Raven, 1992). Modern society requires large numbers of people who do not think about the way it works to carry out the, at best, all-hype and no substance, and often environmentally and socially destructive, work of which it is so largely composed. It is easiest to see this by considering the insurance industry. Insurance should be a simple matter of transferring resources from those who have them to those who do not. But in fact it manufactures endless jobs and magnifies differences between the rich and poor in such a way as to compel participation in the system. Endless jobs are created to develop insurance "packages", sell these, collect and keep account of small sums of money, assess entitlement, pursue legal wrangles, and assess the profitability of investments. The educational system works in much the same way offering activities which occupy a lot of time of a lot of people: it creates jobs for teachers, administrators, researchers, publishers, librarians and test agencies. It manufactures discriminations which induce more people to participate in the system for fear of encountering the fate meted out to those who fail in what is requisitely a norm-referenced system. While claiming to promote the development of the ability to think about and influence society it - as several writers including Hope (1984), Chomsky (1987) and Nuttgens (1988) have noted - promotes and advances those who are most concerned with their personal advancement and least concerned with and able to do something about, wider social problems. The most striking demonstration of a conspiracy to prevent the educational system nurturing the capacity to analyse and influence society comes from Robinson's (1983) work. Using newly available documents, Robinson was able to show that, precisely because Rugg's books were effective in fostering in pupils the tendency and ability to think critically about the workings of society, the National Association of Manufacturers mounted a campaign (including lying to Congress) to discredit both Rugg and his books - a campaign from which he never recovered.

Yet other barriers to the introduction of generic-competency-oriented education stem from concepts of the role of the teacher and the criteria which are applied in staff appraisal. If teachers are to foster high-level competencies they must pay attention to the needs of each individual pupil. Yet teachers are not expected to be innovators and inventors. No time is set aside for such activities. Their job is viewed as being to do the bidding of elected representatives. There is no means of getting credit for engaging in the

difficult, demanding, frustrating, and risky business of trying to find better ways of meeting each student's needs. In short there is no provision for what Kanter (1985) has termed "parallel organization activity concerned with innovation". Thus it emerges that, if education is to be brought into schools, it will be necessary to evolve new understandings of how public sector institutions should work and the role of public servants, including teachers. It will be necessary to do much more to create the arrangements required to promote innovation and generate variety. And it will be necessary to find ways of giving teachers and administrators credit for having engaged in the difficult and demanding activities that are required to find new ways of meeting public needs.

It is not possible here to do more than hint at the conclusions to which our work in this area point and the further research which is needed if schools are to be transformed into more developmental environments. The points which need to be drawn out of this discussion are that the conclusions suggested by our data were not anticipated when the studies were initiated, are not unarguable, and (as writing on the new scientific realism [eg House, 1991] has more recently enjoined researchers to do) involve going well beyond the data to, for example, draw sociological conclusions from psychological data and then ask what psychological tools could be invented to enable schools to harness sociological forces in such a way as to push schools in the direction in which most people want them to go.

Other notable conclusions are that the public servants responsible for the development and implementation of educational policy have failed: (a) to monitor and attend to the needs and reactions of the clients of the educational system, (b) to capitalize on the wide variety of different talents which can be fostered among pupils for their own and society's benefit, (c) to harness the wide variety of motives which can be tapped to fuel enthusiasm for educational activities, (d) to initiate the necessary research and development activity, and (e) to act on such information as was available.

So here we have evidence - much which has been available for 20 years - of another vast misuse of public money, further evidence of the need to provide variety within the public sector, and further evidence of the need to hold public servants accountable against different criteria. In the context of the current zeitgeist it is important to emphasise that the problem could not be solved by "returning" the activity to the marketplace (Raven, 1989, 1992). The reasons for this are: (a) if our society is to develop, many attitudes and skills - which it is the responsibility of the educational system to identify and nurture - need to be widely shared in society and not just possessed by an elite, (b) we need a wide variety of people who possess different combinations of specialist information the need for which cannot become clear until after the event and which people are unlikely to see the need to purchase as individuals, (c) many people are in no position to pay for their children's education, and (d) the main benefits are not going to be derived by people as individuals but by them as members of a society which has developed as a whole. If everyone is going to benefit (even those who have no children), everyone should pay. People would be most willing to pay, as individuals, for those "educational" programs which were most likely to lead to credentials which would in turn buy entry to protected occupations. But those credentials neither testify to the development of important competencies nor lead those who provided the courses to focus on such competencies. What is more, those who could pay and expect to recover the costs from increased personal income would be those who were most concerned about their own advancement and most willing to use the educational system to achieve it. Hope (1984), Chomsky (1987) and Nuttgens (1988) have all discussed this problem in more detail and Hogan (1990, 1991) has provided a useful demonstration of the destruction which these self-interested people cause in the organizations which employ them. (Incidentally, this line of thought also provides a useful antidote to those who emphasise the dangers inherent in assessing value-based competencies in that it highlights the dangers inherent in not assessing value-laden competencies).

One could multiply instances of the deficiencies of public provision - in health, welfare, defence, and the management of agri-business, international trade and the biosphere. Examples will in fact be found in Klein (1980) and Rose (1980). Day and Klein (1987) have provided a valuable discussion of the way in which some professional groups in modern society evade accountability and linked that discussion to the forms of democracy proposed by Aristotle and Mill in an effort to overcome the problem. They do not, however, acknowledge what can be done to evaluate and find ways of improving public provision and they pay insufficient attention to how to get from what is to what might be. At a more micro level, the inability of public servants to act in the public interest are well documented by Chapman (1979).

