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A NEW MODEL OF MANAGING BASED ON LEVELS OF WORK

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INTRODUCTION

Thinking in terms of *levels of work* is a great help in designing organisations and overcoming dysfunction and discontent within them [18, 42]. In a recent companion paper of ours in this Journal [28], a brief summary of pre-existing theory concerning work-levels was provided and a range of new applications reported. It was shown how each of the seven levels of work, defined basically in terms of the needs or expectations to be met and the responses to be provided, could also be formulated to throw vivid light on issues like the use of resources and budgets, the handling of information, the production of plans, priorities and evaluations, and the balancing of quality of care against throughput.

Our intensive and extensive studies within the U.K. National Health Service (NHS) over the past two decades have led not only to more elaborate formulations of the properties of the various levels of work (in the paper just cited), but also to successful organisational change programmes [19,24,26,27,38]. Our collaborative methods of action research are described elsewhere in detail [21,43]. The approach is consistent with a new paradigm of social research which values and empowers those involved [41]. It seeks to provide critically refined and practically validated knowledge to aid the design of action by those responsible.

This research and the associated development projects have thrown up phenomena which are puzzling in levels-of-work terms, and raise fundamental questions and issues which the pre-existing theory does not resolve. Theoretical elaboration has therefore become necessary. The need for new theory is not surprising: the NHS is not only far larger, but ferociously more complex organisationally than the industrial concerns (Jaques) and social services (Rowbottom and Billis) where levels-of work theory originated. We wish to emphasise that our reworking of the theory was not primarily speculative. It was driven by collaborative research with managers and professionals within the NHS aiming to resolve their urgent problems.

In this paper, we go on to examine all groupings of adjacent levels and indicate the benefit that such an analysis offers for appreciating a much wider range of related psychological matters. What results is no less than a new model of managing. (Earlier publications form a useful background to the new analyses to be offered here, but the present paper expects no more of readers than general familiarity with management processes in large organisations.)

There were various stimuli to re-examining existing levels-of-work ideas. The seven levels stressed the hierarchical differentiation of work: but surely, as so many commentators have emphasised, integration is important? Were the seven levels exhaustive, or were even more levels required as suggested by Jaques? More specifically, what was to be made of the universally observable phenomenon of managers moving out of their own level into decisions and issues at neighbouring levels?

Although our researches over many years generally validated the idea that there are seven fundamentally different levels of work to be done in the NHS (see Table 1), it appeared necessary at times for managers or politicians to talk as if there were a specific lesser number of levels. For example, the Royal Commission [44] distinguished just two levels in the NHS: the planning and the operational levels; while an internal review in the South Western Region [47] identified four levels: National, Regional, District and Unit. We concluded that there were situations where *grouping* of the basic levels was both natural and necessary to illuminate a particular issue or viewpoint.

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TABLE 1: The levels of work of within the UK's National Health service in 1989, with the main territorial tiers. [27]

L	Responsibility	Key Posts (Tier)	Details
7	Total coverage	Secretary-of-State (National)	£24 Billion annual budget Territorial No health services directly provided
6	Multi-field coverage	Regional General Managers (Regional)	£1 Billion annual budget Territorial, own governing body No health services directly provided
5	Field coverage	District General Managers (District)	£30-100 Million annual budget; up to 10,000 staff Territorial, own governing body Provides all health services
4	Comprehensive provision	Unit General Managers (Unit—sometimes territorial)	£10-20 Million annual budget; up to 2,000 staff e.g. large hospital, community health care, all mental illness services
3	Systematic provision	Departmental Heads, Medical Consultants	Up to 300 staff Provides a single service
2	Situational response	Nurses & therapists First-line managers	Up to 50 staff First-level professional or managerial work
1	Prescribed output	Auxiliaries, Aides, Secretaries, Porters &c.	Craft, technician or unskilled work

Note that the appropriate holder of the L-7 post would be a Director-General, not a politician [27]. [Each level has a number of gradings within it to allow for pay increments and career progression: these must not be confused with work-levels.]

From this basic insight we commenced our exploration by identifying those specific groupings which were particularly prominent. For example, we noted that Levels 3 and 4 (abbreviated as L-3 and L-4) in the basic schema were often combined by NHS managers in our discussions with them. Initially seen by us as indicative of confusion, it became evident that this pairing revealed an organisational reality. These two levels shared a joint concern for running of specific services in contrast to the work of higher levels which was more global and political, and work at lower levels which was more involved with particular cases. It emerged that such pairing derived from necessary cross-level dialogues focused on getting appropriate action.

Another specific example that impressed itself on us at an early stage concerned different modes of planning. We noted that systematic planning oriented to *meeting health-care needs* (e.g. planning maternity services or treatment for renal failure) commenced at L-7 and penetrated to L-3, but not further, so forming a five-level grouping; while systematic planning oriented to *operational practicalities* was not significant above L-5, but penetrated through to the very base at L-1 to form another five-level grouping. Our earlier research had already revealed that matrix organisation was commonly needed at certain levels in the NHS to reconcile these two different planning perspectives. Now we saw that this occurred precisely at the levels at which the two five-level groupings overlapped.

As various other groupings gradually came into view, each with its own specific message about necessary organisational structures or management practices, it

began to seem that *every* possible grouping of adjacent levels might have some relevance to managing large-scale organisations. Moreover, it appeared that the internal hierarchical structure of the various groups conformed to a deeper pattern. This led us to conjecture that the groupings are different and increasingly developed ways to integrate work and overcome the differentiation and discontinuity demanded by hierarchical stratification. Detailed inquiry and testing has now reached the point at which it seems appropriate to present these ideas as a formally coherent system, and the paper therefore provides the full picture as currently understood.

Before describing how we analysed the groupings and our findings, the definitions of the basic seven hierarchical levels in terms of the expected work (or mission) at each may serve as a point of reference. The detailed nature of the levels will become clearer as we proceed. (For a fuller discussion and numerous examples from many different fields, the reader is referred to the source references.)

At L-1, *Prescribed Output*, the mission is to carry out concrete tasks whose output is or can be pre-specified in all relevant details. At L-2, *Situational Response*, the mission is to assess and deal with concrete situations which require an open-ended response. At L-3, *Systematic Provision*, the mission is to deal with a socio-technical system so as to handle a flow of concrete tasks (pre-specified and open-ended). At L-4, *Comprehensive Provision*, the mission is to provide a range of services needed by a social territory in a balanced way. At L-5, *Field Coverage*, the mission is to shape and structure the totality of operations in a particular field or territory. At L-6, *Multi-Field Coverage*, the mission is to provide general frameworks which bridge the divide between basic definitions of required activities and actual operations in all fields and/or territories. At L-7, *Total Coverage*, the mission is to institutionalise conceptions by defining such basic parameters as needs to be met, services to be provided, institutions to be set up and the approaches, styles, structures and constraints which are to be taken as given and acceptable for all lower levels.

Overviewing the Groupings

The seven basic work levels just described can be grouped in seven different ways. Each illuminates a distinct and significant aspect of managing and carries important practical implications (see Table 2). Each is a hierarchical system in its own right. Not surprisingly, each of these perspectives is already well-recognised in the organisational literature, though not coherently integrated in a theoretical and systemic form as presented here. (Because the complete field of management and organisation is being overviewed, no attempt will be made to cite comprehensively.)

The form of each of the seven groupings, their functions and their practical implication may be summarised as follows:

G-1: 7 monadic groups (1 level per group) *divide work for its effective performance by distinguishing responsibilities precisely.*

G-2: 6 dyadic groups (2 levels per group) *integrate both the overall view and particular details in decision-making, so ensuring appropriate action.*

G-3: 5 triadic groups (3 levels per group) *integrate needs for radical remodelling with needs for stability of operation, so dealing systematically with change.*

G-4: 4 tetradic groups (4 levels per group) *integrate standardised and expert responses to needs from the most special to the most general, so providing for functions comprehensively.*

G-5: 3 pentadic groups (3 levels per group) *integrate pursuit of the mission with both the availability of resources and operational exigencies, so progressing achievement definitively.*

G-6: 2 hexadic groups (6 levels per group) *integrate the person and the work to be done, so establishing distinctive leadership.*

G-7: 1 heptadic group (7 levels in the group) *unifies the totality of work, so ensuring fundamental participation in the mission.*

(In the above list, we introduce the notation to be used throughout. Each grouping is identified as G-1, G-2 etc. indicating the number of levels being grouped. Superscripts will be used to indicate a particular group within the grouping. Thus $G\text{-}4^3$ refers to the third group of four levels, L-3 to L-6 inclusive, in the tetradic grouping.)

