



Do Modernist Researchers know what Postmodern Users' Want?

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Abstract:

There is agreement that a point of transition of cultural and political-economic practices occurred in about 1972 with the new world-view termed 'postmodernist'

Some of its chief characteristics are volatility, indeterminacy, rejection of 'totalizing discourses', including positivism, and the emergence of a new round of 'space-time compression.' These conflict with the modern interpretation which espoused linear progress, absolute truths, the rational planning of ideal social orders, and the standardization of knowledge and production

The content of the postmodern interpretation is of particular interest to transport researchers in at least three areas:

- the impact of change on production and administration
 - the structure of feeling
 - the notion of rationality
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Harvey (1989) identifies a point of transition of cultural and political practices in about 1972. The transition is bound up with the ways in which we experience space and time, leading him to postulate an 'intense phase of time-space compression that has had a disorienting and disruptive influence upon political-economic practices, the balance of class power, as well as upon cultural and social life' (Harvey 1989, p. 284). Harvey characterises the transition as that between modernism and postmodernism.

Modernism has been generally perceived as 'positivistic, technocentric and rationalistic', believing in 'linear progress, absolute truths and rational planning of ideal social orders' (Harvey 1989, p. 35). By contrast, postmodernism is concerned with ephemerality, incremental planning, chaos and catastrophe theory, rejection of totalising theories, and an accelerated pace of everything . . . turnover time, circulation of commodities, obsolescence of skills, product development, labour processes, practices and ideas, fads, attachments and living. In private life there is a 'time famine' with pervasive nostalgia for a more stable state (Schon 1971).

In the following paper I would like to touch upon three dimensions indicated by postmodernist thought, namely:

1. a new response to time and space;
2. a change in what has been called 'the structure of feeling' from optimism to disillusionment about the future and doubts about the idea of progress;
3. attacks on the notion of rationality.

These issues are generally discussed in the critical literature, far removed from transport. However, the superficial treatment of a brief paper is justified by the understanding which the postmodern critique enables of the social present, and thence of transport's place within it.

. . . A new round of time-space compression

Harvey contrasts Fordism, that is the rigid mass production and consumption of the sixties, with the 'flexible accumulation' of the late seventies. The latter rested on flexibility in labour processes, labour markets, products and patterns of consumption and was characterised by greatly intensified rates of innovation. The paradigm of the new work was Japanese industry. For example, car manufacturing there was based on a system different in almost every feature from Detroit's mass production system (Dertouzos et al 1989, p. 48).

The Japanese methods were successful because they enabled a rapid response to existing and emergent niche markets. By contrast, industry in the United States generated a large unified market and there was no particular impetus to export or innovate. Pressure for change occurred when the long post-war boom from 1945 to 1973 ceased, and set in motion a series of social, political and economic adjustments. Industrial reorganisation was high on the agenda with new labour processes and markets, as well as new services and faster innovation. The time horizons of private and public decision-making shrank, and increased speed and reach of information transmission, and decreased communication costs enabled a more variegated space of decision-making.

Kanter (1989) identifies indicators of 'activity proliferation'. Transactions ballooned: annual registration of new trademarks more than doubled between 1980 and 1985; shares traded in the New York Stock Exchange went from 45 million in 1980 to 109 million in 1985; and paper use in the United States doubled from 1970 to 1985, despite computers. The speed of transmission was combined with unprecedented reach by satellite and aviation. Spatial barriers collapsed as new markets for international commodities, including everything from vegetables to junk bonds opened up.

The impact on work has been profound with a radical restructure of the labour market to include a small core of permanent career employees and a much larger periphery of

employees on short-term contracts, job sharing, part time, subcontracting and so on. Middle management is becoming decimated as firms find that this band of 'relayers' delays decision-making. Speedy decision-making requires front-line staff to think on their feet — hence the hugely increased spans of control for routine work in service industries where sophisticated statistical controls of outputs put accountability with the front line. For example, one branch of the Bank of America has a span of control of 600.