However, in concluding this section, we may return to, and underline, the need to do more to examine the linkages between one area of policy and another. The policies which are currently enacted tend to be domain

specific. Thus, the way we provide for social security makes for the subjection of large numbers of people to a demeaning and dehumanising way of life which kills initiative and enterprise. The way we provide health care separates it from agricultural policy, housing policy, and environmental policy - including job design and transportation policy. As a result, we spend much time treating diseases which are caused by the over-consumption of milk and beef products and diseases caused by pesticides or hormones - both of which are dependent on agricultural policy. We spend time treating depression caused by neighborhoods which breed isolation. And we treat accidents and lead poisoning caused by motor vehicles - the need for which in turn derives in part from the way we provide and finance housing (for this deters people from moving home in order to live nearer their place of work) and the way we organize job allocation (for this does not make it easy for people to find work near their homes). The way we allocate position and status creates a "demand" for expensive "education" which, in reality, confers few benefits other than a passport to a protected occupation. We urgently need to find ways of involving (and financially rewarding) more people in community-support networks which could better meet welfare, child-care, education, economic development, environment, and health-care needs.

An Economist's or a Psychologist's Solution?

The public has become increasingly conscious of the kinds of problems discussed above. They have found themselves unable to get public servants to act in the interest of the general public, to introduce diversified provision which caters for sub-groups who have different priorities in different ways, and take decisions which reflect all the factors which ought to be considered in particular circumstances. This is why, in our quality-of-life surveys (Raven, 1980) we found that, while people are dissatisfied with their washing machines and cars, more dissatisfied with the quality of the environments in which they live, and still more dissatisfied with social, welfare, health, and educational provision, they are most dissatisfied with their relationships with public servants and politicians.

Despite the fact that numerous surveys have shown that a majority of people in the UK do not want to abolish public provision and are willing to pay higher taxes in order to improve it, it has been the awareness of problems like those mentioned above which has fueled public support for "privatization". The next question we must address is, therefore, whether this has any firm foundation.

When considering this question we may first note that there is ample evidence that both large and small companies frequently fail to act in the public interest and are often anything but innovative (Sutherland, 1949; Roberts & Wainer, 1966; Bellini, 1980; Etzioni, 1983, 1984, 1985, 1986; Kanter, 1985; Ekins, 1986). The privatized legal system is neither inexpensive nor responsive to clients' needs. Nor does it have a reputation for acting in the public interest. The reduced operating costs sometimes obtained by privatising services tend to be achieved at the expense of the weakest members of the workforce. Indeed, in Britain, special legislation has been introduced to enable the firms concerned to evade pension and social security requirements that are binding on others. Further "savings" are made by externalising the costs of monitoring and policing the activities of larger operations like telephones and transport. Fragmenting large organizations does not necessarily make their services cheaper, more efficient, or more responsive to customer needs. Breaking up the Bell Telephone System has increased costs to the consumer by a factor of three, and deregulation of air travel, which initially reduced fares, later led, first, to the concentration of 80% of US air traffic in four companies and then to increased fares.

Other forms of privatization offer no solution to the problems posed by size, responsiveness, and innovativeness: one tends either to create vast private monopolies in place of public monopolies or to create private organizations which are dependent for their continued existence on the patronage of public servants or public service Departments. The problems of monitoring and running them - and stimulating innovation and consumer responsiveness within them - remain.

More seriously, as Galbraith (1970, 1991) has long recognised, and many other economists have since come to apprehend, the economic marketplace offers no way of dealing with the major problems which arise from costs which have been externalized in market calculations. A series of world wide catastrophies can now be expected to stem from having externalized costs to the biosphere, future generations, and the Third World. In fact it emerges (and indeed it follows from our earlier observations about levels of taxation) that the cornerstone of economic theory - prices - are determined mainly by the cumulation of expedient decisions, taken by public servants and politicians, about which costs to load directly onto producers, which to spread over the whole community, and which to externalize to other countries or future generations. It is this determination of

prices through the accretion of public decisions - and the considerations that are taken into account and ignored - that we need to study and influence. (We may also note that even charging producers the full costs of transportation - including those involved in constructing and policing highways and the costs of legal proceedings and hospital treatment associated with accidents - reveals that stalwart of economic theory - the supposed efficiency of centralized production - is a myth).

Most seriously of all, there is now ample evidence (e.g. in the writings of Thurow, 1983; Etzioni, 1985; Robertson, 1985; Ekins, 1986; George, 1988) that the economic marketplace does not work in the public interest and that we have built our standard of living on economic processes which are heading us toward, not merely extinction as a species, but the destruction of all life on the planet.

It would therefore seem - and anyone connected with Eastern Europe would do well to note the point - that faith in privatization, market processes, economics more generally, and the IMF in particular, is misplaced. What we need is a society in which - in one way or another - we are able to collect good information on the personal, social, biological, and physical consequences of our individual and collective actions, examine their causes, and take good, forward-looking, decisions on the basis of that information. The issues we have to examine have therefore to do with organizational and social evaluation and the development of organizational arrangements which will promote effective personal and collective decision taking and management. They are therefore centrally dependent on the application of the concepts, methods, and tools of organizational psychology to society as an organization.

Acting on Information Received.

The previous discussion suggests that the basic problem is to find ways of ensuring that public servants act on information, in an innovative manner, in the public interest. Others (like Schumacher, 1974; Dammann, 1979, 1984; Bahro, 1986; Banuri, 1990; Binswanger, Faber & Manstetten, 1990; Janicke, 1990) have suggested that this is not the case, that we need to "return" to community-based decision taking. This "solution" is, however, naive because, firstly, the information involved is of a complex and high-level nature and, secondly, because what happens in any one community is critically determined by what happens on the other side of the globe. It is necessary to know what is going on there, to understand how their political economies work, and to be able to intervene in them. On the other hand, centralized institutions - such as the United Nations - are incapable of knowing and understanding all the implications of all their decisions. Some new societal management process and structure is required.