Each of the above groupings will now be systematically examined in detail. In

	NATURE	PURPOSE	HIERARCHICAL STRUCTURE	CHARACTERISTIC (Ascending the Groups)	ORGANIZATIONAL IMPLICATIONS	INTEGRATING MECHANISMS	PSYCHOLOGICAL CORRELATE
G-1:	Distinguishing responsibilities precisely	To divide work for its effective performance.	7 monadic levels	Groups (i.e. levels) indicate progressively more complex forms of work-output and weight of responsibility.	Duties and tasks vary in complexity and must be unambiguously distinguished together with appropriate authority.	Basic authority relationships: line-management, coordination.	Capability for handling complexity (abstraction)
G-2:	Generating appropriate action	To integrate both the overall view and particular details in decisions.	6 dyadic foci	Groups indicate progressively more abstract spheres of decision and action.	Actions and objectives vary in abstraction and require dialogue, zooming and consultation between successive levels of work.	Staff officer roles, management teams, collateral relations.	Preference for overview or detail.
G-3:	Dealing with change systematically	To integrate needs for change with needs for stability of output.	5 triadic briefs	Groups indicate progressively more radical forms of systematic change.	Overlapping change - and stability-oriented structures/processes must be set up, each involving three successive levels of work.	Extended management meetings.	Orientation to change
G-4:	Providing comprehensive functions	To integrate the response to needs from the most specialized to the most general.	4 tetradic types	Groups indicate progressively more general forms of continuing standardized operation.	Four types of specialized functions must be recognized (including general management) and each spans four levels of work.	Dual influence relations; multi-disciplinary teams.	Preference for concreteness or abstraction in achievement
G-5:	Pursuing achievement definitively	To integrate fully pursuit of the mission, availability of resources and operational exigencies.	3 pentadic dimensions	Groups indicate progressively more direct concern with the overall mission.	Mission-based planning, resource provision and operations each require definitive organization, potentially over five levels of work.	Matrix organization.	Preference for closeness or distance to actual operations.
G-6:	Establishing distinctive leadership	To integrate the person and the work to be done.	2 hexadic aspects	Groups indicate progressively more involvement in leading the undertaking.	Exerting and according leadership each cross six levels of work, varying progressively in behaviour and expectations.	Followers who are leaders; and norms of leading and following.	Attitudes of dominance and subservience
G7:	Volunteering fundamental participation	To unify work by voluntary participation in the overall mission.	1 heptadic quality	The group of all levels indicates the basic unifying quality of participation by people.	Participation by staff occurs at all seven levels of work with different features and mechanisms needed at each level.	Shared mission and culture.	Ability to participate in an enterprise

TABLE 2: The seven different groupings of work-levels forming the seven levels of managing: G-1 to G-7. [The Table provides an overview summary only: see text for details.]

each case, findings from fieldwork that suggested the grouping will be presented first. The properties of the grouping, the apparent purpose behind it, and how it manifests itself in an organisation will be identified. The psychological characteristics called for by the grouping, and the particular tensions to which it gives rise, both within the organisation and within the person, will be indicated. Finally the main practical implications, as identified in our consultancy research in the NHS, will be mentioned.

Responsibility
[G-1: Monads. 7 Groups of 1 Level/Group]

Effective performance in the largest of organisations absolutely demands recognising different *levels* of work, as well as different *kinds*. Any particular element of work — e.g. in the NHS, looking after nursing standards — appears in distinctively different forms at different organisational levels. A nursing aide has a responsibility for nursing standards, and so has a registered nurse, and so has a nurse manager, and so has a general manager, and so on up to the very top of the NHS. But in each case the exact work to be done in relation to nursing standards is of a different order of complexity, societal impact and time-scale (as will be described below). Precise formulation of the level of responsibility is therefore essential to avoid confusion and dispute.

Such awareness led to the discovery of the basic seven levels of work, as defined in the introduction and extensively described elsewhere. The seven levels can be thought of as seven monadic groups, that is to say just one work-level per group (see Figure 1). However, the differential responsibilities implicit in these work-levels are not best described using the existing terms (noted in the Introduction), because these were devised to be inclusive of responsibility for actual performance at lower levels as well. The present analysis requires a focus on the unique responsibility at each level. These can be labelled as follows: responding to concrete demands ($G\text{-}1^1$), assessing concrete needs ($G\text{-}1^2$), handling concrete systems ($G\text{-}1^3$), developing multiple services ($G\text{-}1^4$), shaping overall operations ($G\text{-}1^5$), framing operational fields ($G\text{-}1^6$), and defining basic parameters ($G\text{-}1^7$).

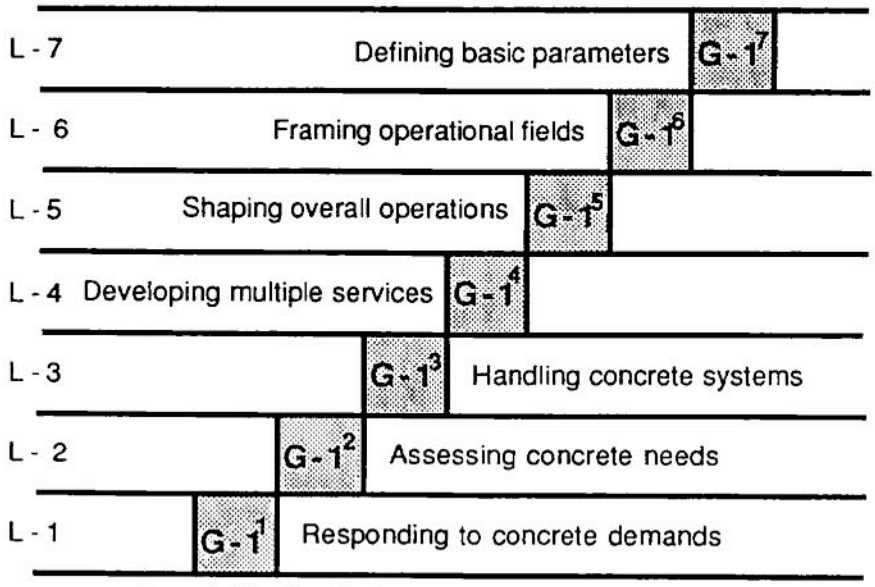

FIGURE 1: The Monadic System: Seven Levels of Responsibility

The *purpose* behind this particular grouping is to ensure that work is precisely and completely differentiated into elements for which responsibility for effective performance can be assigned. Ascending, each group is qualitatively distinct and progressively more complex and encompassing than the preceding one. In any organisation, prescription in the terms used above can sharpen individual job specifications or briefs set for groups or committees. Indeed, precise statements about level of responsibility and kind of work are the proper starting points for designing the controlling and coordinating arrangements embodied in any organisational structure [34, p.2].

The most obvious *organisational manifestation* of this structure is, as just described, the assignment of seven qualitatively different levels of responsibility in relation to any specific matter. Going back to the example of nursing standards cited above:

In the first group ($G\text{-}1^1$), responsibility for nursing standards refers to following given procedures meticulously in actual performance; in the second group ($G\text{-}1^2$), it means applying given standards in an appropriate way in assessing the needs of any individual patient; in the third group ($G\text{-}1^3$), it means building appropriate standards into an actual nursing care system; in the fourth group ($G\text{-}1^4$), it means taking due account of standards in developing a satisfactory balance of a range of nursing services; in the fifth group ($G\text{-}1^5$), it means taking account of standards in shaping and structuring nursing and all associated services; in the sixth group ($G\text{-}1^6$), it means ensuring that appropriate nursing standards are being implemented in the various operational agencies in a consistent and coordinated way; at the top ($G\text{-}1^7$), it means deciding which standards are to be taken as given and which may be ignored, within all Agencies.

Integration of levels within each group is not an issue here because each group consists of only one level. However, having sundered the overall responsibility for work to be done by hierarchical stratification, it obviously becomes necessary to *integrate work across* the monads. Duties and tasks determined in each monadic group need to be linked specifically and authoritatively to others determined for the groups above and below. In executive hierarchies, such linkages manifest as authority and accountability relations, of which there are many types [18,42]. Often, as in the nursing example above, line-managerial relationships are judged most satisfactory. Line-managers, as here conceived, have the strongest possible prescribed authority because they are responsible not only for performing their own duties but also for ensuring that the performance of their subordinates is satisfactory. Jaques demonstrated that for the strongest development of line-management, whilst maintaining the subordinate's experience of optimum autonomy and power, the manager and subordinate should operate in adjacent work levels.

The *psychological correlate* of these different levels of responsibility are the different levels of mental capacity and work capability demanded of the person. Higher mental capacity with a greater ability to handle abstraction and complexity is clearly required as the levels are ascended. Effective capability requires in addition an appropriate social and personal maturation. There is evidence that work capability develops throughout a career at different rates for different people [18,48]. Jaques postulated that, at any point in time, people perform best in a job whose level of responsibility is exactly matched to their own level of developed capability, and that this arrangement is preferred. The ambition for many is to work to the limits of their capability. However, in some cases, a person's ambition may outstrip his current work capability. However, performing effectively at a level beyond one's current capability is not possible: the work really required just does not get done and physical illness may result. Over-promotion therefore damages both the individual as well as the organisation. The opposite situation, being in a job below one's ability, may also cause psychological harm and is a waste of human resource.

Even assuming work and capability are well matched, there is still an inevitable *personal tension* between the desire to concentrate on those tasks and level of work which best suit, and the desire to participate in the totality of the work to be done. Correspondingly there is what may be called an *organisational tension* between the separate pursuit of many pieces of work pitched at different levels and the integrated performance of the organisation as a whole.

The *practical implications* of this seven-level structure, and the dysfunction that results from failure to recognise levels have been extensively detailed in earlier publications. As noted, the framework is of great value for the design of organisational structures and for career progression and counselling. The structure enables unequivocal identification of the level of the response to the world expected in any job, a feature rarely emphasised in management literature. This is particularly important in deciding the societal impact expected from the organisation as a whole (top level) and the type of service which is to be specifically delivered (bottom level). The structure also enables the development of strong line-management and clear accountability relations, and counters the tendency to blur responsibilities and proliferate management levels with all the problems that follow.

Action
[G-2: Dyads. 6 Groups of 2 Levels/Group]

In starting to examine structures which join adjacent basic work-levels or monads, the first to be considered is that which groups levels into pairs or dyads.

Our NHS fieldwork had from an early stage revealed circumstances in which such pairings became prominent. Turning again to nursing, we noted, for example, much unavoidable overlap in actual practice between the work and training of professional nurses (L-2) and nursing aides (L-1). In nursing management, we noted how easy it was for nursing officers to find themselves attempting to perform both L-2 and L-3 duties. In relation to NHS service management generally, we have already mentioned the frequent blurring of L-3 and L-4, where we found much dispute about who was properly responsible for particular decisions.

Such findings of blur of level-boundaries led us gradually to identify an underlying logic based on a system of over-lapping dyads. The *purpose* behind this dyadic grouping, it emerged, is that of getting appropriate decision and action. By joining pairs of adjacent levels, all action can be both authoritatively overviewed in terms of wider needs and precisely designed in terms of detailed realities. In other words, a proper meshing of policy and practice may be achieved.

