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DESIGNING TECHNOLOGICAL CHANGE:

A STUDY WITHIN THE NATIONAL HEALTH SERVICE

VOLUME ONE

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Doctor of Philosophy

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## DESIGNING TECHNICAL CHANGE: A Study within the National Health Service

### SUMMARY

Designing within complex organizations is a little understood phenomenon. Examination of existing literatures suggests that technical change occurs through incremental modifications to stocks of knowledge which are shared between organization members. Common "template" conceptions are reformulated through organization politics which shape the resource allocative procedures within an enterprise.

Design outcomes are legitimated retrospectively through situation specific rationalities which relate to more permanent ideological perspectives within an organization and society. The notion of technical determinism is often employed in this legitimacy process.

A review of existing theories of the control of design in organizations reveals basic shortcomings. The control of design should be examined through the accounts of the design process supplied by managers and designers themselves. To do this requires a view of politics as an activity by which the logics of means-ends connections are successively modified to accommodate the operation of power and influence.

Within the National Health Service the established structure and ranking of professional power exerts a profound influence upon the layout of hospitals. An analysis of the evolution of the British hospital as a standard type reveals its subdivision to accommodate disparate occupational territories.

These themes are examined through a longitudinal case study of the design of a district general hospital. Using a combination of documentary, interview, and observational research data the physical layout and work organization of Newtown D.G.H. are scrutinised through a process perspective.

The study finds support for the existence of template knowledge and develops an outline model of the design process. N.H.S. design procedures are over complex and need to be modified. Managers involved in technical change are appraised of the need to clarify the existing state of design knowledge within their organizations and to relate planned innovations to existing template formulations.

GARY MACDONALD VANN-WYE

PhD 1986

Key Words: DESIGN, HOSPITALS, POLITICS, PROFESSIONS, TECHNOLOGY.

On political plans, which are related to the parties as permanent formations, recall what Moltke said of military plans; that they cannot be worked out and finalised in advance in every particular, but only in so far as their nucleus and central design is concerned, since the details of the action depend to a certain extent on the moves of the adversary.

**ANTONIO GRAMSCI, (1971:139)**

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## PREFACE

This thesis examines processes of technical change by looking at designing in a single complex organization. It does not offer a definitive exposition of design activities, but takes as its main focus the designing of physical environments and their relationship to the systems of work organization they are intended to house.

The research tackles substantive areas of concern largely ignored in previous works, or which have been dealt with from prescriptive practitioner viewpoints. By way of contrast this work concerns itself with explication rather than problem solution. Its objectives centre more upon the elucidation of the "how" and the "why" of designing rather than on the "what". The reader should therefore not expect to find recipes for designing in organizations, but will discover an attempt to formulate an account of how processes were managed in one particular case.

The impetus for the present enquiry came from three sources: First the writer's own experience of architectural design in public and private organizations. Second from the developing literature on organizational control summarised in Salaman (1979). Finally there was the increasing interest in "new technology", the design of production systems, and the consequences of technical change for industrial labour forces.

The first concern indicated to the writer the presence of normative elements in design and the sense of continuity which inheres in innovatory exercises. The second area of focus highlighted the problems of resource apportionment and the political dimensions of negotiating order in enterprises. The third posed the question of the nature of the supposedly determining links between equipment, environments and their associated patterns of work.



The vehicle chosen for the exploration of these ideas was a case study of the design of a new district general hospital within the National Health Service.

The thesis divides into four sections. The process of designing is analysed in Chapters 1 to 4. Methodological issues of studying design are looked at in Chapter 5. The design of hospitals within the NHS, and the evolution of the Newtown DGH project are covered in Chapters 6 to 11. The conclusions of the research constitute Chapters 12 and 13.

Several data sources are used as evidence. The first four chapters draw upon a wide ranging literature survey. Much of the material falls outside the areas conventionally designated as 'organizational behaviour' or 'organizational design'. Chapter 5 deals with the problems of designing a methodology for the project and draws from field notes and experience gained in the research process. Chapter 6 evaluates the political and value systems underlying the NHS and is derived largely from internal health service literatures. Chapter 7 looks at the evolution of hospital layouts from a politico-historical perspective using a variety of primary and secondary sources. Chapters 8 to 11 constitute the heart of the case study. Here an effort is made to weld field observation, interview material, file documents and associated data into a comprehensive but abridged account of the hospital development. There is a progression from a comprehensive view of whole hospital design, through detailed consideration of the formulation of two specific departments, to a review of participants' subjective images of planning and design. Chapters 12 and 13 look back at elements of the case study to draw out some implications for theory and to place them within a context of ongoing research in the field.

## PART 1 DESIGN AND ITS PROCESS

### CHAPTER 1

#### DESIGNING - WHAT IS IT?

Design is a largely unregarded area in the reproduction of organizations and their environments, Clark (1983 : 1) sums up the position thus:

"Previous research has assumed designing, but not explicated its forms...Those who do pay attention to designing tend to be proselytisers...or radicals who focus on the context and out comes rather than the intervening processes."

Formal definitions tell us that to design involves two major elements:

1. The act of drawing, planning, and forming configurations of resources.
2. The use of human intentionality and the use of artfulness (in the sense that ethnomethodologists use the word), the creation of 'plots' or 'schemes' to control the world in the pursuit of certain preconceived ends.

Hence design outputs have two constitutive parts. First, the tangible representation of objects and/or situations which are taken to embody some future state of affairs. Second, the subjective meanings attached to these representations. Any adequate explanation of designing must show the links between the output of designers' labour ie. plans, and the corresponding play of actors' intentions. Central to understanding these

conjunctions is the process by which designs are negotiated as an adequate implementation of actors' aims and ends. In short we have to explain the social construction of causation.

### Design as the construction of social reality

The essence of design is the building of a patterned social existence in accordance with the projects of human actors. In speaking of design per se one examines a specialist 'technical' subdivision of labour, although Papanek (1974 : 17) stresses the indistinguishability of design from all purposively-oriented human behaviour:

All men are designers. All that we do, almost all the time is design, for design is basic to all human activity. The planning and patterning of any act towards a desired, foreseeable end constitutes the design process. Any attempt to separate design, to make it a thing in itself works counter to the inherent value of design as the primary underlying matrix of life."

To examine the nature of designing is to scrutinise not just the shaping of objects and the channelling of human efforts into changing the world, but also to discover how the meanings around these activities are assembled and negotiated into an acceptable reconstituted social order. Berger and Luckmann (1971 : 30) pose their central problem of social theory by asking:

"How is it possible that subjective meanings become objective facticities?...How is it possible that human activity should produce a world of things?"

Ultimately designing is not just about the conception of buildings, computers, or egg cups. It includes, to a greater or lesser degree, the creation of a new, or modifications to the old "symbolic universe". New objects or relationships within an environment have to be searched for



meanings. The intentions of innovators are critiqued, modified, and recast by the users of their products. In a complex organizational context the use of a newly designed machine or procedure may be little understood or its customary employment regarded as unacceptable. Its use, and more importantly its meaning in use will be modified in accordance with managers' and operatives' preferences. Consequently the detailed meanings of objects and practices should be regarded as contingent upon the localised preferences and interests of those constructing and operating them.

### Designs and meaning

In his "Notes on the Synthesis of Form" Alexander (1967) illustrates the gradual cultural accretion of meanings around objects over time as part of what he calls the "unselfconscious" process of design. Building and understanding are one evolutionary process over time in which objects are integrated into a mythological style of cognition (Alexander 1967 : 47). He contrasts this relationship with "selfconscious" design in which traditional significations are disrupted and "misfits" occur. Clearly he is operating with a version of Tonnies Gemeinschaft/Gesellschaft dichotomy (Tonnies 1955), and in a subsequent work (Alexander : 1979 : 480) advocates a return to more traditional design approaches.

What Alexander elides in his eulogies on the good "fit" between form and function is the fact that even in the case of the Eskimo igloo cultural meanings are constructed around the objects in just the same way as they are by a contemporary designer making a presentation to an entrepreneur. The only significant differences lie in the abbreviated time scale of the latter and the more fragmented nature of present day designers' publics.

In highlighting the question of meanings in design we must distinguish several levels at which they are created.

- a) The subjective/intersubjective understanding of the design held by the designer him/herself and/or shared with colleagues in a design team.
- b) The public justifications of design projects created for "client" consumption.
- c) The understandings generated amongst users of a given design solution.
- d) The significance accorded by wider publics to a design.

It will be apparent from this crude classification that what any given design "means" will vary widely across different groups. Designs are expressed in various languages such as drawings, flow diagrams, models, verbal descriptions and so on. These materials are foundations upon which meanings are erected and from which action projections are created. The concepts contained in these specialist codes must be translated into commonsense language and through linguistic abbreviation be transformed into simplified schema which can be rapidly and generally understood.

To clarify the status of verbal or written expositions on design it will be useful to adopt Garfinkel's notion of accounts (Garfinkel : 1967) along with his conception of "the objective reality of social facts as an ongoing accomplishment of the concerted activities of daily life" (Garfinkel : 1967 : vii). Schutz (1972 : 51-2), stresses that when the human individual is "immersed in the flow of duration" experiences melt into "a flowing continuum". In reflection, these sensations are constituted as discrete experience. That is to say that meanings are constructed post factum and the nature of events becomes account-able. Garfinkel argues the same point in his study of jurors (1967 : 113-15). He maintains that:



"In place of the view that decisions are made as the occasions require, an alternative formulation needs to be entertained. It consists of the possibility that the person defines retrospectively the decisions that have been made. The outcome comes before the decision."

Under this conception, in the act of designing the actor's operating intentionality is unclear to her/him, although conforming to an implicit plan. The causal chain that led to action is constructed afterwards and activity is then located within a rationality which seems at once reasonable and compelling. The single actor thereby makes designs accountable to him/herself. However, the designers' situation within an organization makes necessary "accounting" to others. Here Schutz's phenomenology breaks down in lacking a theory of politics and ethnomethodological concepts of normalcy are inadequate. Why must actions be made accountable, to whom, and for what?

These problems will be touched upon later in this argument and developed in Chapter 2 where the nature of, and competition between specialist knowledges is considered. The point made here is that the meaning of design output is mediated through the designer's own retrospective and selective attention. An integral consideration is the need to persuade and to please and appease those publics for whom she/he works. Consider this extract from a conversation between Heinrich Klotz and architect Louis Kahn.