In fact, the material we have reviewed suggests that several sets of developments are necessary: (a) we need to acknowledge that it is our public servants who play the main role in the management of modern society and that our task must be to find ways of enabling them to both manage society more effectively and sift information for good ideas and act on them in an innovative way in the long term public interest, (b) we will need to establish much better arrangements to study the effectiveness of public (and private) provision, find out why things are not working better, and invent better ways of doing things, (c) we will need to set aside time for, and create a structure which will promote, "parallel organization activity" to promote innovation within the public service, (d) we will need to systematically set out to generate variety and choice in public provision, collect information on the short and long term, personal and social, consequences of each option and feed that information to the public instead of upward in a bureaucratic hierarchy to elected representatives, (e) we will need new job definitions and staff appraisal systems within the public service so that people can get credit for engaging in the difficult and demanding processes that are involved in innovation and dealing with the complex issues of acting in the long term public interest and catering differentially for different sub-groups, and (f) we will need to establish a new interface between the public service and the public so that it is easier to supervise the activities of public servants and ensure that they are doing all that is necessary to act in an innovative way in the public interest (Raven, 1992).

Let us return to education to illustrate the kind of developments that might be envisaged. (We do this, not with a view to giving definitive answers to the problems mentioned but with a view to illustrating the topics which need to be researched). As we have seen, the available evidence suggests that individual teachers (public servants) need to be held accountable for studying each of their pupil's talents and finding ways of nurturing them. To find out whether teachers are achieving this goal we need new, research-based, appraisal instruments. But it is also true that, if teachers are to monitor their performance and take the initiative needed to find better ways of meeting their pupils' needs, they must devote a great deal of time and energy to the risky and frustrating activities that are involved in innovation. They need to be part of

personal networks in which they are encouraged not only to make contact with, and to work with, teachers in their own and other schools who are attempting to tackle similar problems, but also those engaged in other activities which bear on the educational system - those employed in test agencies, those who select employees or students from among their pupils, those responsible for managing economic and social development (and who therefore control the "demand" for educational "qualifications"). They need to find ways of collaborating with such people in ways that capitalize upon their own and each other's unique preoccupations, talents and areas of idiosyncratic, specialist knowledge and skill. They need a structure which provides support and encouragement when things go wrong, as they surely will. They need to be encouraged to band together to gain control over some of the wider social forces which otherwise prevent them doing their jobs - even when narrowly defined - effectively. And they need some means of getting credit for having contributed in very different ways to these processes (Adams and Burgess, 1989).

But even all this is not enough. Those responsible for public provision need to set out to explicitly create a much greater variety of educational programs which demonstrably and effectively nurture very different values and patterns of competence, establish that variety in each community, ensure that evidence on the personal and social, short and long term, consequences of each option is collected, and feed that information outward to the public (to enable them to make their own decisions) instead of upward in a bureaucratic hierarchy to elected representatives. This process implies more than a new role for public servants and new criteria of accountability. It involves nothing less than a re-definition of the key features of democracy, what is meant by democracy.

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Having shown that, as a society, we need new expectations of teachers - new arrangements to enable them to work with teachers in other schools and with others whose work has a bearing on education, new tools to enable them to take stock of their pupils' needs, their own performance, and the performance of the schools in which they work - and for new staff and organizational appraisals, we must say something about the public supervisory structure that is required to monitor the work of teachers, schools, and the educational system as a whole.

We will need to move away from our current monitoring mechanisms. These depend on long chains of authority to distant elected representatives meeting in multi-purpose assemblies. These chains of authority filter out key information relating to problems and suggestions. Elected representatives are inevitably ignorant both about the work of any particular teacher or school and about more general educational issues. Indeed, such representatives are inevitably ignorant about most of the issues which bear on most of the decisions they are taking because they range over so many topics that no one person could possibly be well informed about more than a fraction of them. The idea that it is their job to decide what needs to be done and that public servants should then do it is unrealistic. Janicke (1990) has shown that representative democracy has been unable to constrain private organizations to act in the public good or orchestrate communal action for the public good.

To overcome these problems we will need, first, to acknowledge the true role of public servants in managing modern society and then find new ways of contributing to their effectiveness and exposing their work to the public gaze. Teachers, for example, will need to become accountable to a network of monitoring groups that include people with very different interests and concerns: other teachers, parents, researchers, employers, personnel from local and national education departments, economic planners, media personnel, those who know about developments in education and what is happening in other schools, those who have new insights into what is happening in their own societies and the competencies required to deal with the problems, and those who know what is happening on the other side of the globe. The process needs to be a mutual learning process which enables all concerned to learn from each other and develop new insights which none of them possessed before. The process needs to be reciprocal: all members of a group monitoring the work of any one teacher will be in other groups overseeing the work of personnel in quite different fields (Ferguson, 1980; Toffler, 1980; Raven, 1984a, 1992).

To make the system function, it will be necessary to find ways of collecting and feeding relevant information on the performance of teachers, schools, officials, and systems to the monitoring groups. This might be done by employing the strategies of the "illuminative" evaluator or by developing formal instruments. "Illuminative" evaluation seeks to overcome some of the limitations of conventional multi-variate evaluation that are discussed further below - such as the absence of appropriate measures of program inputs and outcomes and the delay that can be expected before the effects show up (Hamilton, 1977; Eisner, 1985; Raven, 1985,

1991b; Siegler, 1989; Snow, 1989). More recently House (1991) and Salomon (1991) have discussed the way in which data is to be used to illuminate an unseen reality ("scientific realism") rather than test hypotheses and the way in which it can be used to identify structures and processes so that outcomes can be inferred. Formal instruments include classroom, school, organization, and community climate survey questionnaires. Data from such surveys of educational processes enable monitoring groups to, in a sense, look at what is going on, decide whether they like the look of what they see, and, if appropriate, contribute to a discussion of what is to be done about it. (Howard, 1982a,b,c, describes a system of educational monitoring and improvement based on both the monitoring groups and climate surveys described here).

Our conclusions about the nature of the public monitoring arrangements that are required may be summarized by saying that it is vital to focus on, formalize, and systematically extend, the concept of Networks developed by Schon (1973), Ferguson (1980), Toffler (1980) and Kanter (1985) and the concept of "civic culture" and citizen participation articulated by Almond & Verba (1963) and Inkeles & Diamond (1980). In looking for a way forward, we need to study elements of the system in the same way that Likert (1969) and Jaques (1976, 1989) have studied aspects of the managerial process in the workplace. One particularly fruitful task would be to study the strategies the Japanese employ for public (as distinct from industrial) decision taking and consensus building. These depend, not on formal democracy, but on public discussion networks linked to the media and particular government departments.