Division on this basis produces six overlapping hierarchical groups (see Figure 2). Ascending, six qualitatively different foci for decision and action may be identified, each more abstract than the last. These foci may be labelled as follows: concrete actions ($G\text{-}2^1$), concrete assessments ($G\text{-}2^2$), concrete services ($G\text{-}2^3$), ranges of services ($G\text{-}2^4$), frameworks for operation ($G\text{-}2^5$), basic conceptions of operation ($G\text{-}2^6$).

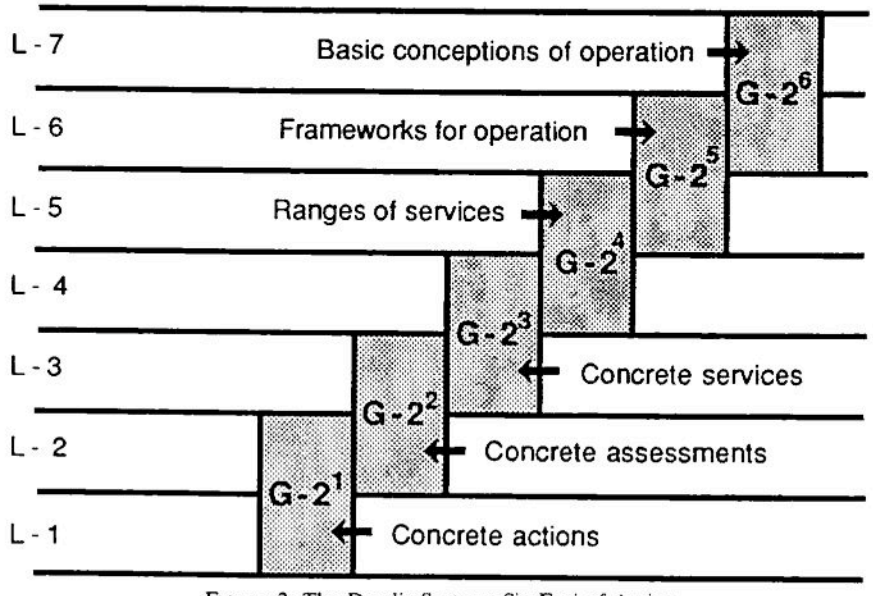

FIGURE 2: The Dyadic System: Six Foci of Action

Distinctions drawn in the management literature between *technical or professional* objectives or zones, *managerial or organisational* objectives or zones, and *top echelon, whole system or political* objectives or zones, may be related respectively to the lowest two dyads, the middle two, and the upper two.

The *internal structure* of each dyad comprises a higher orienting level concerned with the more abstract and general issues and boundaries in relation to any decision, and a lower level concerned with the specifics of implementation. Put another way, the upper level assesses the situation and sets what are variously referred to as: context, reasons, criteria, policies, priorities, values and general needs to be considered; while the lower handles the fine matching of specifiable action to current realities and determines what are variously referred to as: content, options,

activities, or explicit demands to be met. In 'levels-of-purpose' terms, the upper level sets 'orienting' objectives — missions and political aims — and the lower level sets 'implementing' objectives — strategies and tactics [22].

The *organisational manifestations* of the dyads result from the general interplay of orienting and implementing responsibilities as just described. Moving up the structure, these interplays manifest specifically as follows:

> In order to initiate a particular concrete action ($G\text{-}2^1$), L-2 work is required to assess the sorts of action needed in the particular concrete case, possibly by developing an *ad hoc* procedure, and L-1 work is required to perform the action within these limits. In order to decide on a particular concrete assessment ($G\text{-}2^2$), L-3 work is required to decide the methods and operational policies to be routinely applied in assessing this type of case or situation, while L-2 work is required to perform the particular assessment thoroughly. In order to decide on a particular service ($G\text{-}2^3$), L-4 work is required to decide service policies and the exact kind of service which needs to be operated, while L-3 work is required to organise the specific service in detail taking into account all particularities. In order to decide on a range of services ($G\text{-}2^4$), L-5 work is required to decide the broad parameters and characteristics of the range of services (organisational policy), while L-4 work is required to develop its specific constituents. In order to decide on a framework for operations ($G\text{-}2^5$), L-6 work is required to decide frameworks of principles and guidelines which will be used by agencies for their operation, while L-5 work is required to determine in detail their appropriate local application. In deciding on the basic concepts for operation ($G\text{-}2^6$), L-7 work is required to determine relevant conceptions and values which are to be incorporated, while L-6 work is required to decide how these may be effectively institutionalised and implemented in practice.

Integration within dyads demands a shift of focus alternately from one level to the other. A downward look is needed to ensure there is always the necessary basis in specifics on which to develop assessments of need or policy. An upward look is needed to ensure that particular actions or programmes are always consistent with given orientations. Even the most well-formulated policies never exactly suit all instances. Developing and approving modifications and exceptions to policy during the implementation process is therefore essential. Also, implementation regularly throws up new policy issues which require definitive handling. Managers at adjacent levels must work closely both in settling the broader objectives and appreciating the finer practicalities. (Of course, at times it may be simpler and appropriate for one person to do the work at each of the two levels.)

Mechanisms to facilitate inter-level dialogue include regular consultations between managers and subordinates individually and in meetings of the whole 'management' team [30], managerial zooming [42], and the use of 'staff officers' [5,8]. Staff officers help in the formulation of policy and coordinate and monitor implementation by line-subordinates.

Dyads overlap at five levels, L-2 through L-6, as illustrated in Figure 2. Hence, except for output at L-1 and L-7, activity at any given level of work must simultaneously respect the implementation responsibilities of a higher dyad and the policy responsibilities of a lower dyad. *Integration across* dyads is based on this phenomenon that what is implementation at one level is orientation for the level below. For example, L-3 managers are expected to be responsible both for implementing decisions about the general form of the service ($G\text{-}2^3$) developed in discussion with L-4 managers, and also for devising policies for the assessment of particular cases developed in discussion with L-2 managers or professionals ($G\text{-}2^2$).

When those in higher levels in organisations zoom down into dyads below their own to alter decisions, they should respond by producing a *ruling*, rather than by arbitrary specific action (which is rightly experienced as interference). An executive ruling is not just a one-off decision: it applies not only to the immediate example generating it, but generally to all action of the same type in the future. The reverse situation should also be allowed for: provision of consultative mechanisms to allow subordinates to *protest* about the suitability of an intended course of action (in practical or value terms), or *suggest* innovations, prior to its implementation.

The *psychological correlate* of the dyadic system is a tendency to prefer either specificity and detail, or generality and overview, in regard to action. This has implications for preferring line or staff roles at any given level of work or capability. Those who opt for the staff role can spend much of their time helping their boss,

a line-manager, work in a more abstract dyad than their own. Those who opt for line roles may spend much of their time helping their subordinates work in a more concrete dyad than their own.

The *organisational tension* inherent in the dyadic structure lies in the need to attend to the broader scene and at the same time to deal effectively with specifics. The corresponding *personal tension* lies between the natural desire for an overview ("seeing the bigger picture") and the wish to maintain direct contact ("keeping your feet on the ground"). This tension parallels the duality of cognitive organisation discussed by *Gestalt* and perceptual psychologists, who have noted an oscillation between continuous-field perception and discrete object-dominated perception.

The chief *practical implications* have already been noted. Whereas the monadic system emphasises the differentiation and discreteness of each particular level of responsibility, the dyadic structure indicates the importance of an up-and-down interpenetration of adjacent levels for objective-setting, decisions, and the coordination and monitoring of action. What this means above all is the need for dialogue: downwards consultation on proposed policies and upwards checking-out of controversial decisions or possible exceptions to established policy. (Of course action does not always need to wait for face-to-face meetings: most dialogue in practice is implicit or virtual, the manager considering the views and needs of the next higher or next lower level in his own mind before proceeding.) If action is to be appropriate and well-coordinated, it is also important to develop good 'collateral' dialogues between managers in different areas but at the same level of responsibility [6].

Change
[G-3: Triads. 5 Groups of 3 Levels/Group]

A striking finding in our NHS work over the years has been the constant existence, irrespective of outward forms of organisation, of a particular stress in line-management posts at three specific work levels: L-3, L-4 and L-5. People in such posts constantly experience themselves beset by three conflicting forces: continual demands from below to deal with crises and maintain stability, their own desires to initiate changes that make sense to them, and simultaneous pressures from above to institute other changes, often seemingly less urgent or even undesirable.

We found that the three forces reflected a triad-based grouping crossing the seven basic work-levels. In all, there are five overlapping hierarchical triads (see Figure 3). The *purpose* behind this grouping is to integrate the need for change of any degree with the equally essential need for stability. Moving up the triads there is a regular progression from over-riding concern with continuity in the face of disruption through to increasingly radical change in operation. The triad briefs are labelled as follows: stabilising operations ($G\text{-}3^1$), maintaining agreed change in operations ($G\text{-}3^2$), improving operations ($G\text{-}3^3$), reforming given operations ($G\text{-}3^4$), basically re-modelling operations ($G\text{-}3^5$). These descriptions have been found to accord with those derived from more general research into the nature of change in social systems [23].

Turning first to the *internal structure* of the triads, it appears that each of the three levels has a characteristic quality. In each case, the top level drives the triad by setting some mandatory brief for change and systematically developing the relevant context; the middle level mediates change by producing more detailed specifications appropriate to each particular situation, and controlling implementation; and the bottom level puts these programmes into practice precisely as specified. (The triadic notion can be recognised in the basic work control cycle described by Litterer [31]. His model correctly implies that managers at any level within a given triad can be allowed, within the scope of their responsibilities and authority, to bring about change of the character of the triad. This phenomenon is specifically alluded to in $G\text{-}3^3$ below.)