A further consequence is the use of time to provide competitive advantage and measure performance, rather than cost. A variety of techniques enable this, including Just-in-Time, design and construct, and sophisticated multi-disciplinary group processes. Development times are being slashed. For example, in 1985 it took Motorola three years to develop a new model cellular phone. Now it takes 15 months and it is proposed to shrink the time to six months (see *Planning Review*, November/December 1990).

In part the shift to niche markets can be attributed to the demand created by the expressive individualism of the baby boomers matched by the emergence of technologies offering small scale efficiencies which enabled this demand to be met. The response to this undoubted ability to meet individual needs, combined with a shortage of funds, was an emphasis on increased turnover times, for example, and faster circulation of commodities through the market system. The answer to accumulation of physical goods (Harvey reminds us of Imelda Marcos' shoe collection) was to emphasise disposability and instability. The 'now' generation consumes on the run including relationships, places and things. The cultural mass — that is, the industry producing culture — specialises in that sense of ephemerality and produces the sense of collapsing time horizons which, in turn, it feeds upon.

The effects on location of business, industry and urban life have been discussed in the literature on the impact of information technology, but in a somewhat restricted way. The transport and communications technologies now available are conducive to handling social interaction in a highly differentiated manner with emergent opportunities for diversified spatial form and a great variety of styles or 'taste cultures'. 'Taste' is packaged with tradition to form a postmodern synthesis in the production of community gentrification and rehabilitation. The high-tech high-touch approach identified as a core trend by Naisbett (1984) finds its apogee in urban planning and architecture where traditional values of family and civic virtue are combined with rapidly changing taste enabled by new tasks, new functions, new materials and new technologies. To the high-tech high-touch formula should be added the destructive high transience of continuous innovation.

The turbulent environment in management theory

Underlying the industrial measures is the implicit assumption that organisational effectiveness depends upon a match between structure and situation. In the management discourse this 'contingency theory' is the main theory-in-use with much weight given to the environmental context. In a major paper Emery & Trist (1965) recognised the impact of the so-called environment — and, in particular, the 'turbulent' environment — on organisations. The causes of turbulence were said to be manifold including greatly improved communications, technology in general, and compacted space of interaction for organisations in what McLuhan has called the 'Global Village'. The consequences were a torrent of change. The analysis in this and a subsequent volume (Emery & Trist 1973) touched on many of the matters identified by Harvey.

The 'turbulent environment' is one in which the elements of the field of operation are inter-related and no organisation can move unilaterally without causing a backlash. This means that no organisation can stand still. Hence the 'one best way' of classical management theory (later to find an echo in Fordism) became obsolete. The reverberating environmental field ended steady state strategies.

Since then, analysis of the environmental imperative has, in various guises including the management of change, become an academic growth industry. Although one or two voices have said that from a historical perspective, the late twentieth century is no more change-stricken than the third, eleventh, or sixteenth, there appears to be general consensus that turbulence, by whatever name, is now upon us.

Consequences of the turbulent environment

Some of the consequences of this high environmental complexity and interconnectedness of the environmental parts are as follows:

- Masterplanning, with its emphasis on explicit quantified analysis, whether as econometrics, operations research or computer simulation, is rigorous, but is no match for complex situations, especially if these are combined with high conflict (Pava 1986). Planning now attempts either to mastermind the volatility through opportunism or to nibble away at it by incremental techniques which do not rock the boat. As resources become scarcer, planning for their future allocation as was done in the sixties also becomes less relevant as bargaining and negotiating for available resources become more salient. Continuing austerity and increasing demand for services will result in new forms of involvement in all sorts of public and private relationships. These processes are not considered by the rational planning paradigm and are often seen as opposed to it.
- Organisations of whatever level can no longer achieve order through unilateral action without causing even greater disorder from affected and potentially aggrieved parties. In the United States, a history of protest over environmental and planning decisions has served to entrench public participation as a legitimate and institutionalised force in decision-making (Delli Priscoli 1990). A new term arose in the early sixties, namely 'stakeholders', to signify those people beyond the firm's owners and labour force who had the clout to make life difficult. At stake was often the command over space as a fundamental and all-pervasive source of social power. Advocacy planning (Davidoff, 1965) emerged in the United States in the late sixties as a response to the belligerent macho attitude which announced that it knew what the world was like and therefore was best equipped to decide how it would continue to be. This claim to knowledge made by the technostucture was transparent.
- Turbulence is in effect an admission that the world is unintelligible and therefore it raises doubts about the human mind's ability to comprehend reality and thence execute purposive action.