Actually there are some additional insights into the effects of widely shared beliefs about what it is important to do and how to do it to be derived from cross-cultural work already conducted in this area. Research carried out by the Taylor-Nelson Monitor (Yankelovich et al., 1983; Nelson, 1986) shows that Britain, along with Norway, Holland and Austria, has one of the highest levels of endorsement of the "New Values" - decentralized production, emphasis on quality of life instead of GNP, emphasis on fair trade with the Third World, community support networks in place of drugs-based health care, community support networks in place of commercial insurance, drastic reductions in car usage, and equity in the distribution of incomes. America and Japan are bottom in this league. Yet our own work shows that Britain - along with the Samoans, the Tongans, and the Philippines - has one of the lowest levels of commitment to finding better ways of doing and thinking about things, finding new things to do, getting people to work together effectively, or studying the workings of socio-political systems. The Japanese are at the top of this league. So one has an extraordinary situation in which the "muddled" British are more likely than others to want, in effect, to introduce the new social and economic order we so badly need - but do not want to do any of the things that would be necessary to do so - while the Japanese are attached to the old order but acknowledge the importance of doing the things necessary to translate any valued goal into effect. One wonders what the 1870s Japanese Commission - which led to the current industrial might of Japan - would make of things in Britain now: would they again conclude that the (new) goals of the British people are right, but that they (still!) lack an understanding of the arrangements that are needed to translate those values into effect - and then once more spell out what Japan would have to do to move in the required direction? It is of interest to note that one of the lessons which many young people in Britain appear to have learned at school is that the educational system is a fraud. They have then generalized this observation to note the Orwellian nature of much of modern society. According to Dore and Sako (1989), Japanese youth have made neither of these observations and still thinks it is necessary to work unquestioningly at the tasks their elders tell them are important. American youth seems to learn to noisily echo the conventional wisdom and then do whatever is required to secure their own advancement - but without the Japanese commitment to the seriousness of the enterprise.

Whenever the ideas about the network-based supervisory democracy which emerge from this work have been discussed, people appear to have the greatest difficulty with the idea of decisions being taken without voting. It is therefore important to note, first, that Emery (1974a&b) has shown that the people elected to "representative" assemblies are typically anything but representative of those they claim to represent. They have different values, priorities, and agenda. What is more, if they are not already different, because they mix with different people and form new reference groups, they rapidly come to see things from perspectives which differ from those of the group that elected them. If, for any reason, it is really important that a sub-group or committee be made up of members who represent the views and priorities of some larger group it is essential to choose them at random from that larger group and avoid electing representatives.

More seriously, Toffler (1980) has noted that our representative institutions were developed in the 18th century - at a time when government played a much less significant role in the management of society, when society was much more uniform, and when the main variance in need was geographical. Now governments deal with so many issues that not only, as we have seen, do we end up with government by the ignorant, the population

itself is made up of sub-groups with widely differing concerns and priorities with little interest in policies that are of great concern to sections of their fellows. Thus decisions taken by a vote of the entire population are rarely appropriate. If voting is involved it should ideally be based on those who are informed about, and have a direct or indirect interest in, a particular issue. The phrase "informed about" presents as many problems as the "interest in". The opinions of many of those who know a great deal - from direct experience - about the effects of a policy are often discounted because they are poorly researched and presented. The question of how to enable marginal groups to substantiate their knowledge, research their ideas, and present their case well opens up more roles for psychologists. But the real point is that our current voting mechanisms, based on representative assemblies, in no way come to terms with the problems.

A final objection to changing the system is that "one needs to retain some way of throwing out incompetent people". The response to this is that the most destructive people in our society are often public servants, not politicians, and that it is very difficult to find out what they are doing, never mind remove them, and even if they are politicians, it is normally impossible - for a variety of reasons - to remove them by popular vote: witness President Nixon and Prime Minister Thatcher.

Psychologists and Social Mythology.

At several points in this article we have underlined the way in which widely shared beliefs about how society works determine behavior. It is now time to make psychologists' role in the area more explicit. At one level we are saying that we need to surface such embedded beliefs and document them as part of our explanation of behavior - and even to set out to influence them in our efforts to promote the growth of competence. Surfacing and documenting these embedded beliefs and demonstrating their consequences is a difficult task which requires a considerable volume of open-ended, innovative, research of a kind that is rarely discussed in courses on "research methodology". But, at another level, what we are saying is: (a) that it is part of our role as psychologists concerned with the study and explanation of behavior to expose economic and political myths for what they are (in the same way that scientists like Galileo and Darwin called accepted religious and philosophical beliefs into question), (b) that it is an important part of our role as psychologists to document the personal and societal consequences of alternative myths, and (c) - and most importantly - that the kind of work we will do, and the contributions (or otherwise) we will make to society, are dependent on selecting and conducting our research projects in a context of having "seen through" widely accepted myths.

The myths I have in mind when making the last statement include such things as the belief that the market place (at least as implemented in modern society) leads to efficient ways of doing things, the myths associated with money and banking, and the myths associated with education. There is not space here to go into these in any detail here and it will necessary to restrict myself to a few provocative remarks. Contrary to popular belief, the market mechanism is the least efficient way of doing anything: two thirds of the cost of any good or service goes on distribution and marketing and it is virtually impossible to fund important R&D through the market processes. (R&D is almost invariably funded by Government, eg through "defence" budgets or agricultural programs). Market mythology does, however, have an extremely important sociological function: it creates large numbers of jobs for people who would otherwise be unemployed. Moreover, it creates "high-level" jobs which "demand" education and competition. Thus it creates endless positions for salespersons, buyers, and accountants and in transportation, advertising, banking, pension companies, insurance, and law. We have already seen that the educational system, even as a state enterprise, does little to nurture the talents of those who pass through it. Its sociological function is to keep youth "off the streets", provide employment for teachers, lecturers, administrators, and "researchers", and to compel participation in the system by manufacturing huge differentials between the life chances of those who do well in it and those who do not: since it is a norm-referenced system everyone has to run faster to stay in the same place. Privatising it would create a whole swath of new jobs preparing brochures, keeping track of accounts etc. What is more, not only does the educational system not nurture competence: it promotes those who are least able to make their own observations and think about society into the most influential positions (Tomlinson & Tenhouten, 1976; Hope, 1984; Nuttgens, 1988; Hogan, 1990, 1991; Hogan, Raskin and Fazzini, 1990). And consider the "defence" system which provides no defence - but the industrio-military complex employs millions of soldiers and still more scientists and industrialists (Galbraith, 1991).