The different *organisational manifestations* of these five triads are as follows:

Responsibility within the lowest triad ($G\text{-}3^1$) is for stabilising concrete actions and keeping existing operations in being. An organisation absolutely requires a steady and efficient stream of operation which copes immediately and directly with fluctuations in demand, alterations in resource availability, breakdowns, crises, undesirable initiatives and environmental intrusions. This duty is shared in common by all those working at L-1, L-2 and L-3, but within the triad a further differentiation is recognisable. Those at the top (L-3) are responsible for actively confronting threats to continuity and determining the minor adjustments in the existing system necessary to adapt to the various exigencies just mentioned. For example alterations in techniques or improved ways of handling throughput may be introduced. Those in the middle (L-2) are responsible for applying these adjustments as appropriate to particular cases. Those at the bottom (L-1) are given virtually no discretion to change things at their own sole initiative.

Responsibility within the second triad ($G\text{-}3^2$) is for maintaining agreed change, that is ensuring that any change in basic operation that has come about due to new initiatives is in fact maintained having achieved agreement on change or actually produced a new development, the urge to revert back to former ways of functioning typically persists. Time, money, energy and other resources allocated for new developments are being constantly chipped away to maintain or improve existing services or deal with unexpected breakdowns. These entropic forces can only be significantly resisted at L-4 where the budgets and plans are primarily controlled, and where the authority resides to reduce certain services (if necessary). Staff at L-3 must be expected to monitor implementation of changes, support these systematically, and report failure for change to stick; while staff at L-2 act as instructed.

Responsibility within the middle triad ($G\text{-}3^3$) is for improving actual agency operations, whilst staying within some given framework. Those working at L-5, L-4 and L-3 alter or create services to handle foreseeable needs or demands of a recognised or given kind. Again a gradation in responsibility is evident: output at L-5 involves systematically producing change throughout an actual operation (e.g. better treatment of employees, a general shift to computerised information systems); L-4 staff must then develop specific programmes of change in response to this and in light of the circumstances; and those at L-3 are required to work out and implement these in detail whatever their own judgements as to necessity or priority. (L-3 or L-4 staff also drive improvements in operation at their own initiative, but their scope is less and such change is not mandatory throughout the agency.)

Responsibility within the fourth triad ($G\text{-}3^4$) is for reforming any operation while still staying within the overall conceptions and philosophies that currently exist. Those at L-6 can drive the introduction of new operational briefs or organisational developments in subsidiary organisations (e.g. introducing a new type of service into one agency to serve all others, or implementing a new function within all agencies). Within these briefs, L-5 managers can work out which actual ranges of service or organisational forms should be altered and how. Those at L-4 are then required to execute such changes.

Responsibility within the uppermost triad ($G\text{-}3^5$) is for remodelling any or all operations. This usually involves the wholesale restructuring of existing organisation or procedures in accord with some new idea or principle. Those at L-7 can introduce radically new ideas, for example, of a new need to be considered as valid, of a new type of product, of how finance should or should not be raised, and of what sorts of institutions or functions are required. Change is not based any longer on what is foreseeable — rather change is brought about by expanding potential, by inventing the future, and by indicating to the lower triads in which direction and manner foresight is to be exercised. Given this overarching framework, those at L-6 can work out the radical but feasible new programmes that are implied by the new ideas; while those at L-5 are required to bring them into actual being.

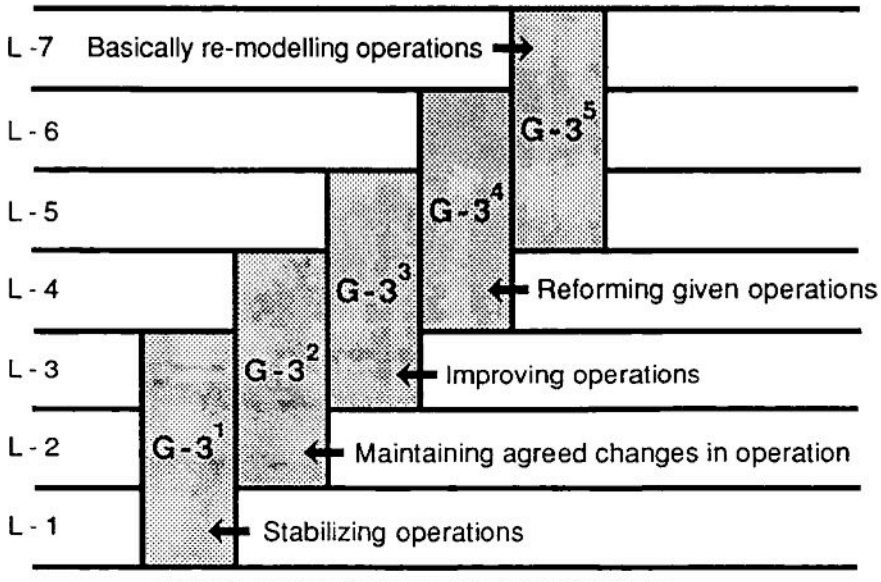

FIGURE 3: The Triadic System: Five Briefs for Change

From the complete system of five triads, as represented in Figure 3, it is clear

that, aside from L-7 which masterminds and L-1 which is at the receiving end, a plurality of responsibilities for change must be recognised at all other levels. It is the linking of such different responsibilities for change which ensures *integration across* the different triads. At L-6, the job involves both working out the implementation of radical new L-7 conceptions ($G\text{-}3^5$) while driving through reform of existing operations ($G\text{-}3^4$). At L-2, the job involves seeing that each complex case is handled without any backlog or serious fall in quality ($G\text{-}3^1$), while changing the approach or technique for handling cases as directed ($G\text{-}3^2$). At L-3, L-4 and L-5 no less than three different approaches to change must be accommodated; and these levels are therefore where the greatest stresses in relation to experiencing and managing change lie.

Integration within triads is achieved by the characteristic work of the middle level in mediating drives for complete and rapid change within the brief emanating from the top level, with needs to ensure stability at the bottom level. Mediation therefore involves appreciating and feeding back the realities of disruption generated by change as well as developing programmes of change.

The *organisational tension* generated in this grouping is that of identity versus metamorphosis. An organisation thrives because of the commitment of its staff. This cannot develop without stability which is the root of a sense of identity (etym. L. *idem* = same). However, improvements, and even at times wholesale transformation, is needed for organisational survival, even though identity may be threatened. The *psychological correlate* here seem to be the different types or levels of change which a person prefers to handle [23]. The resultant *personal tension* is that between the human need for continuity and sameness and that for novelty and stimulation.

The chief *practical implications* of the structure reside in the way the progressive nature of mandatory change is clarified. It permits an exact statement of what kind of changes any manager should be either autonomously initiating, or programming, or steadily implementing. Whilst getting appropriate action on any matter requires dialogue across two levels, the introduction of systematic change involves communication across three levels. A key organisational mechanism for this is the departmental or extended management team — what Brown called the "extended command meeting" — which brings together staff from three successive levels of responsibility [6].

The analysis makes it clear that developments go wrong when ideas are not expressly championed (top level) or not properly progressed systematically (middle level), or ignored or subverted (bottom level). Failure at any specific level has its own particular effect. Weakness at L-7 means inability to transform the system by self-redefinition, weakness at L-6 means development which is incoherent or patchy, weakness at L-5 means little likelihood of actual long-term change, weakness at L-4 means developments will not stick, and weakness at L-3 means recurrent breakdowns and endless crises.

Functions
[G-4: Tetrads. 4 Groups with 4 Levels/Group]

When we came to consider the nature and meaning of four-level groups, tetrads, we started from a number of disparate clues and findings. For example, one puzzling feature was the way that L-4 decisions stood out as those which everybody wanted to control. Another intriguing phenomenon was the importance attached to representation of all the different functions in management meetings, despite difficulties arising from variations in the level of work of the participants. Reviewing existing theory, we noted Jaques' emphasis that in the tetrad from L-4 upwards staff have to be seen in the aggregate as posts rather than people, actual resources are regarded primarily in financial terms, and the term 'general management' is used. In the NHS we found that ministers (L-7) routinely pursued matters as far

as Units (L-4) but no further, e.g. in controlling appointments and carrying out reviews. We uncovered other natural tetrads when examining nursing and various paramedical professions. All these disciplines readily operate from L-1 through to L-4, but not very well above. At one stage the NHS made numerous high-level appointments mandatory in areas like nursing and catering, but the bulk of these posts have disappeared because effective roles could not be established [44].

We realised that the nature of tetrads must be logically linked in some way to that of dyads. Dyads were about decision and action, but tetrads were more organised. Each tetrad created complete parts of the whole capable of standardised functioning. The tetrad is therefore a basic building block in any large-scale operation. Within an organisation, a 'function', such as catering or nursing or personnel in the NHS, is a way of grouping kinds of duties to meet the need for the standardisation of expert processes, methods and skills. Obvious cognate terms are 'occupation', 'discipline' and 'profession'. Functions allow for planned recruitment and training, and the regular development of techniques, standards, and skills — all essential to any continuing management process. As implied by the present hierarchical analysis, each function has within it (in respect of its own specialised field) the ability to distinguish responsibilities precisely, to get appropriate action and to deal systematically with change.