'Managerialism'

In this context it is worth examining a set of procedures designed specifically to enable the Australian public sector to meet the late twentieth century torrent of change and trickle of funds. 'Managerialism' is generally taken to mean the whole package of new techniques of mass management, namely program budgets, corporate plans, performance indicators and so on. The rhetoric of formal rational management with clear goals and clear responsibility and accountability has taken root in the national and state public sectors. It 'implies a focus on technocratic matters and formal structures with management techniques cast as value free' (Bryson, 1987).

The corporate management model consists of six basic steps (Beringer et al 1986):

1. Establish objectives
2. Develop priorities and strategies
3. Budget and program resources
4. Implement change.
5. Monitor progress.
6. Account for the use of resources and achievements against objectives

Taken together these six criteria would seem to imply that the so-called turbulent environment of postmodernity has not been taken into account either from the perspective of rapid change generally or from the perspective that purposive rationality may not be applicable if the world is unintelligible. It is for this reason that 'managerialism' has been questioned (Considine 1990, Yeatman 1987).

Considine (1990) concludes that the problem, to which corporate management is one rather inadequate solution, is 'serious and pernicious' (p 176). This problem is 'persistent economic crisis, ideological attacks on the public sector, and the new demands created by an emerging post-industrial society [which] have combined to destabilise thoroughly the environments of most public organisations. These turbulent environments are defined by competing goals, unclear technology and intense interest group activity. Lacking information, time and experience, public organisations must nevertheless produce solutions to pressing social and environmental problems' (p 177). He adds that corporate management has failed in its attempt to deal with the turbulence problem because its overwhelming concern is 'to limit goals, focus effort on key programs, cut slack and tie all activities to narrowly prescribed outputs. This produces increased central control and greater homogeneity' (p 177) which, in turn, result in decreased innovation and organisational learning at a time when both are at a premium.

The one possible exception to centralisation resolving chaos is what has been termed the 'crisis organisation' (Mintzberg 1979) set up to deal with an extremely hostile environment. It is unlikely that the entire Australian public sector is in this kind of spasm although further research could be rewarding. There have been other criticisms of managerialism based on a similar mistrust of formal rational management to cope with volatility. These include the following:

- The assumption that objective setting leads to goal consensus is untested and possibly untenable in a conflict situation: its source is the so-called rational model of organisational behaviour in which the elite sets the goals and the workers follow them. So-called 'non-rational' orientations exist at all levels and goals are far from the static fixtures of organisational life which the rational model implies.
- 'Clear objectives' may not be possible in political settings where service of the 'public interest' is controversial.
- Quantifying 'performance indicators' is fraught with difficulty, but the overarching problem is the assumption that 'quantitative' or 'factual' measures are rational while 'soft' data are less so. Both may be just as subjective and value laden (McSweeney & Sherer 1990, p. 300).
- Hypotheses of cause and effect in the wider society are dependent upon theories and methods in the social sciences which are inherently controversial.

Managerialism constricts vision by working within a framework of effectiveness and efficiency and the production of exact knowledge through quantification. In the context of the profound uncertainty which exists in the public sector, and its essentially nebulous (but important) concerns — the public interest, equity and social justice, for example — such an intellectual monoculture is likely to be unhelpful. Concerns not directly related to programs and methods of cost reduction find it difficult to get a hearing at a time when public sector organisations need to learn from and influence their environment

The danger is that bureaucracies, public or private, are, by their nature, unable to deal with either the rate of decision-making or the innovations required to keep up the pace (Mintzberg 1979). All available management theory suggests that, notwithstanding the pejorative overtones of the name, bureaucracies are ruthlessly efficient and effective in performing repetitive tasks in stable environments. It is variation they can't cope with — hence red tape.