While some people will find these observations interesting, and more will feel that they have nothing to do with scientific psychology, our claims are; (1) that they are sociological observations the truth (or otherwise) of which can, in many cases, only be established through studies which are crucially dependent on

the contributions of psychologists, (2) that the solution to the problems they reveal is dependent on the development of new, specifically psychological, understandings and tools, and (3) - most importantly - that, unless we question and see through these myths, the kind of work we, as psychologists, will do - in education, in industry, in public management - is unlikely to contribute to the solution of the social management problems which so conspicuously confront us. It is not so much that we need to set our research in the context of one new belief system as that we need a range of research which relates to, and is given meaning by, a wider range of myths. (In saying this, we do not mean to imply that we do not think that some myths are more useful than others: the sun does not go round the earth and it is not a political statement to say so). In exposing such myths - and thus opening up whole new realms of research and applications of psychology - we can expect to be accused - every bit as vehemently as Galileo - of making political statements which go beyond our discipline. This has implications for all of us - and not just for those directly involved - because it means that we need to take care to support those who make such statements even when we do not agree with them.

Social Arrangements to be Promoted.

It will by now be obvious that, although the development of the new organizational arrangements, the understandings of the public service, and the necessary stocktaking and information-gathering tools are all tasks for psychologists, if the developments in bureaucracy and democracy envisaged above (or others like them) are to come about, there is a need for an unprecedented public debate about the goals of society, the state of that society, and what is to be done about it. This debate cannot take place without the assistance of the media, and those who take part in that debate need some mechanism through which they can make their views known. As Toffler (1980) has pointed out, modern information technology makes it easy for people to vote from their living rooms. But the value of feedback of this sort is not only dependent on the selection and dissemination of the information required to enable informed decision taking to take place. It is also dependent on finding ways of enabling marginalized groups to commission the research which would be required to substantiate their position and to get their views heard, and on psychologists developing sets of survey questions which yield more meaningful results than those obtained from opinion polls. Finally, if these types of conclusions are to be drawn from such data it will also be necessary to develop understandings of democracy which do not imply that majority decisions should be binding on all, but which instead imply that some means must be found to enable people with different priorities to get equitable treatment, geared to their priorities, from the public service.

A final observation to be made here is that the time required for many members of the population to engage in the kind of participative - as distinct from representative - democratic process necessary to oversee the public sector activities which dominate our society will be considerable. It is therefore important to note that such civic activity contributes to the quality of life of all. In other words it is wealth creating activity which merits financial reward. This should not be interpreted to mean that this is the only basis on which such activity could be organized. Thatcherite Voluntarism and Trotskyite compulsory labor on behalf of the commune are other alternatives. (In order to discourage immediate rejection of this possibility, it may be recalled that the costs of operating the economic marketplace are enormous. Yet this work - unlike the chore of supervising the public sector - tends already to be viewed as contributing to wealth creation).

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Implications for Psychologists.

The objectives thus far have been to show that modern society needs psychologists to:

- (1) carry out evaluations of a wide variety of public policies, to identify barriers to their effective operation, and to contribute to the invention of better policies.
- (2) examine the workings of the public sector as an organization. (Such examination will reveal that most institutional arrangements in modern society actually serve purposes quite other than their manifest ones. Exposure of this conflict between manifest (or espoused) and latent functions is a pre-requisite to rational discussion of ways forward).
- (3) develop the tools which are required to administer diversity in public provision and evaluate the quality of that provision from the point of view of each of the groups concerned.
- (4) develop the tools which are required to take stock of organizational functioning in the public service, and for use in staff appraisal and staff guidance, placement and development, so that: (a) it is possible to ensure that public servants pay attention to, and take innovative, forward-looking, action on, the information provided under (1 and 3), (b) public servants can get credit for exercising high-level

competencies like creativity and initiative, and (c) the public service - for which most of us now work either directly or indirectly - can make the best use of the available talent in energetic, forward-looking, activity in the long term public interest.

- (5) above all, to contribute to the evolution of the new institutional arrangements required to undertake activities which enhance the quality of life - ie new arrangements for managing society and supervising that management. This will involve us in contributing to the evolution of new understandings of democracy, the public service, the role of the public servant, wealth, wealth-creation, work, and citizenship.

These observations have major implications for the kind of research we see ourselves undertaking, the criteria we apply to research proposals and the products of research, the institutions we seek to establish to carry out that research, the relationships we seek to establish between researchers on the one hand and policy makers and the public on the other, and the beliefs, expectations, and attitudes we foster in the course of undergraduate and post-graduate education. The concluding sections of this paper address some of these issues.

The Concept of Research.

We will now discuss separately the kinds of research needed to evaluate and improve specific policies and the kinds needed to develop the more general concepts and tools required for modern society to function more effectively.

Evaluation of Public Policies (and the activities of "private" corporations).

Accuracy and unarguability are widely believed to be the hallmarks of science. This view dominates the thinking of the *Joint Committee on Standards for the Evaluation of Educational Policies and Programs*. However, it will be argued here that, while this view may well be appropriate in academic research, it is not appropriate in policy and evaluation research.

