Cybernetics and Systems Research
R. Trappl (ed.)

IMPROVING HEALTH CARE INSTITUTIONS
An Action Research Approach to Organisation of Complex Systems

Dr. Warren Kinston

Health Services Organisation Research Unit,
Brunel Institute of Organisation & Social Studies,
Brunel University, Uxbridge, Middlesex, U.K.

Organisation is a major tool for integrating changes within the health care system. Organisation may be formulated, but it is sometimes forgotten that it is a dynamic process which exists in the minds and actions of the members of an institution. Attempts to alter organisation in any significant fashion, must therefore be seen as attempts to alter people's minds. This is not easily achieved by directives to change which are typically experienced as confusing and coercive. Constructive organisational change can occur through dialogue if members wish to participate. During the dialogue, the researcher develops and tests explicit conceptualisations and models of social structures and forms of social regulation; in return the member experiences an expansion of awareness and influence.

INTRODUCTION

Organisation, the social regulation of human interaction for some social purpose, is the major problem of the twentieth century. Its effective operation, leading to fulfilment of the social aim, depends on the commitment and cooperation of the persons involved. Organising work in complex systems has revealed the difficulty of creating social structures which promote both individual values and collective goals. This is due to the increasing scale and amount of work, the passage of power to men working in groups[1], greater autonomy in the conduct of work[2], and a rapidity of change in the work and its context[3].

These phenomena are immediately recognisable in health services in which developing professional, technological and social methods of work abound and interact within a turbulent economic and political environment. The increasing scale of, and expenditure on, health care has led to governmental involvement in its organisation and fuelled a desire for system changes aimed at improving efficiency, effectiveness and equity. Though the organisational solutions are currently unavailable, over 40% of WHO member states are in a process of some form of unification of more-or-less independent health services within a national health care institution.[4]

It is often forgotten that modern organisation is a youthful and primitive social experiment, and that "our brilliant technological skills are shackled to the shambling gait of an institutional Caliban".[5] It is perhaps surprising that health care systems work at all. Criticism of the malfunction of institutions in developed countries typically sidestep the task of putting things right or offering acceptable alternatives[6]. Similarly, in developing countries, there has been great concern with medical technologies and health policies but insufficient study of the organisational mechanisms whereby these may be implemented.[7]

The research of the Health Services Organisation Research Unit (HSORU) which is aimed at understanding and improving the organisation of health care within the U.K. National Health Service (NHS), has provided unique access to these problems over 15 years. The Unit has primarily been concerned with changes in the framework within which health service work (defined by those responsible) could be carried out, rather than with technological, programmatic or policy changes. The first aim of this paper is to expose some of the HSORU assumptions and methods and place them in the appropriate scientific context.

It seems reasonable to assume that if a health care institution is to provide efficient and humane treatment for its patients, its members must be awarded a similar dignity. In other words, the framework and its manner of implementation must allow staff to be "efficient humanists".[8] Our observations of the repeated use of reorganisation of services suggest that the integration of cultural, social and psychological considerations with the work to be done within the health service is still a distant goal.[9] The second aim of this paper, therefore, is to offer a dynamic psychosocial view of organisational pathology and suggest that this enables research to be linked with constructive change.

Work and Some Causes of Institutional Pathology

Work is the crucial link between the members and an institution like the NHS. We define work as "human activity in which people exercise discretion, make decisions, and act so as to transform the external physical and social world in accord with some predetermined goal in order to fulfil some need."[10] Institutions are set up to do large scale work, and individuals are employed within them and assigned fractions of that work. Carrying out assigned work can provide profound personal satisfaction, and it seems likely that

doing work of an appropriate kind is fundamental to mental health.[11] The idea[12] that the pathology of complex organisations can be put right if members display an inhuman conformity, eliminate personal relationships and deny emotional experiences was never true and is morally objectionable.[13] Management science now emphasises the need to recognise and take account of psychosocial needs of staff.[14]

We may differentiate between work at the organisational level and at the individual level: the former is based on official, preferably explicitly stated, goals[15] and the latter on the experience of purpose. Institutions do not have experiences or intentions distinct from those of the people within them.[16] If official goals are to be achieved, the pursuit of individual purposes will require organisation. Confusion, or absence, of purpose on the part of individuals is therefore a potent source of institutional pathology which is sometimes ignored when dealing with the more obvious problems of arranging coordination and cooperation among people for specific tasks.