Further, the inter-relatedness of contemporary society and the high availability of communications has meant that, to be successful, decision-making has to be opened up to cope with change, thus causing any pre-ordained implementation plan to be questioned as other intelligences come to grips with it. While this would appear to be consistent with enlightened public administration, managerialism has little to say on the matter and the danger is that the democratic baby will be thrown out in the bath water of efficiency and effectiveness.

The impact of postmodernity on public administration has barely been touched on from these perspectives. Nor has its impact on transport industries which, for the most part, came of age in the period of mass production — that is, machine bureaucracy. They now would appear to be showing their technological age in an era of advanced individualism and rapid change.

The structure of feeling

The postmodern chaos is governed by images, ephemerality itself, whether in the media manufacture of dynamic but stable personalities, or in the manufacture of obsolescence producing a sense of collapsing time horizons. A society of ephemera junkies desires to experience other things — lifestyle fantasies, tourism, media events and so on. Spatial adjustments are just as far-reaching with electronics and aviation collapsing spatial barriers.

There is agreement that there is a 'slowly emerging cultural transformation in Western societies, a change in sensibility for which the term 'postmodern' is actually, at least for now, wholly adequate' (Huyssens 1984, quoted in Harvey, p. 31). However, there is abundant confusion on what the new structure is, while everyone agrees that it has occurred.

The means adopted to show the new constellations include contrasting modern and postmodern concepts. The use of dichotomies is potentially misleading, but the picture is clear enough. Below are some excerpts from two such tables. Similar sentiments are echoed by Burrell (1989) in the management literature.

Table 1

Modernism	Postmodernism
purpose	play
design	chance
hierarchy	anarchy
mastery/logos	exhaustion/silence
distance	participation
centering	dispersal
determinacy	indeterminacy
transcendence	immanence
creation/totalisation/synthesis	obstruction/deconstruction/antithesis
symptom	desire

Table 2

Fordist Modernity	Flexible Postmodernity
Centralisation/totalisation/ synthesis/collective bargaining	decentralisation/deconstruction/ antithesis/local contracts
becoming/epistemology/ regulation/urban renewal/ relative space	being/ontology/deregulation/ urban revitalisation/ place
state interventionism/ industrialisation/internationalism/ permanence/time	laissez-faire/ deindustrialisation/ geopolitics/ephemerality/space

Excerpted from Harvey 1989, pp. 340-342

Failure of 'totalising' theories

There is a continuity of fragmentation, ephemerality, discontinuity and chaotic change in both modernist and postmodernist thought. The difference is that postmodernism does not try to define it or understand it but simply responds to it by the postmodern critique. The attempt to impose an overarching theory over chaotic change would be not only fruitless but also suspect, however utopian.

While modernism was enthralled by scientific technique, postmodernism is deeply critical of it. Daniel Bell identified the centrality of theoretical knowledge as the source of innovation and policy formulation in his formulation of the post-industrial society. The possessors of that knowledge were the new scientific elite. Theoretical knowledge is largely scientific knowledge, quantitative knowledge in particular. Reason itself was defined in the Enlightenment by criteria which were 'taken from the existing body of science and which therefore had no other validation than the sheer efficiency of science' (Kolakowski 1988, p. 14). Thus the roots of post-industrial society, according to Bell, lie in the inexorable influence of science on productive methods. Isaac Asimov, writing in 'Nature' in 1983, said that for better or worse, science and technology had taken over the world.

The identification of power with knowledge made much of by Max Weber as the 'iron cage' of repressive bureaucratic rationality has received its fullest articulation in the last seven or so years in the French critical literature. The motivations of the scientific elite are seen as questionable and the 'archive' of scientific knowledge as not so much rolling back the frontiers of ignorance as bamboozling the ignorant. The scientific attempt to orchestrate thought along its own lines has been identified with repression at its worst.

Science is but one of the unifying theories which have claimed the ability to explain the world to people searching for meaning. Since the Enlightenment there has been a succession of metanarratives or 'myths to live by' including progress, positivism, and a number of historical three-phase theories, which have been attempts to provide a unifying system of unfolding social development. The most recent appears to have been the 'Superman', the attempt to understand the nature of human beings and then to manufacture 'man' as an answer to the problem of meaning (Dreyfus & Rabinow 1982, p. 33).