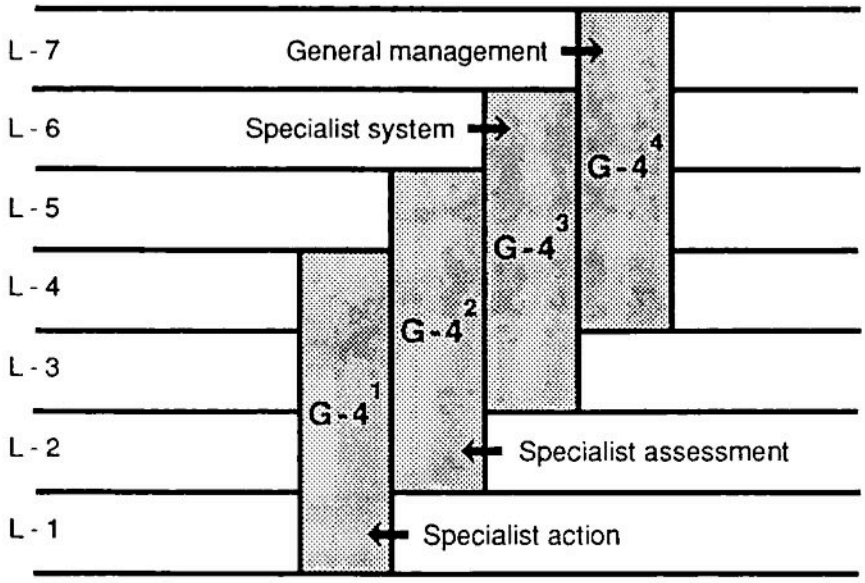

FIGURE 4: The Tetradic System: Four Types of Function

The *purpose* behind the system of tetrads is to integrate all types of standard responses to continuing needs. Ascending, each tetrad reflects a progressively more general form of what is seen to be continuing and standardisable. There are four types of function corresponding to the four tetrads (see Figure 4). We have labelled them in terms of the operation of the lowest level in the tetrad: specialist action ($G\text{-}4^1$), specialist assessment ($G\text{-}4^2$), specialist systems ($G\text{-}4^3$), general management ($G\text{-}4^4$).

These four types of functions are recognisable within organisations as follows:

The lowest tetrad ($G\text{-}4^1$) concerns the provision and management of specialist action. This type (Type 1) includes all unskilled occupations, craft and technical disciplines and certain professions. As regards the last, nursing and physiotherapy provide examples from the NHS. These functions depend on registered professionals whose basic output is L-2, but both readily train and use L-1 auxiliaries and aides. Nursing aides without professional qualifications can still properly be said to be 'nurses doing nursing'. Management at L-3 and L-4 is essential if the particular discipline is to operate effectively and efficiently and be appropriately developed. However some specialist action functions, like portering or catering in the NHS, may not justify their own full-time specialist managers at these levels. In such cases, the specialised management responsibilities concerned may be appropriately clumped with others. Managers at levels beyond L-4 often need to shape and set frameworks for specialist action functions, but they do so without identifying with the function or discipline, or seeing themselves as part of it.

The second tetrad ($G\text{-}4^2$) concerns the provision and management of specialist assessment. Included in Type 2 are all technical and professional specialities and disciplines based on concrete assessment, in which there is no meaning within the discipline inherent in L-1 activities alone. An obvious example in the NHS is clinical medical work. This starts at L-2, the output expected of junior medical staff. The L-3 work is carried out by consultant medical staff who control services. Representatives and committees of consultants make or contribute to L-4 and L-5 decisions about the organisation and management of medical work itself: and the district medical officer (L-4), and the regional medical officer (L-5) are two forms of non-clinical medical officer who are respectively expected to consider medical services systematically and comprehensively. Doctors do contribute above L-5: they do so both in respect of multi-disciplinary work in the NHS and within the Department of Health outside the NHS. Other Type 2 examples are engineering or architecture where the activity concerned is meaningful at L-2 (but not below) and on upwards until, but not past, L-5. (Personnel is a more complex discipline, basically Type 2, but Type 3 in relation to areas like manpower planning.)

The third tetrad ($G\text{-}4^3$) concerns the provision and management of specialist socio-technical systems. Financial management is of this type in large organisations like the NHS, because the minimum requirement is an organised accounting system staffed by management accountants at L-3. L-4 and L-5 finance staff are also required within typical Districts, and L-6 staff at Regional and National level. Although finances are important at L-7, there is no separate financial management function as such. Similarly information services as a function based on the use of information technology starts with L-3 specialists who can develop and implement a fully working information system. Planning and management development provide two further examples of functions within this tetrad. If any of the functions just mentioned are to be provided effectively within an organisation, L-3 staff alone are typically found to be insufficient. L-4 specialists are required to control the delivery of the function and handle its integration within the organisation.

The topmost tetrad ($G\text{-}4^4$) contains the general management function which must always provide a comprehensive orientation to service provision. All important decisions are now based in a general overview of some kind, and necessarily abstract. The Griffiths inquiry into the NHS recommended the introduction of general management from the National level (L-7) down to Units (L-4) to deal with such responsibilities [10,27]. Subsequently, as typifies a function, a special training programme to produce general managers was set up by the NHS Training Authority.

Analysis of the *internal structure* of the tetrads, using the above examples taken from fieldwork, the reveals that work in the lowest level involves the carrying out of the basic specialised activities precisely as standardised within the function; work at the second level involves deciding on the need for delivery of the function according to any situation faced; work at the third level involves systematic delivery and development of the function; and work at the fourth and highest level involves comprehensive development of the function. Any more radical development of a function (e.g. alteration of its boundaries) usually seems to take place outside the function itself, often within some broader academic or professional arena beyond the control of the organisation.

The peculiar importance attached by managers to L-4 was noted above. This is the one and only level which is included within all tetrads (see Figure 4). This level is where the concerns of general management must somehow be locked securely into all specialist activity. L-4 is the lowest level at which it is still possible to plan services in abstract terms. Simultaneously, L-4 is the highest level at which a concern with detailed concrete particularities in relation to those services is still absolutely essential. Managing at this level must deal with actual personalities as well as approved establishments, with actual equipment as well as general technological developments, with actual facilities as well as planned provision, and so on.

The *organisational tension* generated by the tetradic grouping is that between the general and unspecified and the specialised and standardised, and hence between the undoubted strengths of developed disciplines and the need to transcend functional boundaries and divide an organisation in other ways (e.g. by areas, customers or products).

The main *practical implication* of this grouping is the need to handle the multiplicity of functions characteristic of large organisations without inappropriate over-simplification. Above all there is the need to ensure that all functions are strongly managed across four levels, but no more. It is possible to merge higher level management responsibilities for similar functions together, as found in the NHS in relation to portering or catering functions (within hotel services) and training and staff recruitment (within personnel services). However combination must proceed with care: attempts to give remedial therapy professionals and nurses

a common line-manager at L-3 have led to distrust and dissension because the activities have become too specialised and diverse for any one head genuinely to comprehend.

The early pioneers of organisational theory were in conflict over whether primacy should be given to functional management (Taylor [49]) or unity of command (Fayol [12]). The present model clarifies that both are required. Managers at higher levels cannot usually master the detailed expertise of the full range of subordinate specialist disciplines. But all specialist activities need nevertheless to be harmonised in some way or other. A common solution is one where lower level specialists are placed simultaneously under the control of a higher level specialist in the same field, and of a general manager or coordinator who is expected to integrate their work with that of many other specialists. Such 'dual influence relations' can be made to work by careful specification and allocation of authority as explained by Rowbottom and Billis [42] (for further examples see Kinston and Rowbottom [27]). Dual influence is the prime method for *integration across* the tetrads. Its avoidance (or denial of its propriety) has commonly lead to dysfunction in the NHS. The other main method of integration is the use of multi-disciplinary teams and meetings of various sorts which bring different functions in different tetrads together to ensure that their distinct approaches harmonise [13]. In addition, authority relations may sometimes exist, permitting staff in one tetrad to prescribe action by staff in another and lower tetrad without otherwise managing them, e.g. doctors to nurses, architects to building managers.

The *psychological correlate* of the grouping is the differing degree of generality of achievement valued: and the related *personal tension* is that of the conflicting pulls of a concrete versus an abstract appreciation of achievement. Both may be illustrated by considering a typical attendance at a top management team meeting within an NHS Unit. Participants might include the Unit General Manager, the Director of Nursing Services, the Unit Finance Officer and a representative of medical consultants. Each member of the team might well work at L-4, and, according to the original level-of-work theory, would be seen as operating with the same general level of abstraction. But, according to the analysis just provided, each member is part of a different tetrad. So it could be predicted that each might bring a significantly different attitude to abstraction. The bottom level of work within any tetrad indicates what being 'down to earth' means in each case, and serves as a baseline for what is counted as 'real' achievement. Furthermore, team members differ markedly in the degree of control exerted over their own function. Recognition of such matters can help in guiding discussion and in resolving disagreement or conflict emanating from differences in perspective.

Achievement
[G-5: Pentads. 3 Groups with 5 Levels/Group]

From the earliest stage, we were aware of a pentad because Jaques had clarified that fully developed operating companies and subsidiaries requisitely carried an L-5 brief. He stressed the marked discontinuity between L-5 and L-6: managers up to L-5 are themselves expected to delve into complex operational problems, but not those at L-6 or L-7. A second pentad came into view following our own observation in the NHS that planning and priorities based on health-care needs or problems (e.g. mental illness, trauma, cancer) was marked at L-7 and appeared possible and necessary down to L-3 but not lower. It was evident, however, that most planning at L-3 and L-4 in the NHS was not geared directly to meeting patient needs. In working on this issue with NHS staff, a third dimension emerged. This concerned the need to organise for resources of all types (finance, buildings, information etc.) to pursue the NHS's mission and to support operational activities. Here too we found extension over just five work-levels: from L-6 down to L-2.

It seems that each of these three overlapping pentads forms a complete system

concerned with overall achievement, but each varies in the directness with which the mission is focused upon. In each pentad there needs to be a definitive determination of what constitutes complete coverage of the dimension, and achievement in line with this must be thoroughly and exhaustively pursued. In moving down the pentads there is a natural progression from fundamental thinking about what the mission of the organisation involves and how it should be pursued, to grappling with the brute realities of actual operation (see Figure 5). So the pentads have been labelled: mission-oriented planning and monitoring ($G\text{-}5^3$), resource provision ($G\text{-}5^2$), and operational activity ($G\text{-}5^1$). The *purpose* behind the grouping as a whole is therefore to integrate development driven by the mission with the development of resources and facilities so as to tackle the physical and social environment and face the exigencies of operations. This reflects the idea that plans or statements of intent have a natural priority over means of implementation, but are dependent for realisation on resource-consuming action and extraneous circumstances.