Dysfunction may present at any level of NHS operation and usually manifests in different ways in different places. Overt problems, such as waiting times of hours in out-patients, inedible dinners served in mid-afternoon, or inordinate delays in getting supplies or some wanted repair attended to, are sometimes rapidly and easily dealt with. When they are not, and our observation suggests this to be frequent, the most common explanations are resource shortage or personality problems and incompetence. When it appears, also frequently, that policies and plans are not being implemented,[17] a further common explanation is the political machinations of some group. Organisation provides the context for work activity, and therefore succession or persistence of large and small scale dysfunction calls for an assessment of organisation. This must proceed via a detailed analysis of individual intentions and expectations in relation to the work to be done.

Organisational pathology occurs in health services despite able and sensitive members being aware that their values are violated, that decisions are not being made on outstanding issues, and that needs of staff, patients and the public are not being served.[18] Brown[19] has described the discrepancy in mental hospitals between inhuman attitudes and handling of patients, and the staff's inner awareness of humane alternatives. In our experience too, persons working in an institution usually know whether organisation is obstructing or facilitating their work. When discussing these matters in confidence, they can often provide suggestions about both the root of the problems and necessary components of a workable solution.

Such staff integrity and awareness is a resource which can be overlooked or suppressed and so wasted in an atmosphere dominated by issues of prestige and money. Documented research[20] and increasing informal claims[21] suggest that the potentialities of individuals are greater than is currently accepted. These abilities are mainly unconscious but can be expressed explicitly as intuitions or a sense of the situation, and can be developed if social support is provided.

HSORU researchers have taken advantage of intuitive awareness in discussion with thousands of members at all levels of the NHS.[22] This has revealed that, by and large, members of the NHS do not fully appreciate the relation of their own work to organisational structure. They find it difficult to recognise organisational arrangements and sometimes believe that because an arrangement is a constraint, it is always uncomfortable and unnatural. Most seriously, staff are often only dimly aware of their own purposes or the purposes of those about them and how these relate. The HSORU research task is therefore the elicitation of the important elements of the work and then precise formulation of roles and relations which might facilitate work. Cooperation between people for productive purposes requires that they share a common definition of their joint situation, particularly the framework within which they must act.[23] So, much HSORU research effort has gone into providing a common language for the field. This has been referred to pejoratively by some as Brunel jargon,[24] and many others doubt whether there is any point in specifying a formal structure of organisation with an elaborate logically developed, semi-private language. MacKenzie in an unusually well-balanced review of the U.K.health services, is appalled at the thought.[25] We therefore turn briefly to the nature of formal structure.

Understanding Organisational Structure

Organisation is often thought of statically as a "thing", rather than dynamically as a "process". Rigidity and stability is imputed because the usual method of science is to manipulate and measure things which persist through time and which, if and when they do change, do so reasonably obviously into other things. Formulations of organisation have this quality, but what is signified by them does not!

Organisation exists in the participants' minds and actions. It is subject to explicit formulation but often with difficulty, and then only as it suits the participants' own purposes. Conversely, the implementation of some formulation potentially requires the alteration of an individual in a profound fashion. This is a repeated "discovery" by governmental inquiries into the failure of organisation.

For example; A report in 1972 on the organisation of doctors in the U.K.[26] reflected on the ineffectiveness of earlier proposals and suggested that "attitude of mind" was as important as "formal structure". Similarly, a research report of the recent Royal Commission investigating the NHS[27] argued that "changes

in structure do not necessarily affect behaviour if there is no motivated inducement". In both cases, the authors appear to have glossed over the equivalence of mind/behaviour and structure. If there really is no change in behaviour or attitude of mind, then the so-called "changes in structure" are not change at all, only different words and diagrams on official documents. In such situations there usually are changes in behaviour of some sort, often undesirable, but nobody knows precisely what they are or how the "formal structure" related to them.

The basic unit of organisational analysis therefore is a purposeful personal process as expressed in thought and action; and organisational structure is a cluster of such interlinked processes which result in repetitive patterns of interaction. This structure can be modelled in its most relevant aspects by explicit formulations. When new proposals for structure are made it is hoped that they will enable the pursuit of official goals such as policies and plans, which are subject to social sanction. However this will only be successful if the structure helps people do the work assigned to them. It follows from this that organisational structure must be built around an understanding of the nature of people and the work they do.[28] The crucial question is: whose understanding? It must be the understanding of those responsible for doing the work. If the formulated organisation does not meet their (intuitive) understanding, either they will not work well, or they will commence distorting or bypassing regulations. Institutional pathology is produced as a side effect of doing their work as they deem fit, or working in a state of frustrated apathy.