Hunter (1986) has found that the main malaise now described by sociologists is a failure by social institutions to give directions, as distinct from orders, to the people who comprise them. Life lacks form, and modern culture fails to provide a stable universe of meaning in which people can test their personal identity and significance.

Unifying social theories have, if they have not failed, succeeded in a sinister way. In either event, they are untrustworthy. The impact of transformation has created a vast reservoir of cultural pessimism.

The consequences on people have been enormous. In some recent Australian surveys (Tydeman 1987) only ten per cent of people aged between 18 and 24 believed that things would get better in the future, and 60 per cent of people believed that their children would have a more difficult life than we have. There is nostalgia with 40 per cent thinking that by returning to the standards of our grandparents, Australia would be a better place to live. Schoolchildren described the future as a place of nuclear war and wholesale environmental destruction. 'Concern about scientific and technological progress appears to be a major factor behind the pessimism of Australians towards the future' (Tydeman 1987, p. 11). Similar results were obtained in the European Economic Community (EEC) and the United States. In a 1983 survey, three-quarters of respondents thought that science and technology might destroy everyone on earth. About 70 per cent of people in both the United States and the EEC were 'really concerned' or 'worried' about increasing unemployment due to automation.

I would guess that the consequences of these cultural factors have barely been dealt with for transportation. One marketing study using focus groups analysed the connotations 'home' has for people. They regard it as a refuge and security from a threatening world and a place where traditional values could be enacted. Multifamily housing was seen as undesirable from this perspective, by comparison with single family housing on a conventional block. Is this indicative that the oft-expressed hopes for more compact cities will be undermined by the deepest fears of their citizens? Is the attempt to view a metropolis as a whole and plan for it a thing of the past as suburbs fragment into exurbs? Are the single family homes in the exurbs a modest attempt by families to recapture stability and a sense of control? What does transport research have to say about this?

Rationality

The ready availability of information and the exposure of deeply held views and beliefs to the gaze of those who hold just as deeply held, but contrary, views has led to a challenge to rationality. In particular pluralism has exposed the claims to rationality of small groups of educated people, the professionals. The question of who claims superior reason, and under what conditions that reason should be exercised as power, has been discussed extensively in the critical literature (see for example Foucault, 1972, 1984).

Rationality is one of the most difficult notions in social science and the straightforward claim of any particular construct to be 'rational' as in 'rational planning' is therefore suspect. Horkheimer (1947) makes the distinction between subjective and objective reason. The former is essentially concerned with means and ends, and with the adequacy of procedures for purposes which are more or less taken for granted and themselves presumed to be reasonable. Hence 'rationality is concerned with the selection of preferred behaviour alternatives in terms of some system of values whereby the consequences of behaviour can be evaluated' (Simon 1957, p.75). Thus, values supply overarching criteria which people use to make choices. It is also generally held that they contain an affective element which is the motivational force causing commitment to the content of the value. Values are therefore irrational and embedded in the individual psyche more or less as taste.

Objective reason asserts that reason is a force not only in the individual mind but also in the relations between the classes of people, in social institutions and in nature and its manifestations. Objective reason 'aimed at evolving a comprehensive system, or hierarchy, of all beings, including man and his aims. The degree of reasonableness of a man's life could be determined according to its harmony with this totality' (Horkheimer 1947, p. 4). This kind of thinking attempted to reconcile the objective order of the reasonable with all aspects of human existence.

There is then a great difference between the idea that reason is a principle inherent in reality and the idea that reason is a subjective factor in the mind. Originally reason was regarded as that faculty which *determines* ends, not simply that which regulates the relationship between means and ends.

Few would believe any more that the cosmos is rational in this sense, although they would regard the scientific study of the dead matter which comprises it as eminently rational. Objective reason has slipped from view and what is left is the subjectivist account by which reason is a matter of choice or preference and no longer determines ends. These are close to being determined totally by subjective reason via what Etzioni (1989) calls the 'neoclassical paradigm' of utilitarianism and individualism. The neoclassical paradigm opposes the inclusion of a moral dimension. Individuals may have different rankings of preferences but none can be ranked as better. The paradigm assumes that people have stable preferences and avoids the question of the formation of ends.