H.K. "What do you do with a client who wants to have a building that's nothing but utilitarian, a pure instrument of everyday needs?"

L.K. You build what he thinks he's getting. There's no problem there. I also get what I want.

H.K. In other words, you are not talking about art when you are dealing with a client.

L.K. No, no.

H.K. You're talking about his needs.

L.K. The art then, is the art of trying to find the words in common, the words which get you away from your code, in order to reach him. That's very important to you and to him." (Cook and Klotz: 1973:183)

The task of finding "words in common" and of constructing acceptable verbal protocols is a difficult one. Nadler (1981 :7) describes the situation where planning professionals work in isolation. Client and designers' perceptions change in different directions at different rates:

"Consequently, when the P & D experts make their recommendations the client rejects them. The premises underlying how each views the proposals are simply too divergent...The PDA (Planning and Design Approach) avoids this deadlock by integrating the changing realities of the client's world with the P & D process. The two worlds are kept in frequent contact...successful implementation requires modifying the behaviour and perceptions of the real world people throughout the entire PDA process."

This view is pluralistic, pragmatic, and situation specific; the PDA professional is an ideological fixer whose function has as much to do with producing attitudinal congruence as it has in deciding the route of a new by-pass. Nadler pinpoints, albeit within a prescriptive framework, the process of assembling logics from means-ends chains and after critiquing conventional "rational" design processes maintains that:

"We must replace all narrowly formal conceptions of rationality by a broader functional one. This need involve no rejection of rational inquiry, rather it involves a reanalysis of the nature and content of rationality." (Nadler : 1981 :31)



Nadler's planning world is one of competing groups where the politics of design are subordinate to getting the job done. His conception of the quality of life (p.22) is an distillation and celebration of consumerism. In the final analysis the client decides. The process of planning and design must act as much to reassure customers as it does to further the interests and self-development of professional design parties.

### Design as the Elaboration of Causal Gestalten; the Art of Cobbling Things Together

Polanyi (1964 : 10) has said that "Scientific knowing consists in discerning Gestalten that are aspects of reality". Whether such connections really exist in nature or are merely working hypotheses is another debate, but what is essential to note is that for designers also the assembly of matter and energy into a coherent systems is a central part of their work. The tendency in many studies of organizations and sociology generally is to fragment and dissect phenomena for their constitutive variables. The result in design studies is to shred what is a wholistic thing so that its distinguishing feature -the creation of logical consistency - is missed.

### Change and Continuity in Design

The speed at which newly designed technologies are introduced and the resulting anxiety over the consequences of rapid change is a perennial theme in the literatures of industrial society. Toffler dubs this phenomenon "future shock" which is "...the dizzying disorientation brought on by the premature arrival of the future" (Toffler 1970 ; 20). To him the products of design technology are a "great growling engine" of change and



of themselves lead to a loss of knowledge of society (p.168). Keil (1982 : 2-3) summarises the position with regard to micro-electronics:

"The excitement and urgency of the accounts of the technological developments in microelectronics cannot conceal the outlines of a familiar debate about technological change and its social consequences; a debate as to whether the developments in microelectronics are merely a continuation of previous technical change, ie. a question of degree, so that we may use previous experience as our guidelines for the future, or whether these developments are so radically different that we are presented with differences in kind, a revolution in both technology and its social consequences."

Keil's writings raise important questions. Whose design knowledge is to be accorded legitimacy when technical conditions are changing? Should it be those with experience of existing formats or the bearers of new knowledge? Following hard upon these questions are others. What is it that distinguishes a new concept from traditional practice? How are these differences to be measured? Indeed does the truly "novel" exist in the field of design work? Is "innovation" merely a buzz word; a vehicle for professional self advancement? Is change fundamentally a rhetorical reshaping of the already known and accepted?

Anxiety provoked by rapid change is frequently allayed by use of arguments in which progress and change are evaluated as morally good. The complexity of deploying progress as an argument for change is examined in Kumar (1978) and Nisbet (1980).

Certainly change processes or visions of change are past-loaded. Miles and Irvine (1979) reviewing futurology criticise its' heavy reliance on extrapolation, and its stabilisation of the existing social order.

In summing up it will be said that processes of technical change involve increments upon existing exemplars. Impressions of novelty are created by the use of rationalities which accompany them and seek to motivate operators within the working system of which the physical apparatus is only a part.

### The Transmission of Design in Organizations

The transmission of design configurations is little touched upon in the literature, yet it bears upon pivotal questions of how organizations continue as entities. The researcher is forced to assemble an account from art criticism, design theory, and writers in the philosophies of science and social sciences. From art historians like Pevsner (1963) we learn stylistic analysis, the formation of schools of design, and the role of influential patrons. For the transmission of design types over time there needs to be a stable social network of designer producers and consumers. The more enduring over time the sponsoring group and the greater the degree of centralised control the more uniform the "style" will be. Uniformity of design forms and work organization march together, are related by stable logics of spatio-behavioural knowledge, and once established in organizational cultures are hard to dislodge. What develops is a design type. Giedion (1974) chronicles the nineteenth century genesis of several common household implements. He characterises the design of these tools as a steady accretion of design innovations. These are arranged and re-arranged until a satisfactory working configuration is reached, which then continues with only minor alterations in styling.



One of the most celebrated and detailed studies of the evolution of design configurations is that by Sturt (1923) who studied the work of wheelwrights in the 1880's. His description of the refinement of cartwheels to a standard format captures perfectly the incremental matching process in the gestation of type objects. Sturt's focus is upon craft based knowledge. Alexander's "pattern language" for a California barn (Alexander : 1979 : 179-81) attests to the repetition of such procedures across a spectrum of designed artefacts. Alexander's exposition on the evolution of pattern languages rightly stresses the importance of human activity for the creation of spatial identity, but he accords designing a naturalistic, mystical, and sacred character. His account of the derivation of design configurations is unsatisfactory. For him man/environment interaction establishes a corpus of spatially located practices. These are grounded in the life aspirations of human beings, and the resultant pattern system is a reflection of biological structure and natural variation. Science-based design methodologies rupture the intuitive link between man and nature and should be jettisoned.

Now this kind of argument is at once naive and too general. To Alexander all men are equal in the sight of the natural order. He dodges issues of class and power distribution. His "timeless way" of designing must often have taken place in societies with strong ruling elites who determined the symbolism of "official" architecture and ignored the housing of the poor as beneath consideration. The simplicity of vernacular building is as much due to its low priority in the economic and status orders. Scarceness of resources is as much responsible for its good "fit" as is sensitive folk perception. His view is too general in that it fails to recognise that any social collectivity - tribe or business enterprise - will contest the allocation

and disposition of resources; they will not just wander into a field and assemble stones or steelwork under the inspiration of a naturalistic cosmology. Although he is anxious to condemn the codification of design knowledge by traffic engineers and other organization based designers, he gives little idea as to how they design as they do, apart from a sweeping rejection of systematic and positivistic design methods.

Perhaps a more useful term to describe the development of organization - specific design gestalten is the term paradigm. In this context the concept should be viewed as a framework of shared assumptions about the nature and interrelationship of phenomena which acts as an orienting scheme of reference for intellectual and practical endeavours. Merton (1968 : 70-71) indicates that paradigms allow the simultaneous inspection of scattered variables and the possibility of evaluating progressive interpretations. They eliminate hidden assumptions and impose a logic structure. They advance theoretical understanding and make problems visible. Finally, they enable analyses to be codified and made rigorous. Probably their most important attribute in a design context is that paradigms are cohesive conceptual schemes which are taken for granted as a basis for carrying out routine work. Kuhn (1962) has used this definition in charting the development of scientific change. He points out that lack of a paradigm in any discipline leads to the need for reconstitution of knowledge (Kuhn : 1962 -12). Paradigmatic agreement facilitates the emergence of organized groups such as professions (p.19) and the development of group identity. Common perceptions arise (p.110-112). Paradigms legitimate the kinds of work carried out by scientific workers; they permit the subdivision of tasks and provide a matrix of rules for successful action. Kuhn also sensitises us to the rivalry that arises amongst scientific workers in their negotiation of "truth".



In criticism it must be said that Kuhn's work lacks a spatial metaphor which is needed to understand the transmission of design gestalts. Burrell and Morgan (1979 : 29) stress that paradigms have a map-like quality and they attempt a two-dimensional analysis of theoretical interconnections which delineate what they see as mutually exclusive intellectual territories. Each of these is underpinned by distinctive meta-theoretical assumptions.

What the ideas of these authors suggest to us is that what binds the action perspectives of individuals into working collectivities is an articulated and extensive phenomenal and causative topography. It is the totality of this scheme which matters. To portray it as assembled by the co-ordination of normative practices is inadequate. In design, designers and 'clients' construct and evaluate design output in terms of a known antecedent and supposedly determining action-icon. This constitutes a kind of ideal type by which actual products are judged.

Schutz (1972 : 64) describes this kind of element in terms which suggests that what we are looking at is a kind of "blueprint". He shows (p 68) the "bindings-together of other discrete acts" into an "articulated unity of a higher order." This "discontinuous synthesis creates a higher order Act" Here it is the posited connections between Act and physical object which concern us and the nature of the binding process. Schutz is chiefly concerned with the individual subject's consciousness. He examines the building up of experience into stocks of knowledge which are then used as guides for action. He explores ways of interpreting the subjective meanings of products which can be understood:

"...if we have in view the meaning - context within which the product stands or stood in the mind of the producer. To know the subjective meaning of the product means that we are able to run over in our own minds in simultaneity or quasi-simultaneity the polythetic Acts which constituted the experience of the producer." (Schutz 1972 : 109)

The unsatisfactory nature of this analysis for the present work is that it does not explain artifacts inter-subjectively produced by several designers, and the adaptation of meanings to suit many publics. "Determining" stocks of knowledge are constituted through a history of interaction with others who possess power. One must explain not just what the nature of an actor's subjective knowledge is (if that is even possible), but how the modelling of social reality takes place within a landscape of significance within which certain ideas have more salience because they are promoted by resource-controllers.