It is a research task to make contact with the intuitive understanding which NHS members have of the work they are responsible for. This leads, in HSORU hands, to the development of organisational concepts and theories which are usable and widely acceptable. A common language within the system enables its members to recognise and participate in genuine institutional change when this is necessary. We are concerned, using Argyris and Schon's terms, to ensure that the espoused theory is identical to the theory-in-use.[29]

Winch[30] used the example of voting to demonstrate the central place of language and understanding in the social sciences. A person cannot be said to be "voting" unless he has an idea of the purpose, method and consequence of marking his ballot paper. An external observer noting a person marking a ballot paper cannot know whether or not he is voting unless the observer discusses what he sees with the person. An election is meaningless and will not serve its democratic purposes if the people mark the ballot papers but do not understand what they are doing.

The organisation of the NHS resembles such an invalid election. There is a general assumption that the relevant people know, for example, what a manager is, what participation means, what monitoring involves, what a committee can do, or what holding a budget implies. As indicated above, we have found that there is widespread disagreement or ignorance about even the most commonly used terms.[31] Many terms are used as names or labels rather than as articulated concepts or ideas.[32] Most often the result is uncertainty, confusion and people pulling in different directions or simply giving up. At best, staff assume they are doing what the label appears to indicate; at worst, labels are used unscrupulously for individual or group advantage.

For example: In the current reorganisation, the Department of Health and Social Security has recommended that there should be maximum delegation of responsibility to units of management whose officers should be directly accountable to district officers.[33] The Department gives no direct help or indication as to how this organisation directive is to be interpreted; and our research conferences and discussions reveal that there is no consensus and few clear ideas as to what the italicized terms might imply. The confusion could probably be recognised by perusal of the health service and medico-political press.[34] As a result, it can be predicted that in many districts the old sectors will be relabelled as the new units; in others, local politics will determine what parts of the district achieve unit status; in very few will there be an explicit coherent rationale to enable evaluation and subsequent modification of arrangements.

Although this ambiguity and confusion is sometimes said to allow democracy and creativity, case studies of reorganisation suggest that the result is impotence and loss of the sense of purpose.[35]

Poor understanding of organisation is not simply a U.K. problem. Mechanic[36] surveying the future of health services in the U.S.A., repeatedly emphasised the present deficiencies in organisational conceptualisation and modelling, and the inevitable difficulties, often avoidance, of implementing and evaluating health policies. Werff[37] confirmed this in his extensive investigation of the organisation of health care systems in western, socialist, and developing countries. The problem therefore transcends the common scapegoats for poor performance of the health care system: resource availability, political stance, and cultural pattern.

Werff found that "effecting organisational change...(was)... impossible, or at least difficult to achieve";[38] legislated arrangements could not be enforced, and the use of planning was disappointing except in socialist countries. He noted, in words reminiscent of U.K. government enquiries, that formulated plans and organisation did not seem to influence members' behaviour. His explanation echoes our own: insufficient attention is given to the details

of organisation and so the planned change is discredited in the minds of those affected.

It is possible to pay attention to detail, to diminish confusion and suspicion, to promote desired purposeful processes, and to influence behaviour if the researcher collaborates with those who require to be socially regulated. In the next sections we consider the principles underlying this approach to organisational change.

Learning Through Dialogue and Experience

A person's world, his theory-in-use or "image"[39], is structured through ideas in relation, though much of it, especially areas of inconsistency and confusion, is kept unconscious. Important parts of this image, such as work organisation, do not alter easily or substantially through methods of instruction, exhortation, coercion, pleading, rules, incentives or persuasion. Recommendations or evidence may make an impact provided there is a readiness to perceive, however both systems and individuals often lack or suppress this vital function.[40]

> *For example:* Psychiatric services within a particular health district were poorly integrated and insufficiently funded. This was due, at least partly, to inadequate organisation mechanisms. Among key medical staff, only one or two appeared to have noted a recent Government report[41] which concerned itself with a solution to just the problems they were experiencing. There had been no discussion of the report within the district.

The ideas that underly actions and attitudes only alter significantly through a relevant personal experience. Such change and experience can be facilitated if a staff member chooses to enter into a dialogue where he can focus on his own work problems and needs, emphasising any details he considers significant, and in which his intuition can be freed and valued. Together with a researcher, the individual can clarify, objectify and manipulate old ideas and develop new ideas. Exploring the dissonance between what the member thinks/does and what he finds that he knows can generate an urge to find and implement a new solution.