If ends are solely a matter of choice or preference then they could just as easily be violent or amoral or exploitative as they could be benign, wise and just. This is the conclusion drawn by Simon (1983) with regard to administrative theory, namely that reason is able to devise the means to reach our ends but is unable to say anything about the ends themselves. It is 'wholly instrumental' in enabling us to reach 'whatever goals we have, good or bad', and something else other than reason enables us to devise our goals. Reason has thus been uncompromisingly annexed as that which does not deal with meaning, but with the reduction of forms of life to that which can be counted and ordered by the individual. But where does the ultimate decision about goals come from?

We are now in the middle of a paradigmatic struggle. Challenged is the 'entrenched utilitarian, rationalistic-individualistic, neoclassical paradigm which is applied not merely to the economy but also, increasingly, to the full array of social relations, from crime to the family' (Etzioni 1988, p. ix). The neoclassical paradigm sees free-standing individuals as the decision-making units and social reality is seen as many of these individual actors. It is always the individual who makes choices and takes action and to understand human behaviour attention must be focussed on the individual. According to this view the individuals are prior to and independent of larger social institutions and are the autonomous generator of its own ends.

Etzioni advances the case for a 'socio-economic' decision theory saying that 'social collectivities are major decision-making units, often providing the context within which individual decisions are made' (p. 186). I would add, 'always' providing the context, as there is no such person as Robinson Crusoe.

The emphasis on self-interest as the criterion for rationality in the economic realm and increasingly outside it has started to eat away at the principle of social cohesion. After all, one cannot be an individual maximiser and a social maximiser at the same time. The challenge is to re-incorporate social and particularly ethical judgements into rationalism. Etzioni's analysis is flawed because of a lack of incorporation of some arguments from moral philosophy. Had he had access to some of these arguments which begin to show that the perspective outlined by Simon is quite wrong, he would have been able to show more convincingly that: 'We hence become more willing to truly consult (not as a form of manipulation but as a way to form more consensus), to take into account the needs of others and of the community, both out of ethical and practical considerations ... Moreover, we do not treat emotions or values as merely hindrances to rational decision-making; we realise their legitimate role as a base for decision-making, and for curbing the choice of means by taking into account values other than the enhancing of efficiency' (p. 244).

This dilemma is at the heart of administrative reluctance to get involved in arguments about ends involving 'values'. The implied neutrality of efficiency allows discussion of ends to be elided although efficiency is itself just one value amongst many.

Rationalism as professional or intellectual high ground is questionable and may mask some decidedly subjective motives, including professional reputation. This is the more so as it would seem that the pursuit of the claim of value neutrality through the use of specific scientific techniques has led, in sociology at least, to trivial results and narrow empirical interpretations of the circumstances under study (Bryant 1985). There is a resurgence in critique of positivism probably in an attempt to escape from it and the malaise of social theory which it is believed to have engendered. It is probably also true of transport research. Bryant adds that 'it is ever more accomplished technique which rules, not the sociological imagination. The routine detachment of so much research from debate in sociological and political theory ... and from debate about the development of advanced industrial societies, is disquieting' (p. 173).

The rational perspective in transportation research

What has this to do with transportation planning? Transportation planning deals primarily with methodologically sophisticated modelling in the fields of operations research, economics and engineering. The main emphasis is usually on what was termed the 'rational comprehensive model' of planning emphasising quantitative technical studies

The premises of the rational comprehensive model are:

- the notion that analysis and decision-making are separable activities performed by different actors;
- the definition of 'problems' that are abstracted from a complex world and which are implicitly assumed to be solvable;
- an orientation towards optimisation or searching for the best solution;
- a commitment to reductionism, that is, research and study of systems that are defined by a limited number of elements or variables and by their interactions;
- reliance on data, models and combinations of these as models of representation and inquiry requiring quantification of information;
- commitment to objectivity, namely the belief that the analyst is outside the system being studied and that knowledge can be found which is independent of the observer;
- a commitment to problem-solving as a sequence of logical steps (Linstone 1984, p. 7, quoted in Wachs 1985).