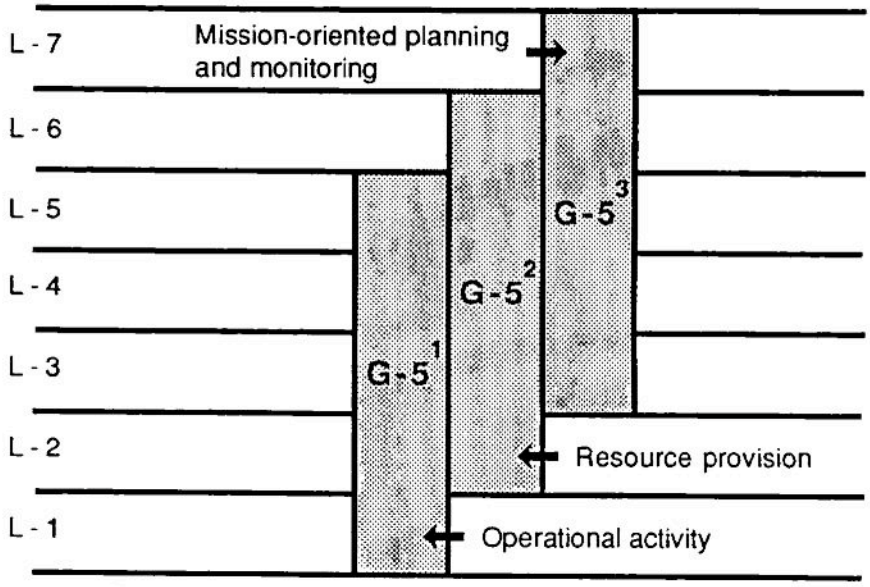

FIGURE 5: The Pentadic System: Three Dimensions of Achievement

We will now consider in more detail the *organisational manifestation* of the pentads, and at the same time note some *psychological correlates*.

In the top pentad ($G\text{-}5^3$), the concern is with producing plans and monitoring actual achievements which are directly related to the prime mission of the enterprise. There are decisions to be made about the relative priorities of various needs and their appropriate shares of available resources. Also detailed strategies to forward the mission must be developed. Basic values and ideals (such as quality and service) and the definition of needs and activities which directly link to them must therefore be identified. The work-style here is that of the 'back-room boy': intellectual and futuristic and somewhat removed from the harsh realities of action. Plans are often idealised to meet higher level requirements. Mission-based planning typically emphasises the project itself rather than how it will be carried through, generates plans which cross lines of accountability, and produces estimates of costs and results in a broad and approximate fashion only.

In the middle pentad ($G\text{-}5^2$), the concern moves to the next logical step: provision, development and maintenance of all necessary resources to put mission-based plans into practice. This involves providing finance, trained personnel, buildings and land, and equipment and materials, as well as legal, information and other services. In resource-led planning, the emphasis is on the need for more resources, more efficient utilisation of existing resources, and the redeployment of resources. The work style of those who solely manage the provision of resource is that of the 'solid servant': supportive and assisting to both mission-oriented planners and operational managers.

In the bottom pentad ($G\text{-}5^1$), the concern is with running actual operations and getting concrete results. Here services or activities of the kind specified in the mission-based plans ($G\text{-}5^3$) are delivered making best use of available resources ($G\text{-}5^2$) in the face of the actualities and disturbances in the operating environment. Here is where the ideals of quality and service must be realised. Operational line-managers and service professionals are primarily oriented to this pentad. Operational control must be precise and complete, and this usually means that focus on the mission and its planned priorities is imprecise. Here current matters (like union difficulties or building repairs) which are utterly unrelated to the mission-based objectives must be considered. Hence in deciding how to progress work, the main emphasis is on how plans feel and fit in the particular agency or division

concerned. Action proceeds pragmatically rather than rationally. The work style here has elements of the 'prima donna' because operations have a high profile, demand seizing of opportunities, and call for a determination to push through somehow to a successful concrete result

Integration across the three pentads is provided again by interlocking the structures at the overlaps which occur from L-2 through to L-6, as represented in Figure 5. For example, in the NHS, it is the job of L-6 staff at National or Regional levels not only to produce and monitor the strategic programmes which drive the Health Districts, but also to define, provide and develop all necessary resources for them. However these staff are not part of the operational pentad and neither the Centre nor the Region manages health services operations. At the other extreme, L-2 managers not only provide a direct operational output, but secure and maintain resources (as pre-specified) so that they themselves and any L-1 staff can perform satisfactorily. However they are not responsible for deciding which patients or conditions are to be treated.

The full overlap of all three pentads is at L-3, L-4 and L-5 — as for triads. (Not surprisingly, L-3, L-4 and L-5 are where most management texts focus, using labels like *strategic control* at L-5, *management control* at L-4, and *operational control* at L-3 — cf. [2].) At each of these levels, mission-based plans, necessary resource provision, and actual operation must all be simultaneously grappled with. Managers at these levels typically need to appoint a variety of different staff assistants or create ancillary departments to support such work. In addition some form of matrix organisation is always required [9,29]. Matrix arrangements are required both across the three dimensions and also within each dimension, e.g. operational activities may need to be organised by both function and site, mission-based objectives may need to be developed in terms of both customer needs and main products or services.

Integration within pentads is based on progressive responsibilities within the *internal structure* of the pentad. In each case, the lowest level functions in accordance with an exact specification; the second develops a flexible response to the overall situation; the third produces a systematic response; the fourth a comprehensive response, that is to say, one in accord with the need to develop all given aspects; and the fifth covers the complete range of requirements by definitively determining what is to be taken as given, and seeing that everything is handled.

The *organisational tension* associated with the pentadic structure is that between the mission and expedient action. Too much focus on the former may mean that nothing is ever achieved. Too much focus on the latter leads to activities becoming ends in themselves, with the raison d'être of the entire enterprise in danger of being lost. The corresponding *personal tension* here is between idealism and pragmatism. As indicated above, the mission generates an idealistic approach, while operations invite a pragmatic approach, and support activities demand a balance.

Many *practical implications* flow from this grouping. In super-corporations, there is the need to ensure that all operating subsidiaries have full L-5 briefs. In the NHS this has been slowly, but still incompletely, achieved [25,26,27]. In addition, there is the need to develop planning structures based on consumer or market needs which should penetrate from L-7 down to L-3. This has barely commenced in the NHS; and much NHS development is still 'capital-led' or driven by the availability of existing or promised facilities, rather than by a strategic vision of actual healthcare needs. The grouping also focuses on the essential responsibility for providing, maintaining and developing resources intrinsic to all lower managerial roles (L-6 to L-2). In the NHS, as elsewhere, such work is often referred to disparagingly as 'administration' and incorrectly regarded as secondary to the 'real' work.

The idea of matrix structure, a relatively late addition to the organisational canon, is still uncertainly appreciated by most organisations, and is identified as a late stage of structural growth by Mintzberg [34]. The present analysis, however, stresses the absolute necessity for adequate matrix arrangements at any stage if the three dimensions of achievement are to be integrated within themselves and with

each other. What is adequate will vary of course with the complexity of the organisation. Within the NHS, collapsing the various dimensions into one has led to inadequate formulation of aims and confusion of activities and responsibilities: e.g. where health-care planning teams have been expected to mastermind implementation, and where operational divisions have been defined strictly in terms of supposed care-groups [27]. Matrix-related issues arise in many areas. In NHS budgeting, for example, a recent concern has been whether budgets should be organised in terms of accounts as conventionally developed by finance departments, or oriented to the mission as in programme-budgeting, or following lines of managerial action and accountability as in management-budgeting. Any such dilemma is unnecessary, because each pentad, reflecting as it does a different dimension of achievement, demands its own financial systems. In the same way, each requires its own role-structures, its own policies and plans, and its own information. In evaluation too, a triple focus is needed on effectiveness of operational process, of choice and use of resource, and on actual outcome as compared with basic needs and values.

Leadership
[G-6: Hexads. 2 Groups with 6 Levels/Group]

Many years ago, Wilfred Brown identified a "gap at the bottom of the executive system" [5]. He noticed that it was very difficult in practice, if not impossible, to get strong management across the L-2/L-1 boundary. Drawing on his own industrial experience, he described how managers actually seemed to collude with the work force in perpetuating the gap. Although the idea of a major divide between 'workers' and 'management' is hardly new, this feature is not explained in the original levels-of-work theory. Our structural analyses thus far offer a lead in that they have repeatedly indicated something different at L-1 and L-7: in short these are the levels which never overlap. The hexadic structure brings this phenomenon to the foreground (see Figure 6), and provides a theoretical explanation of the gap in organisational terms.

The hierarchical nature of levels of work means that work in a higher level must lead that in a lower level, and work in a lower level must accord with that in a higher level. However L-7 has no upper level to follow, and L-1 has no lower level to lead. Hence within the basic seven-level structure, two overlapping hexads concerned with leadership may be identified simply defined as: exerting leadership ($G\text{-}6^2$) and according leadership ($G\text{-}6^1$).

The division between leading and following is not merely conceptual, but practical and highly personal. If an enterprise as a whole is to proceed in an organised and coordinated way, there needs to be leadership and the exercise of authority and drive throughout the whole of the upper hexad, and there needs to be subordination and the acceptance of leadership throughout the whole of the lower hexad. The notion of leadership therefore brings, for the first time, the person firmly into the foreground. We have concluded that the *purpose* which this grouping reflects is the need to integrate people and the work to be done in a coherent and distinctive fashion.