Jaques and Rowbottom have each described in detail and justified the procedures involved in studying organisation in this way and their work is the basis of the HSORU approach.[42] Powley and Evans[43] came to similar conclusions when considering methods of action research as applied to programmes, and Ackoff[44] described the same principles in the operations research approach to planning. In fact, the ideas presented here lie in the mainstream of problem-oriented research which emphasises full collaboration and genuine participation of the subjects to be affected by the results of the research.[45] This approach and hence its evaluation, is qualitatively different to that used in surveys, controlled trials and sociological analyses in which the subject is kept passive, left unaware, or labelled as in a state of false consciousness, during the research process.

When theory is developed during action research, and often it is not, it tends to be usable and appears relevant to other members of the system. By contrast, the theory and the evidence on which it is based may not fit in with or appear compelling to discipline-based academics,[46] or researchers working in other traditions.[47] Even more seriously, it may be judged unscientific or found incomprehensible.[48]

Research Tactics

The research task is that of problem definition and exploration leading to conceptualisation, modelling and analysis of options. This phase can be distinguished from subsequent political lobbying which attempts to influence the selection of one or other of the options and the final phase of decision-making. The researcher, concerned with the scientific analysis of organisation, will lose credibility if he participates in either political or executive activities. Similarly, the participants in the problem-exploration phase must have opportunities to discuss matters in confidence to minimise compromise of their political and executive responsibilities.[49]

The exploration always requires a formulation of the work to be done from the lowest to the highest level, and then focuses on the varieties of social role and enactable regulation (aims, authority, role relations, perquisites, procedures) which could possibly be used by those doing the work.[50] These structures must permit the individuals who operate within them to do so with a sense of freedom, flexibility and fairness. The person who must work within such a structure will try to assess in imagination whether this is so.

Following conceptualisation and formulation, it is necessary that organisation be implemented and monitored by participants, preferably in conjunction with the researcher. Pressman and Wildavsky[51] have distinguished between "weak" implementation which is central and concerns policy, and "strong" implementation which is local and concerns practice. For significant organisational change to occur, both weak and strong implementation may be necessary. Werff found that appropriate aspects of the organisational solutions had not penetrated deeply enough to all levels of the health care system and suggested that the need for continuous organisational monitoring, action and change was not appreciated.[52]

The principles of the requisite organisational research tactic outlined above may now be summarised: a) it is participative because of the definition of organisation used (p. 634); b) it is analytic because of the emphasis on precise formulation (p. 635); c) it is collaborative because of the social science tradition adopted (p. 636); d) it is continuous because of the disengagement from decision-making (p. 636);

e) it is encompassing because of the need for whole system implementation (p. 636); finally, f) it is creative because "it requires considerable ingenuity to devise solutions that work and that also (result in) minimal conflicts among interested persons and in relation to dominant values."[53]

Four features suggested by Frankel[54] and emphasised by others as useful for converting theory into practice have been incorporated into the HSORU method. First, Platonism: the method recognises ultimate objectives, and values what the institution is all about by using the notions such as Ackoff's "idealised design"[55] of Jaques' "requisite model".[56] Second, conservatism: the method starts with where people are and have been as this is usually the main determinant of where they will go.[57] Third, historicism: the method recognises the importance of social context, existing constraints and likely possibilities.[58] Fourth, piece-meal social engineering: the method uses an 'eclectic' starting point as suggested by Blum[59] and dialogue commences where the problem is most noticeable and distressing to participants.

It is to be emphasised that the research task focuses on organisational arrangements and not on the way such arrangements are handled or implemented, as would be emphasised in the human relations school or within the organisational development tradition.[60] The research method described above explicitly leaves the judgement of the wish for, need for, desirability and feasibility as well as management of change in the hands of the participants.

System Improvement: Externally Imposed or Self-Administered

Throughout this paper there has been a bias towards the enhancement of the capacities for self-management and an emphasis on the failure of imposed regulations. ("Self" refers here to an element of the system, eg. a person, a ward, a profession, a service). What is required however is first an optimal mix of self-administered and externally-imposed regulation and second a method of imposed regulation which deeply engages the individuals concerned. This imposition may come from the next level up in the system or from outside the health care system.

External imposition of organisation may be produced by society as a reaction to crisis which often stems from an unrealistic desire by those generating the crisis to escape regulation. The complex tangle of controls over medical practice in the U.S. is a case in point.[61] If the need for social regulation is accepted by those involved, then they have the chance to create useful forms of regulation and self-impose them, or to contribute to the form of external regulation. In both cases they will have a vested interest in maintaining the structure. Externally imposed regulations are liable to be subverted, perverted or ignored if not adopted voluntarily because no matter how socially necessary, such constraints tend to be experienced as a violation of personal or professional rights. The advantages of self-management are so great that the first task of external regulation should be to promote it wherever feasible. Societal as well as system needs and demands will be best served if this principle is adhered to.