The question of design templates will be touched upon later in this chapter but it is first necessary to examine how social action creates a sense of such structural phenomena. Giddens (1979) offers one of the most subtle and sophisticated accounts. His theory of structuration insists upon the importance of action in reproducing structure. Conceptions of structure held by actors are benchmarks against which the meanings of actions are evaluated. They are both sustained by and reproduced through the practical actions of social agents who have a great deal of knowledge about the social world and the specific institutions of which they are part. Giddens claims that the "rules" concerned in rule-governed creativity are "at the same time the medium whereby those rules are reproduced and hence in principle modified (Giddens : 1979 : 18) We find that "neither subject (human agent) nor object ('society' or social institutions) should be regarded as having primacy. Each is constituted in and through recurrent



practices." (emphasis original). Later he comments that "Laws in the social sciences are intrinsically historical in character: they hold only given specific conditions of "boundedness" of knowledgeably reproduced systems of social interaction. The causal relations involved in laws refer to reproduced action..." (Giddens 1982 : 15). He points up the "practical consciousness of actors" (Giddens : 1981 : 27) and condemns the derogation of the lay actor. The impact of his recent writings is to indicate the skilful negotiation of reality, and the role of unintended consequences. Merton (1936) was the first to pinpoint the escape of social consequences from the intentions of actors. Giddens's re-emphasis needs attention here. If designing involves the satisfaction of many criteria simultaneously, any given design solution will fall short of initial performance criteria. Yet it is the designer's public brief to satisfy all requirements in the best possible way. Designers' accounts thus seek to rationalise choices and to construct the most favourable presentation of solutions. Unintended consequences are re-presented as positive virtues. There is thus a sense in which the designer's exposition of environment/meaning conjunctions always strives towards the erection of a totally interdependent system. Rationales are rejigged so that aims and outputs are re-aligned to achieve consonance as the designing process goes on.

Designing: From Value Judgement and Prescription to Scientific Detachment.

Design is not just a procedure whereby objects are created to dovetail with human requirements. The nature of requirements is seldom self evident and unambiguous, and to produce a "good fit" presumes that needs can be definitively stated. In a complex, changing world where needs are various

and many, part of designing involves prescription of need as well as advocacy of solution. Assessing a client involves his/her placement within a social aggregation and selection of the kind of provision which she/he will stomach. In "traditional" societies the designer's authority stemmed from his craft monopolisation of knowledge and upon conceptions of divine inspiration. With the rise of complexity in design as described by Banham (1969) came the need for a different source of legitimation - science and applied scientific knowledge. Incorporated in this espousal of the scientific mantle was the assumption that acceptance of science as a point of reference somehow removed the judgemental core from design work. It was deemed to be the routine application of the neutral demands of the natural world. Design was still 'creative' but the 'art' inhered in mastery of an expanding canon of technical knowledge. Le Corbusier, probably the most influential architect designer of the century, lauded the products of science. Products of engineering were searched for an aesthetic (Le Corbusier 1946 : 134-138) and the proportioning systems of design mathematicised, (Le Corbusier 1954) into a uniform code suitable for all industrial products. The formal logic of mathematics was seen to supply a structure for design work. (Le Corbusier 1954 : 71)

Not only was science to supply the imagery and authority for object fabrication, but the process of designing itself was to be dissected and presented as orderly and unproblematic. Archer (1969) exemplifies the attempt, particularly strong in the 1960s, to place design within the context of a value free scientific endeavour.

What this kind of scientisation of design disguised was the chronic and constant problem of choice faced in design work. The value-laden core of



designing became increasingly tacit or wilfully disguised. Policy intentions were hidden behind a deterministic facade. But as Vickers (1973) notes, "what men might shape otherwise invites ethical criteria."

### Designing Causation: The Fabrication of Determinism

Lang et al (1974 : 5) have maintained that:

"The architect's belief system and particularly the belief held by many architects that the physical environment is a major determinant of social behaviour (a concept which has come to be known as architectural determinism) requires re-examination."

Certainly it requires examination in this work where the process of linking the built environment to work systems is scrutinised.

In a crude sense buildings do direct human activity. One cannot walk through a brick wall and security locks can deny access to rooms. However there is no inevitable connection between building form and specific use. One can play cards in an operating theatre or hold a party in a kitchen.

Psychological and social psychological studies enable us to gain some purchase on this issue. Baum and Valins (1977 : vii) conclude that "the architectural design of human environments can have an influence on mood and behaviour". However, evidence is not consistent and in a single direction. For example, crowding and pathological behaviour are not invariably correlated (p.vii). They cite Zeisel (1975) who points out that building use frequently runs against architects' intentions. They state (p.3) that determinist beliefs are mistaken and that many other variables

mediate behaviour. Some of their experiments indicate that building users colonise areas and maintain surveillance for privacy and social control (p.34). Group territories emerge which may be enhanced by certain types of plan (p.28). However, in general they fail to indicate how far the social interactions within buildings in use match the intentions of designers.

To assume a high degree of architectural determinism is to view subjects as stimulus - response automata. The position taken here is that designs are not mechanically determining. If people obey the expectations of designers it is because of the acceptance of or acquiescence to hermeneutic meaning systems. The power of environment controllers has more to do with conformity than any mystical power emanating from the building fabric.

Sommer (1969) shows that the possibility of social engineering through environmental form is more assertion than reality. He maintains (p.4) that follow up studies of user behaviour are rare. His picture of "determinism" is of a myth sustained by casual and anecdotal observations. If interaction patterns are stable over time the subjective interpretations of users are the key factors:

"How many people significantly alter the chairs in an airport terminal or a doctor's waiting room? It is a matter of intimidation, inertia, and a belief that results do not warrant extra effort. People accept the idea that the existing arrangement is justified according to some mysterious principle known only to the space owners. Dr X must have some reason for placing his chairs so close together and the store owner must have some logical purpose for putting the shopping carts in front of the magazine rack." (Sommer : 1969 : 10)

What is involved here may be a question of space and object ownership rather than design determinism. Individuals perceive the space owner as



having rights to dictate use. The designers' responsibilities end when a unit is completed and running. From that moment obedience to use projections is enforced by space controllers. One must not confuse compliance with formal definitions of space usage with compulsions emanating from the fabric of the environment.

Certainly it would be convenient for plant owners and managers if environmental determinism held. Organization structure and work systems could be fitted into a tailor-made physical context. But real world situations turn out not to match so easily. Hickson et al. (1976 : 155) found that "the sweeping technological imperative hypothesis on organizational level technology and structure is not supported". Matching work environments to work systems is a complex process of choice, of fitting one to the other in a hermeneutic circle.

Rittel and Webber (1973) define design problems as "wicked" problems. They pinpoint the intermeshing of problem definition and solution.

"The information needed to understand the problem depends upon ones idea for solving it...in order to describe a wicked problem in sufficient detail one has to develop an exhaustive inventory of all conceivable solutions ahead of time." (Rittel & Webber 1973 : 273)

Designers are invariably concerned with seeking causal explanations for "misfits" they seek to remedy. The authors clearly indicate the political nature of design work.

"...attitudinal criteria guide...choice. People choose those explanations which are most plausible to them...you might say that everybody picks that explanation of a discrepancy which fits his intentions best and which conforms to the action



prospects that are available to him. The analyst's "world view" is the strongest determining factor in explaining a discrepancy, and, therefore, in resolving a wicked problem." (Rittel & Webber 1973 : p280)

In reminding us that policy and provision are inextricably connected they demonstrate that designing is an essentially political phenomenon, not only in overall strategy formation but on the drawing board.

What these writers are telling us is that designing is a structuring of preferences. It is not an activity using unproblematic means to achieve definable ends. Designs are in one sense iconic/semantic illusions whose translation into working environments is subject to a lengthy process of evaluation and bargaining. They are not determining schemes of action reflecting the causation of a natural order.

#### The Designing Process : Art or Science?

The trend towards the scientization of design has already been noted above. Here the intention is not to label designing as an artistic or scientific procedure. The aim is to demonstrate that they are alternative labels employed by professional designer groups to disguise and make acceptable their control intentions.

Both categories draw upon different grounds for legitimacy. The one, art, supposes creative freedom. The other science, presupposes logic and rigour. Present day designers seem to be unsure about which category permits them most autonomy. Hamel (1982) studied designers and found that they characterised their design approaches along an intuitive-rational continuum. Artist/intuitives stressed that design was "a mystery which

should be preserved as such". (p.11) whereas rational/scientific workers emphasised the clear statement of ideas and reference to data. In both types of approach behavioural sciences information was little used. Thus labelling design as an artistic or scientific activity achieves little in distinguishing actual design mechanics. It merely exposes the mode of professional legitimization.

At root the intuitive legitimization of design is based within a psychologistic perspective. It is founded upon analyses of the "exceptional" or "gifted" individual. Vernon (1970) gathers together several accounts of this kind. Certain traits mark out creative people - insight, the re-assembly of routine solutions, simplicity of thought, lateral thinking, risk taking, nonconformity and so on. There is agreement that creative thought is wholeistic and is based upon past schemes of experience. Stephen Spender asserts that:

"There is nothing we imagine which we do not already know. And our ability to imagine is our ability to remember what we have already once experienced and to apply it to some different situation." (Spender cited in Vernon 1970 : 72)

But what is applicable to the solitary poet is not applicable to the designer within a large organization. What individualistic descriptions lack is reference to group norms or communality of thought. Aesthetic sensibility is all, institutional restrictions count for nothing.

In opposition to the uniqueness of the inspired individual are the "public" methods of "rational" designers. In the case study to be presented later most subjects underlined the rational aspects of their activities, and much of the work on hospital design has been subject to regularised procedures.



Jones and Thornley (1963) assemble material from an influential design conference in the early 1960's which shows the emergence of a belief in communicable and reproducible design methods, many involving the use of automated techniques. As Lawson (1980:2) says:

"The time was ripe for a movement in design inspired by all the rational qualities of science, and the first generation of design methods came into being".