Integration across the hexads depends on the existence at each level between L-2 and L-6 of leading activities which are also following activities. Within an organisation, this means that there are followers who are also leaders. *Integration within* the hexads depends on recognition of progressively more general and abstract approaches to leadership expressed in attitudes and behaviours. From Figure 6 it is evident that, for any given level, the expectations of accordance are always more general than expectations of exertion; and for any given manager-subordinate relation exerting and according leadership take identical form. Looking at the internal structure of the hexads, the level-to-level differences currently hypothesised are as follows. At the bottom level of each, leadership (exerting or according)

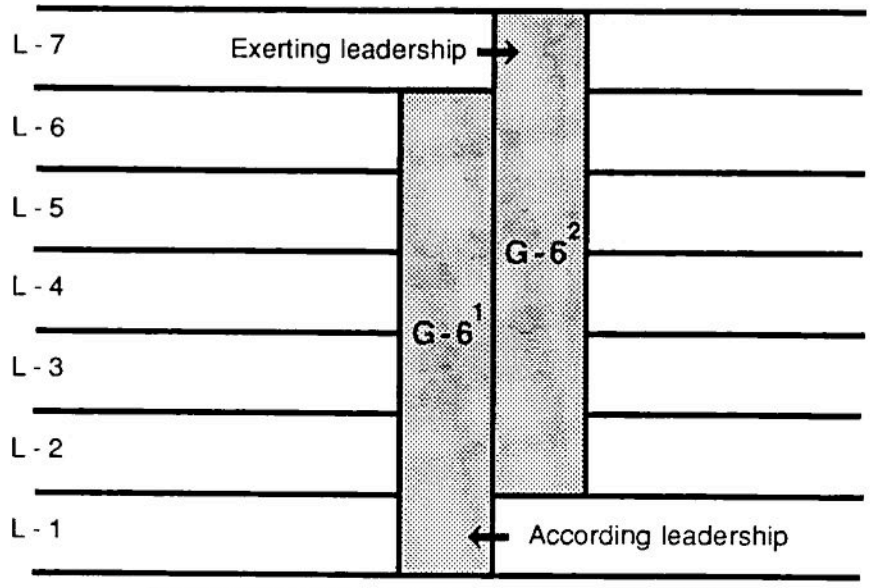

FIGURE 6: The Hexadic System: Two Aspects of Leadership

occurs in a standard fashion which can be specified; at the next level it varies according to the needs of the situation; at the third level it must systematically cover all situations concretely and so takes on the quality of a regular style; at the fourth level leadership must be comprehensive but adaptive to higher and more general requirements; at the fifth level it might be described as 'definitive'; and at the sixth and highest level it might be described as 'distinctive'. Between L-5 and L-6 and between L-6 and L-7, where both exerting and according leadership have tentatively been described as 'definitive' and 'distinctive' respectively, it appears that straightforward line-managerial relationships do not develop. Here, decision and resolution on key matters tend to occur in a collegial fashion, often within Board structures [17].

Leadership involves, above all, matching particular people with particular pieces of work: which, when done well, releases the required motivation to achieve. The necessity for matching has been implicit throughout, because each grouping has been shown to call for both particular management arrangements and specific psychological attributes. Leaders must therefore ensure that the requirements of each perspective are met by providing appropriate arrangements which fit given individuals — and vice versa. So leadership applies to all five groupings previously described, to its own grouping (i.e. leadership itself must be organised), and, above all, to the perspective yet to come, which concerns participation. In this model, therefore, leadership implies more than the exercise of personal charisma [20].

The *psychological correlate* in the hexadecimal structure is attitudes of dominance and subservience. Participants in all social organisation — as anthropological, sociological and social psychological studies bear witness — require at some points to assert power and dignity and at others to respond to the complementary demand for acquiescence and deference. The present analysis similarly identifies some irreducible minimum of differentiated power and status in all executive organisation: and argues that leadership, and hence pre-eminence of some kind, is essential to move the enterprise forward. Furthermore, private knowledge of success is insufficient satisfaction for most people. So some degree of public acknowledgement is also needed, whether in material or symbolic form or both. But recognition of this universal social requirement is not to advocate authoritarian styles of management or the proliferation of exclusive and expensive status symbols. Nor is it to deny the need for empowerment of all staff and the reality of a deeper underlying equality amongst them (as described in the next section).

Higher up is more exciting, but also more risky. The *personal tension* implicit in this grouping appears to be between the desire for power and the desire for security.

The gap noted by Brown and referred to at the commencement of this section is not just between L-2 and L-1, but between the whole superstructure of the organisation (the upper hexad) and L-1. Any effective exercise of leadership requires assessments of appropriateness. Such assessments, if they are to be adequately done anywhere in the upper hexad, demand a positive identification with the organisation and its goals by the person involved. At L-1, however, the required output of work is completely prescribable, and hence at this level the worker can be alienated and still perform more or less satisfactorily. (It is on this basis that slave camps restricted to an L-1 output are possible.) This analysis supports the idea that class conflict in modern societies is not just an expression of ideology or history, but has deep roots in the very nature of work itself and in the inevitable split between the leaders and the led, a situation inherent equally in communist and in capitalist economies [7].

The hexadic structure brings a complementary feature to notice. The lower hexad is sharply distinguished from the L-7 leader, thereby producing what might be called a 'gap at the top'. L-7 leaders transcend their organisations and are not themselves led. They are not just another employee, but frequently feel the enterprise to be their own. (The feeling of ownership may be heightened where the L-7 Chief Executive Officer is also Chairman of the Board which is supposed to govern his activities in the former role; or where a substantial shareholding is owned.) Such captains of industry are frequently public leaders: Lee Iacocca for example, who rescued Chrysler, was seen as a potential President of the U.S.A.

The *organisational tension* here, and one often ignored, resides in the need to expect both leader- and follower-type behaviour and attitudes simultaneously in all managerial staff working in the area of overlap (L-2 to L-6). Managers at these levels must proclaim values in which they personally believe, whilst identifying with those promulgated from above; they must define specific missions for themselves and their staff but stay within the general mission assigned; they must set their own clear priorities, but observe a broader given priority framework; they must develop their own detailed and coherent strategies, within and generally supporting broader given strategies; they must set their own task objectives but at the same time diligently pursue any specific tasks set for them.

The main *practical implications* here centre on recognising that leadership is bipolar and not unitary. Emphasis on exerting leadership must be counterbalanced by a corresponding emphasis on according leadership — or what may be called 'followership'. Too often the whole subject is seen simply in terms of the assertion of responsibility and the expression of power, and the need for acceptance and submission is denied. A typical example from the NHS was a recent call to NHS doctors to take up their 'true' leadership role while ignoring their manifest opposition to according leadership to higher managers [10]. Furthermore, it must be recognised that the appropriate attitudes and behaviours for both leading and following vary markedly according to level of work, a factor which has not hitherto emerged in the extensive leadership literature. The grouping also explains why attempts to avoid any kind of formal leadership and to depend totally on democratic control by all have been generally unsuccessful. Participation, as will be stressed below, is socially and emotionally desirable but it is not synonymous with leadership. The latter derives from the absolute necessity, if any sort of general direction and control is to be maintained, for certain decisions to be made by people taking the broader vantage point implicit in higher work levels, and for these decisions to be taken as given by those at lower levels.

Participation

[G-7: The Heptad. 1 Group of 7 Levels]

In the final perspective, all seven levels are indivisible and form one single group. Various strands in the organisational literature already pointed in this direction. Originally there were the human relations writings which stressed the desirability of participative styles of leadership throughout the organisation for energy and achievement to be maximised [4,30,32]. Later came the industrial democracy literature which indicated both the appropriateness and constitutional right of staff at lower levels to participate in many decisions at higher levels [11,39,51]. Most recently 'New Age' and post-industrial writers have indicated the hidden potential of staff and the release of commitment and innovation that occurs when information and decision-making are decentralised [37,40]. All this work stresses commonality amongst staff rather than difference, and equal status rather than hierarchy. From this viewpoint, the seven levels become a single entity, a heptadic group ($G\text{-}7^1$), which may be entitled 'voluntary participation in the enterprise' (see Figure 7). (Note that much of the more recent literature offers participative organisation as a preferred alternative to hierarchic organisation, whereas the present theory proposes that the two are complementary.)

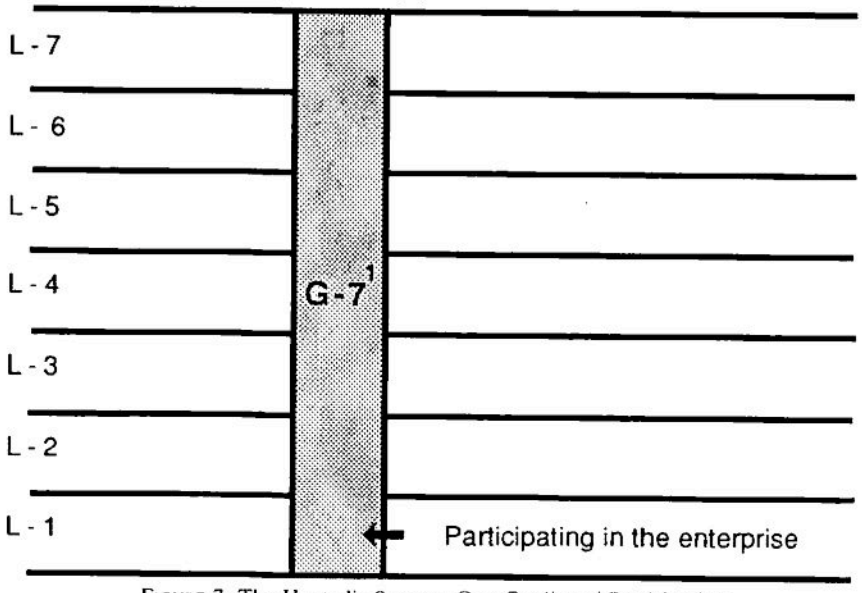

FIGURE 7: The Heptadic System: One Quality of Participation

The heptadic grouping also emerges from purely logical considerations. Logically, concrete action at L-1 is always linked to some complex assessment at L-2 which leads to it, an assessment at L-2 is always part of some system for handling such cases at L-3, and so on up the hierarchy leading ultimately to L-7 where the basic parameters within which all work occurs are defined. In other words, *all levels must exist in all work, even if some are not overtly evident or specified*. And people must in some basic sense voluntarily determine or reinforce explicit or implicit decisions at all levels when they perform any work.