The belief in imposed organisation probably derives from the wish for total mechanical control of human action.[62] In this state of mind, the use of externally imposed constraints or incentives seems more appealing than engaging the creativity and personal ability of those involved. For example, Maynard[63], considering the regulation of expenditure by doctors in the U.K., dismissed the exercise of personal ethical responsibility and advocated bribery ("fill their mouths with gold"). He did not even mention the possibility of social regulation developed and maintained by the doctors themselves. Perhaps this was because so little is known about the implementation of organisation from within a group.

It appears that the development of socially-based self-regulatory activity requires mobilisation of the enthusiasm and commitment of the participants.[64] This view is consistent with the claim by Katz and Kahn[65] that development, modification or elimination of organisational structure requires a systemic perspective infused with charisma. Charisma may be tied either to a person or around a programme that is responsive to basic psycho-social needs. This not only enables mobilisation, it also promotes the difficult and sensitive task of making implicit organisational forms explicit and of the extensive task of diffusing the intelligence for general innovation.

> *For example:* The need to deal with changes in the physiotherapy profession and provide adequate arrangements for patients led to a great deal of interest in the newly created role of District Physiotherapist. When this role came under threat in the current reorganisation of the NHS, it became a focus for intensive study within our ongoing collaboration with the profession.[66] Because their jobs and careers were at stake, the majority of District Physiotherapists in the country actively participated, often at their own cost. They spoke with passion and clarity. It turned out that the conventional justifications for the role did not stand up to scrutiny. The role is crucial but in a way different from what was generally believed. This awareness, and especially the implications, will not be easily assimilated by the profession as a whole.

A research unit such as HSORU will inevitably become the focus of intense ambivalence. The introduction of awareness, generation of complexity, explication of value conflicts and evocation of uncertainty may stimulate threat and crisis responses, and lead to attack on the research

from within and without the system under study.[67] Intense detailed work with one group can generate hostility from others and so this research must be more sensitive to the political winds than is usual and requires some protection and steering from within the system.

Although this form of research can foster values appropriate to health services, organisation depends in the end on the values current in society. For example, senior managers and professionals could adopt aspects of this participative approach with their colleagues or subordinates to promote needed organisational change but, by and large, they do not choose to do so. Similarly, the patient as consumer of care tends to be exploited or ignored by professional providers and HSORU is rarely directly requested to focus on the patient role.

CONCLUSION

Health care institutions have become increasingly complex and demand appropriate, but as yet only rudimentarily developed, integrating and co-ordinating mechanisms.[68] Requisite health services organisation cannot be satisfactorily created and implemented from above by reaction to crisis; it is an on-going psycho-social problem for those involved.[69] These problems, combined with the modern impulse towards rationality,[70] provide a research opportunity to improve health care organisation practically and simultaneously to develop usable social theory. The basic assumption is that organisation is a set of ideas-in-relation manifested in the purposeful interaction of the relevant social actors and can be described by them if they choose. Regulation and changes in regulation will only work if expressed in unequivocal and veridical formulations which have the consent of the actors involved and only be upheld in spirit if based on their values, understood by them and meeting their primary work task. As these are continually changing, so will organisation.

The method of improving institutions depends on the alteration of homeostatic patterns of thinking and unnecessary confusion in the minds of its members. This can be carried out through "dialogue" which promotes an expansion of awareness and influence of members, by helping them see which current arrangements work against their own purposes. The dialogue provides an opportunity to test and change concepts and theory, but implementation of change is the key requirement both scientifically and practically.

This work is rooted in the view that embodied ideas defining purpose really matter in any institution.[71] The method of investigation, by treating its objects of study as subjects responsible in large measure for the research outcome and validation, seems as far from the model of the natural sciences as it is possible to go. The research might be termed "education",[72] "systems development"[73] "social analysis",[74] "systems psychiatry"[75] "clinical sociology",[76] or "experimental anthropology"[77] Whatever it is called, its purpose is to contribute to the larger and urgent general problem of social regulation, the creation of social structures within which human beings can thrive and through which social values can be sustained.

ACKNOWLEDGEMENT HSORU is funded by the Department of Health and Social Security, U.K.