Mitchell (1977) sums up the innovations in Computer-Aided architectural design which were leading to the establishment of a uniform methodology. Frazer and Conner (1979) describe the "conceptual seeding" approach using building structure as the manipulable element. Whitehead (1970) used circulation patterns to determine layouts. His work on hospitals aimed at reducing travel distance between rooms to save staff time. Using a key dimension to determine a computer aided design system may have advantages but given the complexity of design decisions is bound to have shortcomings. Designs must be reconcilable to many simultaneous demands. It is seldom that all criteria are satisfied optimally. Although microelectronic kit may give a spurious air of rationality its employment cannot circumvent crucial issues of choice. Indeed choice dilemmas may be aggravated. Computer-Aided Design gives the possibility of increasing the number of alternative change options and expressing them in a form more readily accessible to non specialists. The opportunities for inventive "play" and experiment are increased with reduced time penalties for lateral thinking. The inhibiting factor may well be the designer's own limited awareness of choice, and, more importantly, the range of choices that an organization's knowledge and political structures permit him or her to think



about. What the use of such methods can do is to increase client confidence in the efficiency of design procedures. Lacey (1965) poses every designer's problem in these words:

"Feelings of fire in our bellies have to be controlled by an orderly method of working. Our administrative colleagues and expert clients are sometimes fascinated by our ability to develop new ideas, but, on the other hand, they will not really be confident about us if they feel we are people who work in a muddle and arrive at our ideas in a haphazard way. We must recognize that our clients are people who have probably evolved an orderly approach to their own field of work. We must display the fact that although we are emotionally interested in the problems of design we are also as concerned as they are about factual issues such as cost planning, contractual arrangements and site operations" (Lacey 1965) cited in Lawson (1980:128-9).

Here we have the crux of the design problem. The designer must deal with scarce resources whose "proper" distribution concerns the systems of personal power and political influence in organizations. Designing is ineradicably concerned with the "allocation and authorisation" (as Giddens would put it) of resources whose distribution is inevitably contested. Any autonomy the planner may have presupposes that he/she has satisfied (or can convince significant organizational others that he/she has satisfied) a constellation of client and user interests.

Thus to pose the question "Designing: Science or Art?" is misleading. It is to see aesthetics or hypothesis testing as taking the place of practical bargaining. It is professional depoliticisation.

### Building Systems and Work Systems: Designing Integration

The gains in technics are never registered automatically in society; they require equally adroit inventions and adaptations in politics; and the careless habit of attributing to mechanical improvements a direct role as instruments of culture and civilization puts a demand upon the machine to which it cannot respond" (Mumford cited in Noble (1977) - Title page).

It has been held that determinism is a social construct. Work environments derive meaning from the formal prescriptive schemes of work system organizers and from the subjective interpretations of operatives. Giddens (1981:39) has stated that human activity should be analysed in terms of mutual "presence availability" in certain "locales" over time. It is therefore the task of any management operating within a discrete environmental boundary to attempt to impose its own definitions as to space use, work grouping, and timetabling. Mumford (1967:11) has insisted that since early civilizations the political organization of the "human machine" has taken primacy over environmental considerations and that ideas of technology as a prime mover are mistaken (Mumford 1967:22). What is involved is an effort by designers of work and workplaces to impose action frameworks upon human agents; the transmission of an integrated system of spatio-behavioural prescriptions. The aim is social control in the interests of predictable performance and profits.

Yet to view designing as a political act of domination is to be compelled to admit that designers definitions will be contested. Nichols and Beynon (1977) show the tension between the work of job designers and actual workplace practices.

### Design as Decision Making: The Limits of Existing Theory



Child (1972:91) has pointed out that the "dominant coalition" in an organization exercises strategic choice in design activities. He cites Cyert and March (1963: 36-8) approvingly on the topic of organizational "slack". Whilst accepting his stress on the non-determinate nature of organizational environments, and his focus on influential groups of power holders, we ask what the concept of slack defines. Is it a decision space within a strongly constraining organizational world? Slack in relation to what?

For the purposes of this work we shall see decision making operating with reference to a design template. "Slack" or "choice" then relates to the ability to negotiate change elements as acceptable parts of existing frameworks. Slack is measured in relation to performance levels defined as acceptable by those whose withdrawal of support would jeopardize the continuation of the organization.

Decision making is thereby less a process of discrete choice and more of a process of meaning re-assembly in accordance with temporally transmitted schemes. Putting such constraints aside we may say that in principle designers could project physical and organizational structures of infinite variety. The simple observation that they do not, but classify options into certain preferred paths needs explanation.

The major drawback of decision making models is this - by sundering processes into decision acts they focus attention on the circumstances, and upon the logic or illogic of actions. They tend to ignore the fact that single decisions are part of an operation of assembly within a larger design. For instance, we may easily agree with Simon (1947) and March and Simon



(1958) that individuals are cognitively limited and "satisfice" rather than seek optimal solutions. Here the problem is not to decide the information-processing limits within the brain, but the way in which decision options are recast to fit into existing institutional matrices. Lindblom's (1959) "muddling through" captures much of the essence of what we are looking for in design formulation - limited incremental matching under the pressure of political influence and crisis perception. Olsen's (1972) "garbage can" model captures another element - the matching up of existing problems and solutions and their bonding together into "rational" wholes. Mintzberg's (1979) description of an airport siting decision highlights the constant circling and modifications involved in reaching a preferred and negotiated outcome.

Janis and Mann (1977) explain how shared perceptions come about. They point to collective efforts at rationalisation, insulation from outside influence, self censorship and shared illusions of unanimity (Janis and Mann 1977 130:1). This is "groupthink" and helps to explain the formation of distinctive design rationalities in situations of crisis and pressure. The working out of these factors is demonstrated empirically in Levin (1960 (a) and (b)) where the work of town planners is examined.

Simon (1969) showed the need to consider design activity as a special kind of decision making act when he called for a "science of the artificial" Design products were:

"artificial in a very specific sense. They are as they are only because of a system being moulded, by goals and purposes, to the environment in which it lives. If natural phenomena have an air of "necessity" about them in their subservience to natural law, artificial phenomena have an air of contingency in their malleability by environment". (Simon: 1969:ix).

It is this sense of "contingency"; dependence upon the legitimating force of rationales constructed by designer professionals that must be highlighted. Design is a lengthy and complex process. At any moment the links between means and ends threaten to become tenuous, illogical, and redundant. Meaning must be continually reforged and refurbished. Simon goes on to stress the synthetic nature of the artificial. Artefacts may imitate the natural order whilst lacking the latter's sense of inevitability (Simon: 1969:5-6). He sees the designed object as an "interface" between the substance and organization of the artefact itself and its surroundings. For him the professional training of engineers and other designers is a key resource drawn upon in sustaining interface definitions. He remarks:

"The proper study of those who are concerned with the artificial is the way in which...adaptation of means to environment is brought about - and central to that process is design itself". (Simon: 1969:58).

So an important element in design decision making is deciding how to interpret and sustain the consequences and potentialities of objects, and evaluating their credibility in the wider social environment. Buroway (1979) would see it as the act of "manufacturing consent" - matching the physical world and the world of work by a phenomenological map.

#### Kidder: Designing in Action:

In "The soul of a new machine", Kidder (1982) captures the working experiences of computer engineers designing a new product. He brings to the fore elements already touched upon here. Existing products are seen as entities and simple additions condemned as "kludges" (ugly excrescences).



There is a search for patterns or templates against which new products can be assessed and their significance evaluated. There is the confused groping towards solutions and the internal politics of the design team struggling towards a common definition. Consider for example the case of UINST, the "micro-instruction set" rule book:

"UINST became a battlefield. Its contents changed every week. Holland and his troops would make their changes and the Hardy Boys would look at UINST and say, 'Theres no way we can do this function and this function in hardware'. The two sides would argue and work out these problems. Then the Microteam would discover something else that was difficult to do in microcode, and deciding that it should be done in hardware, they would insert in the next issue of UINST this wish for change. The Hardy Boys were on guard. They'd scan UINST carefully looking for new Microteam mischief, and finding this new item, declare, 'No way can we do that in hardware!' And it was back to bargaining again". (Kidder: 1982:144)

What "Eagle" (the new computer) was and meant was an emergent property of complex negotiations, the decisions of senior managers, and of reference to existing machines and their customary uses. (Kidder: 1982: 243-4).

Kidder analyses the process of attributing meaning to objects. He elucidates the iconic and symbolic qualities of products which obscure their actual functioning. He describes computer boards thus:

"Some boards are colorful, and most finished ones please the eye. A computer's boards seem to show order triumphing over complexity. They look as though they make sense, but not in the way the moving parts of an engine make sense. The form on the surface of a board does not imply its function". (Kidder: 1982:35-6).

Designers tend to draw a lot on visual symbolism as standing for efficiency in design accounts. The actual mess of building this visual order is denied.



Furthermore such iconic logic is taken as representing some underlying and determining plan for action. If it looks right, it is right, and therefore what we say it means lays obligations for conduct upon you - this is the process of selling technological determinism. By disguising the antagonisms and compromises involved in reaching decision outcomes, the myth is generated that technique is unproblematic. If it is unproblematic then it is inevitable and binding. Schutz (1972) has demonstrated the difficulties of reconstructing the meaning of tools:

"The artefact is the final member of the series of progressive anonymizations marking the typifying construction of the social world". (Schutz: 1972:207).

In societies with a complex division of labour users cannot understand the genesis of objects. Where incomprehension reigns organized deception can flourish.

In a textbook on design management Farr (1966) outlines the progress of a model project through inception to product output and marketing. Ordered along a timeline it omits crucial power considerations. Designing, from a management point of view, is just getting the job done. However an essential part of this work lies beyond the prescriptive delineations of product specification and output. It inheres in the detailed working dealings about who does what, who has what discretion and what the meaning of the product is for the company and wider consumer publics. When a regularised design output (say automobiles) is involved meanings tend to be well sedimented. But if one assumes a new concept (a rare event as "new" products are past referenced) the problems multiply.

It is easy to cite reification as a phenomenon disguising meanings. Reification is recognized as a valid phenomenon in this discussion, but actors do have knowledge about products and this knowledge can be edited, filtered and manipulated. The operation of social choice and causation can be obscured and blame laid at the door of technical innovation:

"I don't see no sense in always grumblin", Crass proceeded. 'These things can't be altered. You can't expect there can be plenty of work for everyone with all this 'ere labour-savin machinery whas been invented...Machinery is the real cause of all the poverty. That's what I said the other day". (Tressell: 1965:100)

### Towards a Politics of Designing

Gross (1968) has defined "political process" as:

"...the activities of people in various groups as they struggle for - and use - power to achieve personal and group processes." (Gross : 1968 : 265)

He points out that the study of political process is difficult because of the simultaneous operation of many variables. Follett stresses that a time perspective is involved and that "knowledge" changes constantly in the flow of duration:

"By the process approach, the world or any part of it is seen as an ongoing stream of events in time, as becoming, rather than merely being. Facts do not remain stationary...The value of every fact depends on its position in the whole world process, and is bound up in its multitudinous relations." (Follett 1924 : 9-12)

As we have seen Giddens (1979, 1981, 1982) has maintained that structures are instantiated in action over time. Resources, human and material, are disposed of by processes of allocation and authorisation and constitute the



basis of power and control. Outputs of designing should be regarded as the outcomes of organizational political processes rather than their causes. Pfeffer (1978) has commented that the choice of technology and organization design both reflect and affect the distribution of control in an organization. Each is shaped by an organizational contest for control and the resources that are brought to bear in that contest.