To take an example, there is little point in demonstrating that an innovatory educational program, weakly implemented and without other supportive changes, does not have dramatic effects. Yet most pilot programs (such as the Pakistan Primary Education Project - Searle, 1985) are of this sort. It is frequently the case that no one at the start of a program can specify the pedagogic processes which are to be used to reach its goals. Crucial equipment has usually not arrived, and facilities are makeshift. There are no tools to enable the teachers concerned - or even the program evaluators - to find out whether the new goals have been achieved, still less to give individual teachers or pupils tradeable credit for having achieved them. Teachers in other classrooms - with whom the pupils may be spending more than 90% of their time - may have changed neither their teaching practices nor their expectations of pupils. The program goals may never have been discussed with pupils or parents and may therefore not have their support. And employers and universities may still be selecting their entrants on the basis of criteria which divert energy and attention from the program goals. Under such circumstances, what is required is an evaluation which: (a) uses the available evidence to infer what the effects of properly developed inputs, in various contexts, would be likely to be, (b) identifies the barriers which are preventing the program being more effective (and it is important to note that many of these barriers may have their origins in the *sociological* functions which schools perform for society rather than the educational process itself), and (c) attempts to evaluate outcomes which it would require a considerable investment in fundamental research (based on yet-to-be-invented psychometric models) to evaluate properly. Fuller discussions of these issues will be found in Schwarz (1985) and Raven (1984d, 1985, 1990, 1991a).

An evaluation which does not endeavor to comment on: (1) all important outcomes of an educational process (including negative as well as positive outcomes), (2) all important barriers to the effective implementation of the program - whether deriving from resources, psychological and pedagogic understanding, or sociological processes, and (3) the range of activities needed to make progress, is hard to justify. Evaluators who fail to cover the ground because important variables are "intangible and hard to measure" commit crimes against mankind - because this will mean that significant program benefits and failures, and real barriers to diffusion and dissemination, are overlooked in all subsequent discussion of, and decisions about, the activity.

It emerges, therefore, that, while the hallmark of good academic research may well be accuracy, the

hallmark of a good evaluation is comprehensiveness. A good policy study is one which yields new understandings and insights and points the way forward. In such a context, it is inappropriate to judge the work of an individual researcher against the criterion of "proof beyond reasonable doubt". What is needed is a contribution to a public debate which will advance understanding. It is the process of science which leads to accurate and complete understanding, not the work of an individual scientist. Instead of asking whether a researcher's conclusions are beyond dispute, we must ask whether his or her work yields new insights, information and understanding. What is needed is public debate between scientists all pursuing "the same" issues. This position has recently been more fully developed by House (1991) and others as "scientific realism". In that context, it emerges that Eisner's (1985) emphasis on the "art" of educational evaluation, while important in legitimising the kinds of activity advocated here, is unfortunate in that it fails to challenge the dominant concept of science which informs the thinking of academics - and especially that of bodies like the *Joint Committee on Evaluation*. Likewise, it emerges that administrators' concern to avoid "duplication" is as misguided as their quest to initiate research which will give unarguable answers to clearly defined questions. As a profession, we need to encourage those who control the funding of policy-relevant research to channel resources to important topics - even when no one knows initially how the research is to be done and when it is obvious that the conclusions will not be beyond dispute.

Although many people will find what has been said disturbing, it is important now to share another insight which has emerged in the course of 30 years of policy research. This is that such work regularly points to the need for studies of, and public debate about, fundamental social values, political beliefs and beliefs about the operation of the public service itself (Raven, 1977, 1984a, 1990, 1992). As has been indicated, studies of educational policy pointed to the conclusion that one of the main reasons why a great deal of the money spent on schools is wasted so far as the development of human resources is concerned is that our preoccupation with equality prevents us respecting and fostering the wide variety of value-based competencies which exist. To handle the problem we need to both legitimize the provision of variety in the public sector and to respect individual pupil's right to opt out of programs which they do not find congenial (Raven, 1980a&b, 1989). In a similar way, studies of values, attitudes, and institutional structures associated with economic and social development pointed to the conclusion that understandings of how society does and should work - i.e. social and political beliefs and expectations - are of fundamental importance. It emerged that we need new understandings of terms like "management", "participation", "democracy" and "wealth" (Raven, 1984a). An attempt (Raven & Dolphin, 1978; Raven, 1984a) to develop the tools required to measure qualities like initiative, leadership, and the ability to work with others suggested that, as psychologists, we need new psychometric models which give pride of place to values and encompass political understandings. To assess these qualities we need to find out what the person concerned values and what he or she believes about how society works and understands by such terms as "democracy", "management" and "participation". Yet, although both the continued tendency to recruit pupils from private schools for important positions and the British Government's ban on political education in the programs it has required colleges to introduce with a view to nurturing the qualities which make for enterprise (which it defines in such a way as to exclude the kind of social innovation most urgently needed in modern society) testify to the validity of the proposition that competence is crucially dependent on these beliefs, the notion that the assessment of competence involves the assessment of values and political beliefs is - in view of the moral dilemmas it raises - deeply disturbing. An evaluation of a pilot program of school-based teacher education (Raven, 1987) suggested that one of the chief barriers to effective teacher education is the concept of the role of institutions of higher education held by the civil servants, the institutions themselves, and the public in general.

It is important to emphasise that these are scientific conclusions, not political positions. More than that, they are conclusions drawn from specifically psychological research. New, specifically psychological, understandings and tools are required if progress is to be made. While the accusation of going beyond science to draw political conclusions is now mainly levelled at the social sciences, Galileo's experience testifies to the fact that this has not always been the case.

In saying that these are scientific conclusions we do not mean to imply that they are beyond dispute. On the contrary, the only thing a scientist knows for certain is that s/he is wrong. The emphasis the arguability of conclusions like those summarized above is diversionary. The real problem is that they upset our view of the universe. One effect of this has been that, even though, in retrospect, our sponsors have often been inclined to agree with our conclusions, they have still found themselves unable either to support the research which would be required to substantiate them or to introduce the developments indicated by the research to tackle the problems which led them to approach us in the first place Raven (1984c). Furthermore - and this is perhaps the most important observation from the point of view of clarifying what needs to be done

to advance our cause - conclusions which result in as yet unsubstantiated re-orientations in thinking tend to disturb those who referee research applications and journal articles. Unless we, as a profession, address these issues we will continue to avoid the important and focus on the trivial - and by so doing discredit ourselves with our current students (many of whom will in the future become administrators and thus control our funding) and the public in general. This is why it is so important for the whole profession - and not just those of us who have been contaminated by our experience of trying to work in the area - to consider the issues raised in this article.