REFERENCES

1. Galbraith,J.K., The New Industrial State, (Houghton Mifflin, 1967); Handy, C., Gods of Management (London, Souvenier Press, 1978).
2. Wilenski, H.L., The professionalization of everyone, Amer.J.Sociol, 70 (1964) 137-158; Shaar, J. Reflections on authority, New American Review, 8 (1970).
3. Schmidt, W.H. Organisational Frontiers and Human Values (Belmont, Calif., Wadsworth Pub. Co.); Ackoff,R.L., Optimization + objectivity = Opt.out, Europ.J.Oper.Res. 1(1977) 1-7.
4. World Health Organisation, Modern Management Methods and the Organisation of Health Services, WHO Public Health Paper No.55, (Geneva, WHO, 1973).
5. Lynd, R.quoted in Zola,F.K. & McKinlay J.B. (Eds) Organisational Issues in the Delivery of Health Services (New York, Prodist,p.ix, 1974); The pathology of complex organisation is a recurrent theme in the literature, e.g. Thompson,V. Modern Organisation (New York, Alfred Knopf, 1963), Tesconi C.A. & Morris V.C., The Anti-Man Culture: Bureau-technology and the Schools (Chicago, Un. of Chicago Press 1972); Schon D.A., Beyond the Stable State, (London: Temple Smith, 1973); Crozier, M.,The Stalled Society (New York, Viking Press,1974).
6. R.Illsley makes this point about Freidson, a foremost critic of medical organisation in the U.S.: Professional or Public Health: Sociology in Health and Medicine (London, Nuffield Prov. Hosnitals Trust, 1980) 96.
7. Habicht J-P and Berman P.A., Planning primary health services from a body count? Soc.Sci. & Med., 14C (1980) 129-136.
8. Sheldon, A. The efficient humanist, in: Abernathy, W.J., Sheldon, A. and Prahalad, C.K.(Eds) The Management of Health Care (Cambridge, Ma. Ballinger, 1974).
9. Maruyama, M., Cultural, social and psychological considerations in the palnning of public works, Technol.Forec.Soc.Change, 5 (1973) 135-143.
10. Jaques, E., A General Theory of Bureaucracy, (London, Heinemann, 1976) 101.
11. Myers, C.S., Mind and Work (London, Univ. of London Press, 1920); Jahoda, M. The impact of unemployment in the 1930s and the 1970s, Bull.Brit.Psychol.Soc., 32 (1979) 309-314; Jaques, E. op.cit (1976) 15-17; Rice, A.K., Productivity and Social Organisation: The Ahmedabad Experiment (London, Tavistock,1958); Trist,E. A socio-technical critique of scientific management, in Lockett, M. & Spear,R. (Eds) Organisations as Systems (Milton Keynes, Open University Press,1980).
12. Merton,R.K. Bureaucratic structure and per-