The meaning of a given design is thus constructed in the political action that leads to its creation. The rationalities of participating actors bear upon this process, but the rationality which underpins a design as a whole and purports to determine its relation to the social world is an emergent property.

Giddens (1976 : 85) asks if reasons can be causes. He claims that:

"Rather than simply saying reasons are, or may be causes, it is more accurate to say that rationalization is the causal expression of the grounding of the purposiveness of the agent in self knowledge of the social and material worlds which are the environment of the acting self."

Thus in designing the ruling rationalities must be seen as the official 'causes' even although they will not be held by all who are party to design activities. Designing construed in this manner is a competition of rationalities in which resource controllers seek to harness the action potentials of individuals and objects to their ends, and to out-rationalise alternative definitions. Physical environments and work systems may be linked in a multitude of ways. Politics in design consists in the contest to establish the right to shape resources and to define their uses. This does not mean that an unmodified pluralist view is proposed. Bachrach and Baratz's (1962) concept of "mobilization of bias" is accepted. Selective



editing of the vocabulary of intentionality may well limit the range of possible options that can be fought out. Similarly Clegg (1979 : 105) cautions against the easy omissions of arguments based upon resource allocative power:

"The assumption of 'resource' - based explanations of power ought also to entail an exposition of how some people come to have access to these 'resources' while others do not."

Clegg criticises Giddens position in "New Rules of Sociological Method" through the latter's weak integration of structuralist and Marxist themes. Clegg (1979 : 99) sees hegemonic domination and the mode of production being mediated through a mode of rationality which operates to reproduce organization structure. Empirically he sees the "ground rules" of capitalist enterprises as establishing sedimented selection rules which determine specific organizational practices. The flaw in this argument lies within his supposition that rationalities follow unproblematically from a given social organization. To say that there is an underlying rationality underpinning all social action is to discredit and ignore the utility that rationalities have for actors in bargaining, whether or not rationalisation is seen as merely epiphenomenal. To discuss superstructural elements and to insist on economic primacy is to ignore the richness of practical conduct and its internal articulation. Jones (1973 : 30-34) writing on product design admits economic determination in materials choice and fabrication methods. Clegg, would doubtless endorse this position; but to degrade explanation to a basic Marxist dichotomy is too reductive. A rationality is a pliable thing. It can be reshaped and wedded to many economic contexts. Lenin's espousal of Taylorist principles demonstrates that rationality formats cannot be "read-off" directly from a given mode of production. Rationalities are themselves resources available to actors in the pursuit of their preferred outcomes.

### Manufacturing Coherence : The Systems Approach

Social causation is different in kind from natural causation. An atom does not have to persuade its neighbour to act - a human organism does. It goes without saying that if the latter relationship can be transposed ideologically into the former compliance flows more readily.

Designers are therefore in search of an analogy which can routinise their chronic problems of choice and integration. They seek a rubric; some substitute for randomness and caprice.

One of the most fruitful explanatory schemes for design workers has been the biological-organic metaphor. As a device it gains power not only from its scientific and methodological referents but from its portrayal of social behaviour as an equivalent to physiological processes.

In striving "Towards a Social Ecology" Emery and Trist (1973) were aiming towards a further refinement of the functionalist/system approach. Whilst recognizing the bond that has to be forged between organization and technical environment they see the latter as imposing demands:

"The technological component not only sets limits upon what can be done, but also in the process of accommodation creates demands that must be reflected in the internal organization and ends of an enterprise. Study of a productive system therefore requires detailed attention to both the technological and social components." (Emery and Trist : 1973 : 215)

In 1981 Trist re-summarised the work/environment relationship thus:



"The technical and the social systems are independent of each other in the sense that the former follows the laws of natural science and is a purposeful system. Yet they are correlative in that one requires the other for the transformation of an input into an output, which comprises the functional tasks of a work system. Their relationship represents a coupling of dissimilars which can only be jointly optimized." (Trist : 1981 : 24)

He compared "old" and "new" organizational paradigms; the emergent participative style was contrasted with traditional authoritarianism. This new attitude was to transform machine centred systems into operator focussed systems. What is being discussed is the composition of a new pattern of environmental explication, a refashioning of supposed public consequences. The deep assumptions of systems theory - its stress on stability and smooth integration of discrepant stimuli are characteristic of all designing operations. System elements are reciprocally legitimating and the internal logic structure self-supporting.

Practical system stability, if it is achieved, owes little to the logical cohesiveness of the overall design gestalt. It derives more directly from the detailed politics of design formulation and acceptance. Miller and Rice (1967) are more candid. They discuss the issue of "optimization" and the problems of matching the aspirations of different professionals:

"Optimization may, indeed, be an over kind term for what is essentially a process of compromise in which the relative power of different parties within the project team will, in its efforts on the characteristics of the final product, be at least as significant as the inherent requirements of the project itself." (Miller and Rice : 1967 : 132)

In describing the designing of a new steelworks these authors talk of the need to separate task boundaries, not only in the designing itself, but in the configuration of the physical plant. This must be policed by a managerial



control system to impose the relationships conceived at the design stage. They discuss (p.7) the need to divide up the operating firm in terms of technologies, territories, and time. As the hospital case study will show, this constitutes a recognition of the political fissuring of organizations and is an attempt to neutralise 'troubles' by separating them conceptually and physically. They see the results of designing as:

"a set of designs that specify the task of the building system and provide the yardstick against which building activities can be programmed and monitored." (Miller and Rice : 1967 : 137)

Design must aim to satisfy the productive activities of an enterprise if that organization is to continue as a viable economic unit. Yet the implementation and management of design activity offer further possibilities. Design can be a yardstick for control. It is generated in a context of political action and implemented within a matrix of power. It is a resource to be cited and interpreted by actors. Its meaning is realized through social action. This is a process in which a multitude of changing perceptions of end "goals" are created and bargained for.

Gallie (1978 : 295) pinpoints the importance of political differences in determining the nature of work organization and work experience. Refuting technological determinism he states:

"Advanced automation proved perfectly compatible with radically dissimilar levels of social integration, and fundamentally different institutions of power and patterns of trade unionism."

He locates the causal explanations in different cultural factors. In this thesis, however, culture is discarded as a too inclusive category. Cultural practices are interpreted as sedimented preference structures constructed

through political process. Within this vision building design is not subsumed under a heading of cultural determination but is seen as the transmitted accretion of past design/political decisions which are reshaped according to current needs. It underpins organizational facticity by its reference to institutional continuity.

### Radical Critics of Design: The Degredation and Manipulation of Man

In "Tools for Conviviality" Illich condemns the management of design by professionals. His convivial world is one where control of shaping the environment passes to politically aware individuals. His treatment of medicine (Illich : 1975 : 18) suggests that design has been warped in the interests of professional guild control. Thus institutional design produces dependence upon elites. He advocates a move towards "democratic" and politically informed design free from sectarian control.

Weizenbaum (1974) takes a different approach. He sees science and the design outputs it produces as relying upon a formal and abstracted view of the world. Designing becomes a filtering of options that degrades human richness by creating artificial equivalents of human attributes which are then taken to embody the essence of human activity. Misguided science, in his view, perpetuates a stripped vision of human potentialities.

These two critics take design as remediable within the present system of social relations. Marxist theorists tend to see designing as directed by the deliberate structuring of nature for profit extraction. Marx himself tied technology directly to the realization of class antagonisms. He stresses



that machines subordinate labour by reducing it to the status of a binding medium. Man exists as an adaptable resource between mechanisms, reduced to a mere co-ordinator. The machine environment acts as an external and alien power (Marx : 1973 : 693-5) Its expropriation by capital transforms it into an instrument of domination. The designed world embodies a basic economic class dichotomy. Artefacts impose one faction's interests upon another. In his Economic and Philosophic Manuscripts of 1844 (Marx : 1975 : 229-40) he develops a view of man as a creative species being, and design as a realisation of that human essence (p.330-1). Designed products are fossilised labour power and under capitalism are shaped to intimidate the subordinate class. The worker stands in incomprehension before the world he has made (cf. Tressell 1965 : 100). Marx's adaptation of Hegel's dialectic of man and nature posits that the rupture between the natural order and human reflexivity is exploited one-sidedly under capitalist relations of production. In his much quoted analogy in Capital (Marx : 1954 : 174) he clearly indicates that design is the imposition of intentionality:

"But what distinguishes the worst architect from the best of bees is this, the architect raises his structure in imagination before he erects it in reality. At the end of every labour process, we get a result that already existed in the imagination of the labourer at its commencement."

The existence of wage labour ensures that the capitalist can insert his own intentions, which for Marx aim to increase the possibilities for the extraction of surplus value. Thus the constant trend in design is to seek for configurations which maximise the rate of profit. Design decisions seek this objective and Marx takes it for granted that the means/ends chains are effective.



Subsequent writers have taken up this approach through the labour process and their work will be touched upon later. Here it is relevant to examine the work of Cooley (1980 : 54) who describes economic constraints:

"I know...that when you design a unit of production you ensure that you design it to operate in the minimum environment necessary for it to do it's job. You seek to ensure that it does not require any special temperature controlled room unless it is absolutely essential...you do not specify any exotic oils or lubricants unless it is necessary...finally you provide it with the minimum amount of maintenance."

To Cooley capitalist work systems are designed to the bare minimum. This is all very well but analysing 'economy' of structures in engineering, architecture and other skills is complex. Materials are seldom used purely for economy. Appearance does count. A designer may specify uniform supports in a building structure where, strictly speaking, varying sizes could be combined for economy of material. The designer can, and does, waste within his/her set budget. That is part of the politics of professional survival. Part of the politics of designing is the ability to create a zone of discretion through the use of techniques which involve the use of excess resources. The designer's reward is delivered in the form of extra fees, extended working periods, and personal status enhancement. The planning of buildings is shaped by perceptions of the work practices of users, but how many designs incorporate waste spaces produced by designer's attempts to force planning into a certain configuration? To say that design can ever be totally efficient is illusory. Yet whilst condemning de-skilling Cooley amply demonstrates his professional expertise in accounting for this work as purely rational. His advocacy of a change in the ownership of the means of production concentrates on macro-economic issues. He tells us little of the organizational mediation of change at the V.D.U. Cost

effectiveness is a negotiated phenomenon. It is not unproblematically linked to the demands of capitalism. Socialist and co-operative organizations also face cost effectiveness problems. "Free riders" are seen as constituting a drain on resources in these types of enterprises.