The purpose behind this grouping is to unify the totality of work. And it is the mission of the enterprise (or 'work to be done') which provides the unifying focus for general participation. Barnard [3], Hirschman [16], Simon [46] and others have emphasised that the first and most important participative decision is whether or not to work (and go on working) for an organisation: a choice which applies at every level. It was the need to be clear about the *necessary differentiation* of work to be done which led to the appreciation of stratification into work-levels. It was recognition of the equally *necessary integration* of work which led to the combinant analysis here reported. Looking back, the need for integrative mechanisms in each of the previous six types of grouping can be seen to flow logically from an underlying sense of a necessary unity of all seven levels.

It follows from the logic of the heptad, that, even where the mission to be

instituted is inherently at a low work level, the work to be done at all higher levels must be carried out in some potential or virtual form inside or outside the organisation.* Such work at each level will be either implicitly emergent, passively experienced, or carried out by external agencies or wider social groupings. In other words, however small the organisation or the task in hand, decisions have to be assumed (if not explicitly taken) about the content of each and all of the seven possible levels of work in relation to the particular activity in train.

For example, a physiotherapist working in private practice, who has the ability, say, to provide diagnoses and treatments at L-2 and L-1, but has neither the ability nor the desire to work at higher levels, will explicitly or implicitly accept a whole range of encircling assumptions based on professional training, general education, and societal custom. These assumptions will invariably cover such matters as: what constitutes acceptable methods of practice (L-3), what mix of physiotherapy services are required in her practice (L-4), where the boundary of her physiotherapy practice lies and where referral or refusal to treat is required (L-5), how professionals in other fields should be related to (L-6), and basic definitions of key aspects of her professional practice and relationships (L-7).

The same physiotherapist working within a fully developed organisation such as the NHS may find that many or all of the higher level issues just mentioned rest with a variety of senior managers. However she is capable of reflecting and feeling strongly on them, and indeed may be incapable of avoiding this. It follows that she should be participating in some way in decisions on many of them.

In the present analysis, it would be predicted that the quality of participation should vary according to level, from a form that can be precisely specified (at L-1) through to a form that is maximally creative (at L-7). Such internal differentiation has not yet been fully analysed, but is evident from fieldwork. It has been noted, for example, that the atmosphere of participation assumes a different quality as the levels are ascended and the number and variety of staff increase. For staff at L-1, a sense of participation is described mainly in terms of the degree of personal job-satisfaction; at L-2 it tends to be seen in terms of better or poorer team spirit, and at L-3 in terms of high or low morale. The quality changes at higher levels: at L-4 participation seems to result in an ethos; at L-5 a culture is generated; while at L-6 and L-7, it is more natural to speak of the general climate within the organisation.

Integration within the heptad depends above all on the existence of common aims and values embodied in a mission which is accepted by participants. So harnessing participation, mentioned above in relation to leadership, demands management of the cultural and symbolic aspects of work and organisation [45].

The *psychological correlate* here is the ability to commit oneself to participate, and (in organisations) the ability to work closely with others for a common cause. The *organisational manifestations* of this heptad reflect the need to get wholehearted participation. These include such things as: determined attempts to recruit personnel disposed to be committed to the particular mission, establishing attractive pay and conditions, making employees shareholders (owners), carrying out and acting on surveys of staff needs, setting up representative structures and consultative councils, and setting up and encouraging social and sporting activities.

The *organisational tension* in the heptad is that between unification and variety. Whatever the kind or level of work expected of a person, there is a definite need for all to be motivated by some common concern in pursuing the same mission. Yet there is also a need for diversity: without a variety of different views and emphases the organisation is in danger of becoming rigidified. The corresponding *personal tension* is between identification with the organisation, its purposes and

* The schema therefore provides a precise means for defining and measuring the major phases in the growth of an organisation [14,18]; and partly explains the drive for growth. Simply put, *an organisation (or indeed a person) is as complex as the maximum level of work which it is explicitly attempting to integrate fully and perform effectively within its own structure.*

values, and the need to be a separate individual. The former carries the danger of loss of personal significance, while the latter carries the danger of alienation from work.

The main *practical implications* relate above all to the idea that effective handling of the management work thrown up by all previous groupings depends fundamentally on shared aims in which all participate. The leadership must institute mechanisms such as those indicated above to ensure this.

CONCLUSION

If the design of work is to be well-matched to different human needs and potentials, the conception of levels of work as originated by Jaques and Brown is indispensable. Levels of work should be regarded as one of the great social science discoveries of this century. But the original theory is insufficient. It needs to be expanded into areas of the management process that have been hitherto ignored or unrecognised by it.

In this paper, certain theoretical ideas have been developed and their practical value indicated. For the most part, the focus has been on demonstrating how the seven basic levels of work may form seven groupings which carry new and essential perspectives for systematically organising and managing work. The unity of the seven levels has also been emphasised by clarifying the potential presence of the complete seven-level framework in all work whatever its scale. Underlying the whole approach has been a third tentative idea, that seven levels reflect the completion of the hierarchy. This last proposition and the system of structural analysis developed have profound theoretical implications whose exploration lies beyond the scope of this paper.

In conclusion, the various threads may be drawn together to reveal an insight of further significance. The seven groupings themselves apparently define a secondary hierarchical framework, each level of which develops systematically and progressively both as a whole and internally (see Table 3). As noted already, getting appropriate action assumes and depends on precisely defined responsibilities, dealing with change systematically demands appropriate action, and so on. In other words, the seven perspectives are contextually linked. This derived hierarchy, G-1 through to G-7, is about the carrying out of any organised activity, and could be appropriately termed 'levels of managing'. (It considers process as well as structure and is to be distinguished from 'levels of management' which usually refers solely to structure.)

The complete process and structure of managing may be seen in the following way. Participation in the mission (G-7) is the ultimate foundation and rationale for all managing but requires the institution of leadership (G-6) for its systematic realisation. Leadership ensures complete handling of all who have decided to participate, including the top leader himself.

Both participation and leadership are therefore intermeshed and permeate all activities in relation to the actual work. From this point, managing can be best presented from below upwards. First, the mission must be differentiated and responsibilities for its various elements precisely defined (G-1). From this flows clarity about the basic expected output, the overall societal impact, and the number of levels of management required. Next, it is necessary to establish the machinery and processes for getting appropriate action (G-2). Particular decisions and programmes of action can then be linked to produce systematic development while preserving necessary stability (G-3). Ongoing operation and development require the provision of comprehensive functions so that necessary standardised specialist work can be performed and general management ensured (G-4). Finally, achievement depends on successfully integrating the functions and ensuring definitive and complete coverage of mission-oriented planning and monitoring, resource provision, and operational activities (G-5).

Recognition of these deep realities moves far beyond the naive idea that there is just one important thing in managing — adopting the right attitudes, or improving

marketing skills, or whatever the latest fashion is. And, arguably, it is concordant with, but also moves a step beyond, existing attempts from the time of Fayol onwards to capture the main components of management either in assorted lists of principles [12,36,50], or pragmatic classifications of observed activities [33], or ingeniously designed mnemonics and memorable anecdotes [40]. All these sensitise and stimulate but do not in themselves explain. What is offered here is a model which, though not yet fully articulated, appears to do justice to the complexity of managing while ultimately deriving from a single starting point: the given mission.

TABLE 3: The internal structure of each of the seven levels of managing.
The top level, in italics, in each set indicates how that aspect of managing is to be provided at its fullest. § marks a tentative formulation.

G-1 **Responsibilities** to be distinguished:	G-2 **Actions** to be generated:	G-3 **Changes** to be dealt with:	G-4 **Functions** to be provided:	G-5 **Achievement** to be pursued:	G-6 **Leadership** to be established:	G-7 **Participation** to be volunteered:
					Distinctively §	*Fundamentally §*
				Definitively	Definitively §	Distinctively §
			Comprehensively	Comprehensively	Comprehensively	Definitively §
		Systematically	Systematically	Systematically	Systematically	Comprehensively §
	Situationally	Situationally	Situationally	Situationally	Situationally	Systematically §
Precisely	Precisely	Precisely	Precisely	Precisely	Precisely	Situationally §
						Precisely §

DEFINITIONS:

Precisely	=	In accord with an exact specification
Situationally	=	In accord with the assessed needs of the situation
Systematically	=	In accord with the need to handle all situations in an orderly way
Comprehensively	=	In accord with the need to develop all aspects of the given operation
Definitively	=	In accord with the need to define in practice the relevant aspects and see they are all handled
Distinctively	=	In accord with the need to proceed in a structured and coherent fashion §
Fundamentally	=	In accord with the need to postulate what is to be taken as given, agreed or acceptable §

Moreover, the model meets the basic research criteria of Mintzberg [35] in terms of its focus on 'real concerns' of managers, and of Ackoff [1] in terms of its origin in consultancy aiming 'to improve the performance of client organisations'. As a result, the ideas, suitably adapted to the client's circumstances and needs, have been found to be readily assimilated and intuitively used by managers. For example, our detailed document [27] assisting implementation of general management in the NHS is widely read by NHS managers, and has been described by their house magazine as "gripping reading" [15].

Although most of the examples offered in the paper have come from this one large contemporary U.K. organisation with its one million workforce and £20+ billion budget, the resulting model would seem by its generality to apply much more broadly — and not only to large organisations, but to human work generally.

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