sonality, in Merton,R.K.,Gray A.P., Hockley,B & Selvin,H.(eds) Reader in Bureaucracy, (New York, Free Press, 1952); Barnard, C., The Functions of the Executive (Cambridge,Ma., Harvard Univ.Press, 1968).
13. Bennis,W.G. Changing organisations, J.Appl. Behav.Sci. 2(1966) 247-263.
14. Bennett A.C., Improving Management Performance in Health Care Institutions: A Total Systems Approach (Chicago, Am.Hospitals Assn. 1980).
15. Perrow, C., The analysis of goals in complex organisations, Amer.Sociol.Rev, 26 (1961)855.
16. Simon H.A., On the concept of organisational goal, Admin.Sci.Q. 9 (1964) 1-22; Report of an Advisory Panel to the Research Initiatives Board, Health and Health Policy: Priorities for Research, Appendix IV (London, Social Science Research Council, 1977) 15.
17. Haywood, S. & Alaszewski, A., Crisis in the Health Service, (London, Croom Helm, 1980).
18. Robb, B., Sans Everything,(London,Nelson,1967)
19. Brown G.W., The mental hospital as an institution, Soc.Sci.& Med. 7 (1973) 407-424.
20. Harman,W., Belief systems, scientific findings and educational policy,EPRC Research Note No.6747-4 (Stanford Research Institute, Nov.1967).
21. Huxley, A. The Perennial Philosophy (New York, Harper, 1945).
22. Rowbottom R.W. et al, Hospital Organisation, (London, Heinemann, 1973); Jaques, E.(Ed) Health Services (London, Heinemann, 1978).
23. Berger,P. & Luckman W.T., The Social Construction of Reality (Harmondsworth, Penguin University Books, 1971); Goffman, I., Frame Analysis (New York, Harper & Row, 1974).
24. Klein, R., Brunel on a Cook's tour: Review of Jaques, E., Health Services (London: Heinemann, 1978), Brit.Med.J. 278 (1978) 1703.; Smart,A. & Draper P., The influence of "Glacier-Think" on 1974, Community Med.129 (1973) 384-385.
25. MacKenzie W.J.M., Power and Responsibility in Health Care (Oxford, Nuffield Prov. Hospitals Trust, 1979).
26. Great Britain, Dept. of Health & Social Security, 2nd Report of the Joint Working Party on the Organisation of Medical Work in Hospitals (2nd Cogwheel Report) (London,HMSO,1972)
27. Royal Commission on the National Health Service, The Working of the National Health Service, Research Study No.1 (Kogan Report) (London, HMSO, 1978).
28. Whyte,W.F., Models for building and changing organisations, Human Organisation 26 (1967) 22-31; Brown,W.Organisation (Heinemann,1971)
29. Argyris,C. & Schon D., Theory in Practice: Increasing Professional Effectiveness (San Francisco, Jossey Bass, 1974).
30. Winch, P. The Idea of a Social Science and Its Relation to Philosophy (London, Routledge & Kegan Paul, 1958).
31. Jaques, E. op.cit. (1978) xiv-xv.
32. Bronowski, J. & Bellugi U., Language, name and concept, Science, 168 (1970) 669-673.
33. Great Britain, Dept. of Health & Social Security, Health Service Development: Structure and Management HC(80)8 (London, DHSS, 1980).
34. NHS Reorganisation -- Interdisciplinary Discussions, Hospital and Health Services Review, (1981) 14-15. This brief document is a typical example. It repeatedly calls for clear definitions and indicates that each professional group is working on the problem. However, the statement of common ground provides no definitions.
35. Brown,R.G.S., Reorganising the National Health Service: A Case Study in Administrative Change (Oxford, Blackwell, 1979).
36. Mechanic D., Future Issues in Health Care: Social Policy and the Rationing of Medical Services, (New York, Free Press, 1979)
37. Werff,A. van der, Organising Health Care Systems: A Developmental Approach (Eindhoven, 1976).
38. Werff, A. van der, op.cit. (1976)p.200.
39. Boulding, K., The Image, (Ann Arbor, Univ. of Michigan Press, 1956).
40. Vickers, G. The Art of Judgement (New York, Basic Books, 1967); See also Calhoun J., The Promotion of Man, in: Attinger,E.O.(Ed) Global Systems Dynamics (Basle,Karger, 1970).
41. Great Britain, Dept. of Health & Social Security Working Group, Organisational and Management Problems of Mental Illness Hospitals (Nodder Report) (London, DHSS, 1980).
42. Jaques, E., Social analysis and the Glacier Project, in: Brown, W. & Jaques,E., Glacier Project Papers (London, Heinemann, 1965); Rowbottom, R.W., Social Analysis (London, Heinemann, 1977).
43. Powley, T. & Evans, D., Towards a methodology of action research, J.Soc.Pol. 8 (1979)27-46.
44. Ackoff,R.L., Resurrecting the future of operational research, J.Oper.Res.Soc. 30 (1979) 189-193.
45. This form of research is often called "action research" following an early use of the term by Kurt Lewin (Action research and minority problems, J.Soc.Iss, 2 (1946)34-46). A recent definition is:"Action research aims to contribute both to the practical concerns of people in an immediate problematic situation and to the goals of social science by joint collaboration within a mutually acceptable ethical framework" (Rapoport,R.N., Three dilemmas of action research, Human Relations, 23 (1970) 499-513. Not all problem oriented research and organisational research is action research, and not all action research is collaborative. Payne, R.(Truisms in organisational behaviour, Interperson.Dev.6 (1975/76) 203-220) reviews organisational research against conventional criteria and finds it comes out badly; all that is left are recommendations to use the collaborative approach. Recent ideas in collaborative research are collected in: Reason, P.& Rowan J. (Eds) Human Inquiry: A Source Book of New Paradigm Research, (London, John Wiley and Sons, 1981).
46. Greer, S. The Logic of Social Inquiry (Chicago, Aldine, 1969); Susman, G.I. & Evered R.D. An assessment of the scientific merits of