A more insightful, but patchy, account of designing is provided by Hales (1980) who looks at chemical plant design at I.C.I. He sees designing as the intersection of many work practices - a combination of many 'sciences' and 'knowledges', harnessed to capitalist production. For the designer:

"The key skills lie in thinking through the capitalist relations of production in concrete terms. The objective is to give these relations an expanded or new embodiment, in the material form of direct practical connection between living labour...and dead labour...In becoming a good engineer it has to be learned that reliability, safety, quality and the rest have no absolute limits. In practice, concrete material limits have to be imposed on them in a relation to what can be afforded. This negotiation which precedes the materialising of new forces of production, is political. It is political in a commonplace sense because it is to do with judging various conflicting and contradictory interests within the objective limits of a configuration of plant. It is political in a more subtle sense too; it is a process of reproducing the relations of production of a historical social formation." (Hales : 1980 : 56)

He continues by saying that designers can never fully anticipate the practical outcome of design. Chemical process workers will discover and exploit loopholes. But overall the designers "preconceptualisation" of reality will overcome worker resistance and the hand/brain separation will ensure a workforce largely unable to challenge management rationalities. He pinpoints the difficulties in design analysis.

"...the main theoretical obstacle is the bringing together of subjective and objective categories within a single analysis. Conceptual production - as the production of subjective entities - sets us this challenge." (Hales : 1980 : 86)



Hales stresses the managerial control exercised in work environments and technologies. His vision is essentially pessimistic, the workforce finds little opportunity to challenge the realities of an operating plant.

Wilkinson (1981) takes a different view. His case studies of new technology lead him to conclude that:

"...the arguments about the efficiency of new production technologies are often no more than scientific glosses which conceal or obscure the political considerations which have gone into decisions on technical change and work organization. In other words, arguments from efficiency are used by the various interest groups in order to justify, or make legitimate, choices which are essentially political, both in motivation and consequence." (Wilkinson : 1981 : 194-5)

These studies, subsequently published in Wilkinson (1983) look at ready made technologies and do not address the problems of equipment or environmental design. However, they do capture the strivings of managerial and workforce actors to impose their pattern of usage upon equipment. They show that the meaning and utilisation of technological systems are essentially contested, no matter how asymmetrical the management/labour power equation may be.

#### Design: The Template as Organizing Concept

What is needed to understand the transmission of design conceptions over time is an abstract construct upon which political process can work to bring about change.



Here, I adopt the notion of templates suggested by Harre (1979). Put simply a template is an organizationally recognised (though not necessarily uncontested) conception of resource disposition. More than this, it typically embodies a configuration of elements regarded as an acceptable working model satisfying institutionally respectable patterns of means-end connections. It is taken to satisfy the 'demands' of customary work practices. Templates may be evolved to produce equipment, buildings, or systems of labour organization. They are higher order schemes, recipes, or paradigms in the ways that have been discussed above.

The term template derives from craft usage. It may be thought of as an overall shape (including internal dispositions of elements) which is "drawn around" to reproduce an object or system. As an accepted "form" with a known socio-historical development it embodies organizational continuity. At the same time it is a state of the art concept which can be worked upon to produce change by incremental modification. By means of template formation an organization's members share mutual knowledge about the central artefacts and interrelationships involved in organizational life. They can use these conceptions to bargain one with another in the detailed politics of designing.

#### The Template as a Multi-level concept

Templates operate at several levels. At the level of the individual actor they explain the proper structuring of the organization to the designer. Templates provide individual designers with time-saving ways of arriving at legitimate solutions. A plan or layout can be quickly worked up with confidence that its major elements will be accepted. Bargaining will be

limited to a routine series of recognized alternatives. The basic configuration of resource distribution will be regarded as proper. At this level a template functions as a cognitive map for individuals.

At group level templates provide a common ground for discourse amongst different professionals. What a hospital or departmental work system is can be represented in generalized and commonsense terms which can be apprehended by diverse individuals with varying biographies and differing technical specialisms. At this level templates are minimal specifications that can be used in debate and competition.

At an organization wide level the template operates as a symbolic device for conceptions of unity, cohesion and consistency. Templates are also of utility in communicating to client publics and facilitate the acquisition of finance and resources. The coherence they provide for an organization underpins its recognition as a valid part of the overall social structure.

### The Nature of Design

The picture of designing which emerges from this chapter is that of an activity conditioned by the politics of managerial power and professional knowledges. These forms of expertise give shape to the fundamental resource-allocative decisions taken within organizations. The forms of legitimacy drawn upon to sustain these solutions as acceptable outcomes are reviewed in the next chapter.

The difficulties of defining who the designer's "client" is are evident. Within organizations the clients may really be the professional personnel



who mediate the perceived demands of external customers. Thus the consumers' wants and their definitions of desirable products may not be the crucial determinants of design. Client "needs" will be defined by organization members within an internal organizational debate which is centred upon intra-organizational power issues. When it comes to deciding upon production methods a "firm's" existing operating preferences will almost certainly be decisive.

The work of specialist design staff tends to build upon, and to measure change projections against, existing templated configurations. But the arrival at a "new" layout is not the end of the story. The translation of a concept into a working system may well involve extensive redesign to bring it into line with user intentions.

Who then are the designers? Crucial macro resource-allocative decisions governing the economic parameters of layouts are the remit of senior organizational personnel. The process of concept refinement and elaboration falls to specialist designer groups. Yet everybody concerned with the implementation of a design within an organization has a design role. Meaning formulation and use projection and realisation involves all people who have anything to do with commissioning or operating a new technical system. Thus design is not just a boardroom or drawing office activity. It extends to an organization wide reconceptualisation of the nature and meaning of activity.

What of the designers of work? What is the relationship of work design to the design of physical plant? This complex issue is one of the key matters addressed by the research and is examined in Chapters 6-11 dealing with the case study.



## CHAPTER 2

### THE LEGITIMATION OF DESIGN

The conception of a design and its implementation raise difficult problems of legitimacy for social actors. These complexities are particularly chronic in large organizations where actual user groups span several professional and occupational categories.

In the politics of designing one finds many bases of legitimacy utilised as reasons for action. The aim here is to examine some of the ways in which designs and designing are sustained as credible entities. The section looks at recurring themes met in design accounts, at the way professional knowledges structure social reality, and the role of ideology in facilitating the composition of designers' rationales.

#### Science: Abstractions of Man and Images of Nature

The role of scientific knowledge in directing design activity has already been touched upon. Here are examined arguments concerning the characterisations of man and the material world which are brought into play by technically-oriented design staff.

Zuckerman (1974 : 62) has argued that the design of technology:

"...is simply the organized exploitation of available scientific knowledge in order to provide people with the things they need or want."

Here it is argued that the way scientific knowledge is 'organized' has certain implications for the ideological underpinning of design outcomes.

Eastlea's (1973) purpose is to describe this mode of scientific appropriation of nature. He recounts how modern science drove out Hermeticist systems of meaning in which man and nature were contained within an organic relationship. Matter followed laws and the Universe was seen as giant mechanism. The natural world was subjugated, and man as part of that world, regarded in the same fashion - as a material resource. By detaching traditionalist meanings, the process of reshaping the environment was reduced to matching elements from a definable "kit". This reductionist view stripped nature of its rights. Man and his surroundings became instruments, their sole utility was use value.

This theme is pursued by Chein (1972) who is keen to reform the scientific division of humanity into behavioural atoms. The social sciences, particularly psychology are to be condemned for making man into an impotent reactor. Psychology studies human coporeality and operationalises activity. The image of man should be one of an active responsible agent. Chein's solution is an infusion of Freudian themes - the revaluation and reconstruction of subjectivity.

Weizenbaum (1976) takes up this distinction between man and the product of his science. The adaptability of the human brain and its capacity for assimilating multisensory data outstrip any computer. He stresses the formal game - like quality of scientific activity and its limitation of conceptions of reality to its own parameters. Scientific workers use their outputs to effect a symbolic recreation of the world within which the

complexity of human experience is denied in the cause of system legitimacy. The multiplicity of cultural meanings is replaced by a single technicist polemic.

The contributors to a discussion recorded in Jamison (1981 : 3) remind us of culture-specific meanings. Dershringkar comments:

"You believe in truth, but we in India are not looking for one truth. We don't have a monotheistic problem. We have seven medical traditions that exist side by side. If we have a disease we go shopping among them to find the appropriate cure."

He supplies a timely reminder that monolithic images of science are mistaken, a view developed by Merton (1973). Merton (pp.228-253) examines the role of Puritan beliefs in seventeenth century England and demonstrates the particular conjunction between certain ethical/religious attitudes and the aspirations of an upwardly mobile merchant class. The empirical method and the cult of invention marched together and provided entrepreneurs with an independent route to wealth. Merton tells us that the content of scientific work cannot be detached from the community within which it is practised. The nature of scientific communities and their hierarchical organization shapes the type of knowledge produced.

In order to understand contemporary scientific images of man it is necessary to see science as a product of political struggle with a role as a knowledge resource in divided societies. In design we must look at the practices by which knowledge becomes a justification for artefacts of a certain kind, and the arguments advanced by individuals and groups for these logic connections. Science's image of man is important in the politics of organizations insofar as it represents the manipulation of acting



individuals as an entirely unremarkable thing. Science offers to designers of change the ability to deny that they are acting manipulators, but rather enables them to maintain that they are discoverers and articulators of law based "best solutions."

### The Neutrality of Science?

What is the articulation of scientific knowledge with political action? Given that science is a socially located product, how should we view its employment in the process of environmental change?