If what has been said is correct, and if we are to encourage useful evaluation, it will therefore be necessary for us, as a profession, to:

- (1) Change our beliefs about the outcomes which it is appropriate to expect from the research process.
- (2) Change our beliefs about the topics that it is appropriate for researchers to study.
- (3) Change our beliefs about the research process - so that it comes to be seen as appropriate for researchers to follow up, and write up, unexpected insights gained in the course of their research and so that further research into unexpected re-orientations can be funded.
- (4) Do much more to protect - and find ways of funding - researchers who stumble into new areas and find themselves in conflict with the assumptions of those who control financial support.
- (5) Most importantly, emphasise that effective applied research almost always involves a considerable amount of fundamental research - with its corollary that, since academics who do not have contact with applied problems are unlikely to see the need for that research, the universities as currently organized cannot be well placed to initiate new lines of fundamental research or the paradigm shifts our science so badly needs.

The development of the understandings and tools which are required to run a modern managed economy effectively.

It has already been emphasised that we need to press the case for more policy-relevant and evaluation research and for changes in the criteria which are applied to research proposals and reports. It is appropriate now to draw together, and say a little more about, the research which is needed to develop the concepts, tools, and institutional arrangements which are required to run modern society effectively.

We have seen that we now live in a society which is managed by faceless bureaucrats (and not by the invisible hand of the economic marketplace) and that that management is based on both articulated and unexamined beliefs and explicit information. We have seen that it is public servants who mainly decide what information will be collected, how it will be presented to politicians and the public, which options will be considered, and which decisions will be taken. It has not been shown that prices are mainly determined by public servants, nor that public servants determine levels of trade by controlling tax structures (a fact which enables them to use money as a management tool instead of allowing economic processes to manage the economy) but these things are also true (Raven 1984a&b). And it has been shown that government is grossly overloaded and that the form of representative democracy to which we have become accustomed is no longer viable (Raven, 1984a).

Our earlier discussion, and these observations, point to the need to:

A. Develop tools which will make it possible to hold public servants accountable for such things as:

- . Considering the needs of their clients and inventing better ways of meeting those needs.
- . Considering, and taking appropriate action in the light of, the long term social consequences of the options available.
- . Initiating the collection of relevant information - including information on the long-term, world-wide, social and biological consequences of potential courses of action.
- . Seeking out, and using, the information which is available to come to defensible conclusions about the course of action which is in the long term best interest of the public and each of the sub-groups of which it is composed.
- . Creating organizational, community, and societal climates characterized by innovation, efficiency, and dedication to the public interest.

B: Develop mechanisms which make it possible to:

- . Stimulate public debate about issues varying from those of concern in local workplaces, classrooms, and communities to those of concern internationally.
- . Weight the opinions of those involved to allow for the fact that some views deserve to carry more weight than others. (The uninformed should not be allowed to impose their values on others who have different priorities).
- . Ensure that both public servants and others who have a significant impact on what happens in society consider the available information and come to justifiable decisions about what is to be done.

These two sets of problems call for the establishment of a number of units charged with the task of developing the concepts, tools, and institutions which are required to manage modern economies effectively. The tools are different from those required to, for example, administer choice in education and housing. We need tools which can be used to give public servants credit for engaging in the difficult and demanding business of innovation, which can be used for staff guidance, placement, and development (so that our managed economy can make the best use of the human resources which are available), and which can be used when deciding whom to appoint to senior management positions.

Perhaps we are less clear about precisely what research should be initiated to contribute to the evolution of new understandings of democracy, bureaucracy, wealth, management, participation, and citizenship. Yet it is relevant to note that we ourselves stumbled on many of the ideas summarized in this paper as a result of following along where our research into educational goals and their achievement led us. Our attempts to clarify the nature of competence underlined the importance of civic competence and revealed the inappropriateness of many of the beliefs which people held about the nature and operation of modern society. The realisation that competence in that society was crucially dependent on civic competence in turn led us to notice the dilemmas this posed for those who wished to nurture or assess competence. This led to the understanding that it was necessary to create variety and choice explicitly - and then to further insights into the implications for bureaucracy and democracy. What all this means is that simply initiating more thoughtful policy studies may have the effect of generating some of the necessary new insights into the forms of democracy that need to be established. However, we urgently need to set some researchers who have a reputation for carrying out projects which lead to new social insights to work in the area.

There are four specific projects which might fruitfully be undertaken. These are: (1) to experiment with techniques of television-based debate and feedback, and especially with ways of helping marginalized groups to substantiate and publicise their views, (2) to initiate and evaluate a systemic experiment in the educational area - i.e. an experiment in which one would intervene simultaneously in all the interlinked processes (including the supervisory and management processes) - which cannot be changed one at a time without causing a cancelling effect - with a view to getting the educational system to pursue its manifest goals in a sustainable and generalisable way. (For over a century it has been possible to introduce experimental programs which work. Most of these are temporary and those which last longer do not disseminate. This creates the impression that all that is needed is wider dissemination of educational understanding or greater effort. In fact, as we have seen, the barriers to dissemination are multiple, systemic, and intractable.) (3) to initiate an international project which would involve psychologists from different countries spending significant amounts of time in each others' countries, not reviewing research, but using the contrasts between countries to surface embedded concepts of how information should be collected and used and how decisions should be taken. (It seems, for example, that these assumptions are very different in the US, Norway, and Japan), and (4) to systematically extend and evaluate the various experiments in devolved government at present being introduced within the European Community. The central objective of such work should be to advance understanding of the arrangements that are required if what Jaques (1989) has called Associations - organizations in which leaders are accountable to their followers - are to function effectively. McGregor (1960), Tannenbaum (1968), Likert (1969), Kanter (1985), and others have advanced our understanding of the arrangements that are required if organizations designed to carry out hierarchically organized work are to function effectively.