action research,Admin,Sc.Q. 23 (1978)582-603.
47. Henkel, M. & Kogan, M., The DHSS Funded Research Units: The Process of Review,(Brunel University, Dept. of Government, 1981)
48. Maruyama, M. Paradigmatology and its application to cross-disciplinary, cross-professional and cross-cultural communication. World Anthropology (Proc.9th Int.Congr. Anthro. Ethnol.Sci.) Mouton (1973).
49. In despair at failures in health-cost containment in Australia, P.T.Gross identifies the need for non-partisan problem-exploration (The Australian health care system: A review of recent changes in health care financing and organisation, in: Schweitzer, S.O.(Ed) Policies for the Containment of Health Care Costs and Expenditure (Washington,D.C., USGPO (DHEW Publ.No. (NIH) 78-184) (1976).
50. During this phase, the researcher can introduce or formulate theories if both he and the participant regard this as useful. For example, a theory of levels of work has been repeatedly validated and extended in this way. See Jaques, E. op.cit. (1976) Part 3; Rowbottom R. and Billis D. The stratification of work and organisational design, Human Relations 30(1) (1977) 53-76.
51. Pressman,J. & Wildavsky, A. Implementation, (California, Univ.of California Press, 1973).
52. Werff, A. van der, op.cit. (1976).
53. Mechanic, D. The Growth of Bureaucratic Medicine: An Inquiry Into The Dynamics of Patient Behaviour and the Organisation of Medical Care (New York, Wiley-Interscience 1976).
54. Frankel, C. The relation of theory to practice, in: Stein, H.(Ed) Social Theory and Social Invention, (New York, Case Western Reserve Press, 1968).
55. Ackoff, R.L. op.cit (1979).
56. Jaques, E. op.cit. (1976).
57. Boulding, K. op.cit. (1959).
58. Vickers, G. op.cit. (1967).
59. Blum, H.L., Planning for Health: Development and Application of Social Change, (New York, 1974).
60. Human relations school includes: McGregor,D., The Human Side of Enterprise, (New York, McGraw Hill, 1960); Likert, R., New Patterns of Management, (New York, McGraw Hill, 1961); and Vroom V., Some Personality Determinants of the Effects of Participation, (New York, Prentice Hall, 1960). Organisational development writers include: Schein, E.H., Organisational Psychology (New York, Prentice Hall, 1965); Argyris, C., Integrating the Individual and the Organisation (London, Wiley, 1964).
61. Mechanic, D. op.cit (1979); Kinston, W. Future organisation of medical work in the NHS: Self-management or social constriction,(BIOSS Brunel University, 1981)
62. Bion, W.R. Psychiatry at a time of crisis, Br. J.Med.Psychol., 21 (1948) 81-89.
63. Maynard,A., The containment of health care costs in the United Kingdom, in, Schweitzer S.O.(Ed) op.cit. (1976) 49.
64. Margulies,N., Managing change in health care organisations, Med.Care, 15 (1977) 693-704; Benson, J.K., Organisations: A dialectical view, Admin.Sci.Q.22 (1977) 1-21, Benson notes that the mobilisation of participants to pursue their interests, so common in race relations and political studies, is, by and large, outside the paradigm of organisation studies.
65. Katz, D. & Kahn, R.L., Common characteristics of open systems, in The Social Psychology of Organisations, Ch.13 (New York, John Wiley, 1964).
66. Øvretveit, J., Tolliday, H. & Kinston, W., Research into the organisation of physiotherapy, Physiotherapy, 67 (1981) 110-113; Kinston, W., Øvretveit, J., & Williams, J. The nature of the District Physiotherapy role, Physiotherapy, 67 (1981) 329-333.
67. Torbert, W.R., Creating a Community of Inquiry: Conflict, Collaboration, Transformation, (London, Wiley, 1976).
68. Whyte, L.L., Internal Factors in Evolution, (New York, Braziller, 1965).
69. McLaughlin, C.P. & Sheldon, A., Forecasting new technologies, in Abernathy,W.J.et al(Eds) op.cit. (8).
70. Wilensky, H.L., Organisational Intelligence, (New York, Basic Books, 1967).
71. Northrup, F.S.C., The neurological and behaviouristic basis of the ordering of society by means of ideas, Science, 107 (1948) 411-417.
72. Rhodes, P. Ch.12: An Introduction, In: Paine, L.(Ed) The Health Service Administrator Innovator or Catalyst?, (London, King Edwards Hospital Fund, 1978).
73. World Health Organisation, Executive Board, Organisational Study on Methods of Promoting the Development of Basic Health Services, Official Records of the WHO - No.206,Annex 11, (Geneva, WHO, 1973).
74. Jaques, E., op.cit. (1964)
75. Calhoun, J. op.cit. (1970).
76. The American Sociological Association has a sub-division entitled "Clinical Sociology" which aims to use sociological theory and knowledge to deal practically with social problems.
76. Hardin,G. The ghost of authority, Persp.Biol. Med., 9 (1966) 289-297.