Bernal (1939, 1969) held that science and technology were essentially neutral. Under capitalist relations of production they produced undesirable outcomes. These resulted from the short-term priorities of production, but could be overcome. Science would harmonise with a socialist regime using its potentialities within a planned programme of investment. Here science becomes the cornerstone of a policy of technoeconomism, where sufficient investment provides "fixes" for problems. Bernal, like Marx, saw the scientific enterprise as separable from political process, and merely warped by the corruption of social systems which contained it. A more current revamping of this approach is attempted in Rose and Rose (1970) where the neutrality of science is denied. Science is:

"...the product of certain philosophies, ideologies, economic and political structures. It is thus to a considerable extent modifiable and plannable." (Rose & Rose : 1970 :241)

Later on they stress that:

"Science is never neutral...Science is not done in the abstract, in a vacuum, but in a context which places value judgements upon its goals, just as the scientists themselves are not abstract embodiments of a value free search after truth."  
(Rose & Rose : 1970 : 262)

This early work by the Roses hangs reluctantly within a Bernalian frame, whilst groping for a sustainable Marxist analysis. Bodington (1978) uses Marxist categories in his critique of "big science" subordinated to governmental and organizational control. Science as presently practised leads to a structuring of knowledge which retains power in the hands of an elite.

"...within existing social organizations there resides social knowledge that is not accessible to many members of that organization, but accessible only to a limited number of people in privileged positions. Hierarchical structures and dominator/dominated structures in fact are mirrored in knowledge structures. If knowledge is power, this is indeed what one would expect." (Bodington : 1978 : 129)

In designing this right to interpret and connect knowledge, meaning, and artefact is a key resource controlled by key actors. Bodington sees such managerial powers as used to the detriment of wage labour.

The democratization of control of technology is treated by Rosenbrock (1981). Rosenbrock's own work has been concerned with the introduction of machines which give workers a chance to design their own work programmes. Designing for Rosenbrock involves giving operator discretion. The possibility of achieving discretion, however, has to be based on the possession of adequate skill levels. Access to training is a condition for strong and effective participation in the design process. Machine control systems must facilitate shop floor participation. This is an essentially use/abuse model, and the developments that have followed give



greater worker discretion, but also have cost advantages. They do not, however, tend to attack the problem of control generally. Design of equipment is still in the hands of technical specialists, no matter how benign they be. The chief virtue of Rosenbrock's work is that it gives the politics of design a central place. Management determination of methods and the nature of output remains. Participation is encapsulated, but science and technology are revealed decisively as power structures.

Writers in a more determinedly Marxist perspective have gone further and sought to show that science as executed under capitalism is purely an ideological banner, legitimating ruling class options. This approach is not without difficulties, many of them grounded within fundamental Marxist categories. In "The Political Economy of Science" Rose and Rose (1976) revise their previous position and tackle the theoretical problems which impeded their full acceptance of a left position. Marx, in seeking 'scientific socialism' thought that science could remain a valid exercise in its own right. Where then does 'science' stand in relation to base/superstructure distinctions? The Roses (1976 :XVII) assert that:

"Science spans both base and superstructure; it has both a productive and ideological role, the understanding of which is confused by reference to the "scientific community" as an undifferentiated whole. In fact, this community is divided into...the majority of alienated, proletarianised scientific workers and...the tiny minority of the elite carriers of bourgeois ideology, the scientists."

This stance locates the legitimating force of science with those senior individuals within organizations who set and direct work programmes, and who are chosen for their 'soundness' and willingness to accept capitalist economic imperatives. They show (pp.9-10) that Marx and Engel's regard



for science as a liberatory force was grounded in science's overthrow of the religious world-view. They tended to ignore the extent to which the scientific method had already been tempered by early capitalist values. Cicotti and Cini dismiss the separation of science and value orientation. Science is clearly in the service of the ruling group.

"The concept of neutrality is nothing other than a specific form of fetishism, which attributes an objective intrinsic property to a product of human activity labour which actually derives from the social relationships which intervene between them." (Cicotti & Cini : 1976 : 45)

Gorz (1976a) places science and its design outputs firmly within the context of capitalist social and organizational control.

"The production process must be organized so that the worker experiences the coercion to maximum output as an unalterable requirement of the machine or an imperative inherent in matter itself. Inexorable and incontestible, this imperative seems to be a result of the apparently neutral laws of a complete machine, beyond volition and dispute, the worker must submit to the quantity and nature of his daily work as the only possible way to serve a machine. And he must see the machine as the only possible one; the only possible solution to the technical problem of production." (Gorz 1976b : 177)

Bloor (1976) has remarked upon the special status of academic science:

"Science is sacred, so it must be kept apart. It is... 'reified' or 'mystified'. This protects it from pollution which would destroy its efficiency, authority and strength as a source of knowledge" (Bloor : 1976 : 43)

This author attacks mathematics as a value laden system. Whilst regarded as the most 'pure' of scientific activities, mathematics is impregnated with the assumptions of the social contexts which nurtured it. The case of statistics is a clear example of the capacity of mathematics to shape the conceptual and phenomenological world. Irvine, Miles, and Evans (1979)

examine the processes underlying the generation of statistical findings. They distinguish between "techniques" used by routine workers, and the conceptual categories generated by high level organization members. Statistics reflect capitalism in that they measure primary qualities of objects such as extension or motion (Young, in Irvine, Miles & Evans 1979 : 15). The need to establish exchange values steered mathematical methods into ignoring subjective judgements. The "Government Statisticians Collective" (Irvine Miles & Evans : 1978 : 137) point out that 'official' statistics generate limited visions of society.

"It is extremely difficult, if not impossible, to make a really radical criticism of society using available statistical sources which imprison us in the concepts and concerns that dominate official political and economic life."

Furthermore,

"the methods and concepts developed and used for official statistics are shaped by the sorts of policies powerful people in the state wish to consider and the concerns which pre-occupy them. These concerns determine, at least partly, which phenomena are to be investigated as 'social problems', and which neglected". (Irvine, Miles & Evans : 1979 : 138)

This discussion has particular relevance for the latter part of this thesis as the case study presented later shows actors struggling to interpret the meanings of National Health Service data, but being constrained by Ministerial definitions, and subjected to a category system designed to restrict debate to predetermined issues. The primacy of "acute" medicine over preventative measures and the confinement of the hospital design debate within pre-established norms of provision make radical change difficult. By laying down key design criteria the State may encapsulate the design process. The virtual state monopoly in the collection of certain types



of healthcare statistics and the paucity of epidemiological measures makes a critique of present policies difficult.

### Professional Knowledge and Power

Consideration of the legitimating power of scientific and technical knowledge cannot be attempted without reference to the bearers of that knowledge. Design professionals continually use claims related to their own competence to justify patterns of decisions made in design teams.

Important amongst professional claims for authority is that of moral responsibility. Becker (1972) isolates the identification of professionalism with moral virtue and sees it as an honorific badge or symbol. It functions as a political device for autonomy in work, and for the monopolisation of certain types of esoteric knowledge.

Taking up Becker's ideas Johnson (1972) seeks to examine professions in terms of their power relations in society (Johnson : 1972 : 18). He insists that rapid technological change subdivides and reshapes professional occupations. Control over work is at the heart of professionalism.

"Professionalism, then, becomes redefined as a peculiar type of occupational control rather than an expression of the inherent nature of particular occupations. A profession is not, then, an occupation, but a means of controlling an occupation."  
(Johnson : 1972 : 45)

In discussing forms of producer-consumer relationships he shows the growing importance of corporate patrons. Where the state employs professionals individual autonomy is curtailed and their role towards consumers changes:



"...under state mediation there is a diffusion of the consumer role itself. At times it becomes less apparent who the consumer is, and the clear cut ethical prescriptions of professionalism, which specify 'client' and colleague relationships are no longer entirely applicable." (Johnson : 1972 : 78-9)

Within a large organization professional credibility tends to be graded according to hierarchical rank. Complicating this ordering is the question of inter-professional ranking.

Parry and Parry (1976) examine this latter question in their study of the medical profession. They trace the development of doctor control over health care in the nineteenth century and twentieth century. The subjugation of apothecaries and their successors, the pharmacists established the exclusive right to prescribe. The seizure of control of hospitals by doctors and the establishment of consultant medical specialisms gave practitioners direction of health provision. This dominance was cemented by the establishment of the NHS, where Bevan granted consultants directing power - an event chronicled in Foot (1973 : 102-236). From a motley band of honorary visiting doctors evolved a state funded service, shaped largely by senior medical interests.

As the case study will later show, inter-professional power struggles are crucial in design work. Claims and counter claims of relevant knowledge meet and are fought out within an hierarchical system. Design may involve the use of familiar template exemplars delineating role allocation in organizational processes. But templates are institution-level abstractions. Actors, in interpreting them, meet indeterminacy in each design decision. What is to be done and who will do it can become a

critical issue when new methods are involved. Usurpation of customary competency patterns is an ever possible outcome. Too open a co-operation between designer professionals can lead to loss of control by some and an increase of control by others.

Jamous and Peloille (1970) approach this matter directly. They point out that professional legitimacy can rest upon person-specific charisma founded upon particular experience, or upon codified scientific knowledge available to all. New knowledge from an extra-professional source poses a challenge to existing prerogatives (pp 115-116). Professional boundaries are always difficult to delineate. Elements of professional knowledge:

"...are no more than elements of the professional ideology and constitute the weapons and the most favoured tools of a struggle in which the frontiers of a profession, the definition of the activities which belong to it, are the object of a never-ending conflict" (Jamous & Peloille: 1970:117).

Codification of a design or other procedure thus decreases possibilities of involving personal qualities and increases managerial control by narrowing decision spaces to quantitative issues. Routinisation thus makes professional knowledge accessible to those outside the professional group.

Crozier confirms this tendency. The maintenance engineers in his 'industrial monopoly' held jealously to craft secrets and influenced management behaviour, whereas his 'clerical agency' workers wielded little power. The rationalisation of knowledge leads to the defeat of the technical expert.



"As soon as a field is well covered, as soon as the first institutions and innovations can be translated into rules and programs, the expert's power disappears" (Crozier: 1964:165).

But inter-professional competition for power takes one only so far in explanations of behaviour. To locate this work within a societal frame makes it necessary to consider professionals as agents of the state and the dominant economic system.

### Professionals, State, and Economy

Design professionals have a key role to play in determining the physical and social worlds. In coercing nature and activity into predictable and useful forms they employ resources on a large scale. In determining the means and ends of production they influence the configuration of the labour process. But to say that all designers are equally significant in terms of outcomes is plainly mistaken. Routine detail workers must be separated from those who make key decisions. These latter individuals are those who in determining production can influence patterns of consumption. Designing at its most prestigious levels includes not only the transformation of the world, but determining who gets what and how much.