Wachs (1985) identifies the origins of travel-demand models and benefit-cost ratios with the image of expertise and science espoused by Wilson and Taylor and their commitment to rational decision-making and systematic analysis. He concludes that the outcome for

transport planning has been a good understanding of the methods used within planning but far less progress in understanding the social, economic and political meaning of planning and decision-making processes.

In urban transport Santos and Brago (1988), in their analysis of research for higher degrees, noted that 97 per cent of theses from 1962 to 1981 were on 'hard' subjects, namely modelling/planning (60 per cent), operations (23 per cent), economics (10 per cent) and engineering (4 per cent). In recent years social and political topics have emerged but they are still minor.

Wachs concludes that there rarely has been a challenge to the rational comprehensive paradigm at least from within transport planning. As a result, 'transport planning debates and proposals are always couched in the language of this paradigm' (p. 522). Wachs adds that planners benefit from this as they are trained problem-solvers and the paradigm legitimates what they do and also provides them with an escape clause. Planners explain failures as the results of departures from sound technical recommendations, while politicians blame inadequate or over-academic analysis. Nonetheless, both sides call on the rational comprehensive model as the best available and it remains unchallenged.

In a rejoinder to Wachs it was asked why there has been such a strong commitment to the rational decision model in institutional research in transportation? Gakenheimer (1985) argues that it encourages simple direct problem-solving that does not bog down in conflict and negotiation. As a result the profession has been successful, but on a very limited set of research problems which usually exclude so-called 'soft' items such as planning processes, organisational performance and change, decision-making as an organisational and political phenomenon, environment, energy, safety, accessibility and mobility.

The two papers by Wachs and Gakenheimer are the only reasonably recent ones on the epistemology of transport planning which could be located. If this number is indicative, then the lack of reflection on the profession is discomfiting and the findings are even more so in the light of what I have written previously.

The Green Book group

It is noteworthy that in a recent strategic planning exercise by the Department of Transport, Western Australia, the issues raised as standing between the Department and improved performance included those raised above, namely:

- Professional training requires strong evidence and justification before proceeding to policy and discourages more subjective and less empirical professional judgements so that some strategic issues such as the environment and social equity tend to be set aside.
- Strategic issues other than transport performance, in particular energy, the environment, land use and the best institutional arrangements to ensure that recommendations are actioned, are not dealt with very well by the Department.
- There is a Departmental emphasis on 'good work' as well-structured reports with sound use of financial and economic evaluation techniques and less emphasis on 'good work' as the implementation of successful solutions.

These perceptive remarks from a committee of predominantly middle managers, 'the Green Book Group', are indicative of change in world view. They identify not only what needs to be done in our own little part of the world but also the switch from modernism to postmodernism. The dissatisfaction with science, the insertion of values into the argument and the recognition of the need for participation and negotiation are all there. There is no fear of tackling emergent issues and a recognition of the need for an understanding of political and participative skills to meet them. There is a recognition that the discussion which is taking place about the environment is not that of an odd fringe of 'greenies' but the emergent concern of the late twentieth century. The environment is the prism through which the discussion of contemporary purpose is being focussed.

Conclusion

The transition is being made around us. The issue is whether modernist researchers can change their approach sufficiently quickly to meet the needs of postmodern users or whether they will continue to work in their own paradigm on a set of issues of decreasing relevance using methods and assumptions which are being rendered obsolete by ephemeral circumstances and by a full frontal attack on the notion of rationality which they embody from elsewhere in academe.

If transport researchers are to know what transport users want, then there will need to be a radical change in approach. This change is embodied in the title of this forum whereby the verb 'to know', signifying analysis of a symptom (modernist), is contrasted with the verb 'to want', signifying the achievement of a desire (postmodernist). Perhaps a more appropriate formulation would be 'do transport researchers want what transport users know'.

The views presented are those of the author and do not represent those of the Department of Transport.

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