Relationships Between Researchers and Policy Makers and the Institutional Framework Required to Carry out Research.

It will be clear by now that useful policy-relevant research is very different in nature from what it has in the past most commonly been assumed to be. The structures which are required for its effective execution and the framework of expectations within which it is carried out are also very different. Classical, but

still highly relevant, discussions of these issues have been contributed by Cherns (1970), Donnison (1972), Freeman (1973, 1974), Raven (1975), Weiss (1980, 1982, 1986) and Whyte (1986).

At an absolute minimum we need to press for the establishment of units to work in this area. These should not be university-based because the criteria to be applied to the researchers' work are so very different to those appropriate in academe. Academic time scales are also inappropriate. Teams of researchers with different and complementary competencies need to be able to devote their full time to the work and they need to be provided with an assured career structure which does not require them to conform either to traditional bureaucratic or academic criteria. While there needs to be sufficient contact with policy makers for the researchers to become thoroughly familiar with the problems which need to be tackled, they need considerable scope to determine the way in which they will tackle them and to follow up on new issues which come to light. There also needs to be some mechanism whereby those who are "peripheral" to main stream decision making can initiate studies and ensure that they are carried out from their own perspective. These reflections suggest that, instead of being accountable to administrators, researchers should be accountable to a Director who should him or herself be accountable for creating a climate of innovation, dedication, the development of new understandings and ideas, and the development of new tools which can be used to run the public service more effectively (Raven, 1985). The tendency to assume that applied research can be effectively carried out by researchers who are individually on short term contracts tied to short term project funding has proved to be a recipe for disaster (Searle, 1985).

It is important to underline the scale of funding which should be envisaged because the low-level grants provided some Research Councils have led psychologists - and especially university-based psychologists (who generally have little insight into the true costs - let alone the cost-effectiveness - of their own work) - to have inappropriate expectations. More appropriate standards for funding are to be found in some government research departments, where it is not uncommon to find \$500,000 being devoted to projects with very limited objectives. The extent of the underfunding of policy research can also be judged from the fact that two years' losses of the British Steel Corporation would have funded the major Scottish educational research and development organization since Stonehenge was built. Yet far more of our national resources are devoted to - even misapplied in - education than steel.

These are international problems. They are perhaps most serious in America and Britain because they lead to inappropriate procedures being imposed on Eastern Europe and the Third World (Searle, 1985). They are possibly less serious in Germany, where those who fund psychological research may have developed more appropriate expectations as a result of being associated with arrangements that have worked well outside the social research area. The rest of the world has been so infected by the US contract-research model that it is of the greatest importance to challenge it. An outsider cannot help noticing that, although the funds available for "research" are much greater than elsewhere, and although many thousands of people are employed, the advance in understanding that results is often extremely small. A figure that was cited at an American Educational Research Association conference makes the point vividly: out of every 1000 publications in AERA journals only 20 contain any new data and in only 5 is the data substantive. Most of the rest represent "busywork" generated by short term contracts meeting the publication requirements associated with academic promotion and tenure. Unfortunately, the trivial nature of much grant-aided policy research is not only attributable to the belief that public service customers are able to identify research needs. It is also due to widely accepted criteria being applied to research proposals and reports.

Beliefs, Expectations, and Understandings to be Fostered in Undergraduate Education.

The very different beliefs we need to develop about what constitutes science, psychology, good research, and, especially, the role and nature of policy research and evaluation have already been discussed. It remains to emphasise how important it is for the universities to encourage students to develop more appropriate expectations. Few of those students will become psychologists but many will become administrators. From those positions they will perpetuate the tendency to commission short term and trivial research, complain about the datedness and uselessness of the results, and make great efforts to specify desired outcomes in advance so as to "avoid taking risks with public money".

The most important message for the universities to disseminate is that what society most urgently needs is, not a new set of specific policies in health, housing, incomes, management, labor relations, third-world trade or whatever, but policy research and development units - and, especially, units set up to develop new

concepts of bureaucracy and democracy and the tools which are required to run them more effectively. Psychologists have a major role to play in these units. We know more than anyone else about organizations, institutions, and tools of policy appraisal and performance assessment. We need to lay claim to a major role in this area, to project a more appropriate image of psychology and the competence of psychologists, and to press for new institutional arrangements to carry out our work. We need to do this, not so much by "getting at" politicians and administrators, but by influencing our students. In pressing our case the claim must be, not that we can help to introduce Utopia, but that we can help society to do better than which it is already doing. Even now, few public interest decisions taken by the public service are based on majority vote. In arriving at these decisions, the public service both consults the informed public and carries out opinion surveys. In one sense, therefore, the proposed arrangements are not new. Yet, in another sense, they are radically new: by undertaking the activities explicitly and trying to find ways of improving them we would be much more effectively achieving the necessary goals.

If a further incentive to engaging in this essential re-orientation and promotional work is required it can perhaps be provided by noting the destruction and the suffering in which we are conniving by not challenging the economic policies being imposed - in the name of science - on the less well off members of our own societies, the Third World, and Eastern Europe. Such acquiescence in practices we know from our professional studies to be immoral can only be regarded as professionally (not personally) unethical. We are contributing to crimes against humanity and nature. It is therefore unethical to continue to promote a traditional image of psychology, its range of application and utility, and the way in which scientific understanding is to be advanced.

Notwithstanding the strength of this argument, the question of how the necessary activities are to be paid for will still be raised. The answer is to be found in two previous observations. First, a great deal of the money currently spent on "education" and research is wasted and could be redeployed in more effective ways. Second, some two thirds (more if externalized costs are included) of the cost of anything mass produced goes on distribution and marketing - that is, on making the economic marketplace work. An effective managed economy, in which most of the information on social costs and benefits was contributed by psychologists - and not by financiers or "economists" - would certainly be more efficient.

Footnote

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