In explaining the actions of such individuals several questions arise. How can their mode of stratification be characterised? How are they integrated into the productive engine of society?

For Poulantzas (1975:242) professionals are agents of capital. Technicians and engineers have a dual function within the class system. On one hand they are wage workers performing tasks for enterprise owners, on the other



hand they exercise control over the workforce. As agents they exhibit characteristics of dominant and subordinated classes.

The IL Manifesto group (in Gorz:1976:133) take the view that designers are subordinate to managerial groups:-

The designer or engineer...has to create a machine according to certain specifications. The purpose of the machine, its place in the economic planning of the company, its cultural and economic value for society in general, the effort on those who will use it and produce it and so on - are hidden in decisions made in other departments or sections of the company. Once the design is completed all that its creator can determine is whether the machine works or not. He cannot investigate...whether it will make the worker's job harder, or whether it will furnish society with yet another useless or dangerous product. Yet such effects are produced by the designer himself, who implements decisions made over his head and considered to be outside his sphere of professional responsibility".

The confusion over the social and economic position of design personnel stems from the way designing penetrates all levels of organizational activity. Design is exercised by owners and directors of capital, their specialist advisers, and by workers at many levels. Clearly those who allocate financial resources have a key role. Market decisions on investment fix what it is practicable to do. Senior designers outlining the more detailed distribution of resources are also important. Detail designers can affect the quality of work experience. But this still leaves a clear criterion lacking from the argument which can discriminate important from unimportant choices.

A useful resolution is proposed by Johnson. He rejects "expert" knowledge as a determinant of the class position of professionals. He advances an explanation

"...which relates to the autonomy and class position of the 'professions' to the extent to which they are engaged...in work which has a direct function in generating those mechanisms of social control which fulfill the requirements of capital (appropriation, realization, or reproduction), or...are merely an element in the labour process...conditioned by capitalist relations" (Johnson:1975:34).

He seeks to distinguish the conditions under which the Weberian attributes of bureaucratic position operate -when does the power of "incumbancy" take primacy over that of "competance". To him:

"...the crucial feature of professional 'monopoly' is occupational control over the forms of knowledge which frame and support the capitalist function of surveillance in the process of surplus value production. Such systems of surveillance have both their 'conceivers' and executors" (Johnson:1975:47).

These are those individuals who perform the "global" functions of Capital (Carchedi 1975). They are distinct from other professionals and form an antagonistic class grouping. They ensure the reproduction of economic relations. He goes further by claiming that State and professions are intimately concerned with the reproduction of labour power. For example state sponsored medicine grants doctors a licence to determine the nature of sickness and health.

For the purposes of this study it will be assumed that the influential designers are those within each professional groups who are centrally involved in policing the reproductive functions of capital and creating and sustaining the ideological apparatus which supports them. These will include senior officers of government and health professions.



### Rationality and Ideology

This work has already touched upon the process of explication engaged in by designers. This activity includes construction of means-ends chains for explanation of the designer's own work, communication amongst professional and inter professional peer groups and to consumer publics. How can we differentiate between these different kinds of utterances? Giddens (1976:81) notes that:-

"Distinctions between purposes, reasons, and motives are...fuzzy in everyday discourse; these terms are quite often...interchangeable".

Here rationalities are viewed as explanatory systems within a given organization. They are primarily:

"...grounded principles of action, which agents 'keep in touch with' as a routine element of their reflexive monitoring of their behaviour (Giddens 1976:83).

A design rationality thus bears a similarity to Karpik's 'logics of action'. He says that:

"It is in fact possible to classify the objects of the enterprise according to the forms of rationalities or logics of action; to identify for a large technological enterprise its specific restraints and the methods of action at its disposal; and finally to explain the hierarchies of politics/logics of action by certain general determinants". (Karpik in Clegg & Dunkerly: 1977:41).

So the content and construction of design logics tends to be specific to a producer group although subject to general economic influences. A design rationality tends therefore to be a 'private' belief system between organization colleagues. To communicate with external publics such devices must be rephrased so as to gain acceptance.



According to Gouldner, it is at this point, where specialist 'technical' sociolects advance their arguments in society-wide terms, that we can speak of ideology:

"Ideology premises the existence of normal participants or normal speakers; of normal situations in which they conduct their discourse; of the rules admitting them to the discourse, and governing their conduct through it" (Gouldner 1976:23).

Thus ideologies and rationalities are similar in their attempts to enter into political process through mapping configurations of 'reality', but are distinguished by their level of generality.

To represent public statements about design meanings as ideological is a complex task. Statements about the action imperatives of designs are at the heart of social reproduction. To seek to impose a blueprint for action is to seek dominance within the social order. Moreover it is to assert a moral right to do so. Bendix (1963:1) cites Rousseau on the subject:

"The strongest is never strong enough to be always master, unless he transforms his strength into right, and obedience into duty".

The question is who are the 'masters' and the mastered? What is the precise nature of ideology? How does it work? I will look at two conceptions: the Liberal-Pluralist and the Marxist.

We must place the work of Karl Mannheim (1940) in the first category. In developing the sociology of knowledge he took a comparative-historical approach. His emphasis was upon politics. Penetration of an ideology

could lead to the destruction of opponents views. His 'total conception' of ideology embraces:

"...the opponents total Weltanschauung and attempts to understand these concepts as an outgrowth of the collective life in which he partakes" (Mannheim:1940:50).

His aim was to be non-evaluative, and he stressed the relational aspects of thought. Ideology gave rise to multiple conceptions of the same reality (pp88-9). He indicated the depoliticisation of issues under bureaucracy:

"The fundamental tendency of all bureaucratic thought is to turn all problems of politics into problems of administration" (Mannheim: 1940:105).

This foreshadows the debate over 'technique' to be discussed later. It also makes manifest the design potential of ideology through the linguistic control of experience. Therborn (1980:2) takes up this dimension of meaning transformation.

"...to conceive of a text or an utterance as ideology is to focus on the way it operates in the formation and transformation of human subjectivity".

In this study design accounts are seen as interpreting layouts in a form that facilitates future control over the social action that will be enacted in the physical realisation of the layouts themselves. Therborn stresses the possibility of mismatches arising in organizational reproduction when contradictions occur between present behaviour and changing circumstances. Ideology works to prevent "revolt or underperformance and withdrawal" (Therborn: 1980:17). By connecting certain behaviours to given resources it seeks to ensure that an uncertain future can be accomplished routinely.

In approaching ideological speech it is important to specify its articulation with the economic and political system. Abercrombie presents the following model.



Fig. 2:1 Relationship of Ideology to the Mode of Production  
(After Abercrombie: 1980:175)

His analysis raises the problem of 'interests'. Here it is emphasised that interests should not be seen as permanent systems of orientation. Interests attempt to pattern dominance relationships but the exact way in which control intentions are realized is not stable or predictable. Content is situation-specific.

At this point Marxist views demand examination. It is not intended to imply that ideological discourse is a rationality game open equally to all. The persistence of powerful economic and occupational groups within work organizations means that those with resource allocative powers will gain advantage in meaning promulgation.

Marx's conception of ideology as false consciousness is disregarded here. Conceptions of falsity are related to particular political viewpoints. His definition of ideology as the medium by which men make their history as



conscious actors is of more utility. Here ideology is not just an interpretive scheme, but a weapon through which class antagonisms are fought out. In his *Economic & Philosophical Manuscripts* of 1844 (Marx:1975:279-400) he develops the theme of the producers' alienation from his product - the rupture between the subjective meaning of work itself and the meaning of the object created through work. As the product of labour becomes another's through capitalist appropriation the object confronts the individual as an alien power. Here is the gap to be bridged by design ideology - the necessity for a dominant group to close the meaning space between production and product, the need to provide a 'reading' of the object.

So although we may approve of Gouldner's stress on the public form of ideology we must understand, as does Althusser (1971) that ideology operates on human subjectivity. Althusser's view was that ideology was transmitted via state controlled apparatuses to provide the subject with an imaginary distortion of the real relations of individuals to the relations of production. Althusser's approach is flawed by the special status he grants to scientific knowledge, but his definition shows the role that design accounts assume in persuading those who will be obliged to work under the relationships and conditions that they announce. Althusser would see the normative aspects of designer's work as providing a cognitive template for activity - an explanatory scheme by which the individual is provided with a lived relation to the technological system he/she works. When work is connected with a State agency, the formation of this ideological bond will be concerned with maintaining patterns of overall social control, ensuring congruence of employee views and elite conceptions. Gramsci (1971) has described this situation as one of hegemony, an aspect of thought domination through control of the texture of working life itself.

In summary, it is maintained that the ideological component of design serves to preserve the dominance of an economically determined elite. The forms of ideological control are public but operate on the actor's subjective consciousness. The content of design ideology adapts and is situation specific, aiming to interpret a subject's lived experience under conditions of hegemony.

### Ideological Elements in Design: Technical Reason

If one theme runs through the justifications for design output it is the argument from technique. It is a major court of appeal for those who wish to disguise the substantive political choices that lie behind any design outcome. As Ozbekhan (1968) would have it, the 'can' of a technology becomes an 'ought'. Technical ability to accomplish a task in a certain way becomes a recommendation in itself.

Early students of technology were deluded by this myth of technical necessity. Ellul (1964) saw the technological society as choosing its means through numerical calculation. This was 'automatism'. Rationality inhered in cash counting and practicality - once these criteria were satisfied one particular technique asserted itself inescapably.

Marcuse (1972) attacked Ellul's pessimism. He saw technology as a mystification:

"...in the contemporary period, the technological controls appear to be the very embodiment of reason for the benefit of all social groups and interests - to such an extent that all



contradiction seems irrational and all counteraction impossible" (Marcuse: 1972:22).

The world was being operationalized and drained of alternative meanings. "Total administration" was leading to a domination of man. Designing this new world was a political operation revolving around the implementation of a specific historical project:

"It results from a determinate choice, seizure of one among other ways of comprehending, organizing, and transforming reality. The initial choice defines the range of possibilities open on this way, and precludes alternative possibilities..." (Marcuse: 1972:173).

To Habermas (1971) technical reason was also a threat. Yet when faced with the prospect of having to evolve a new concept of science he faltered and concluded that an alternative science was not possible. His criticism of Weber centred upon the latter's definition of rationality - seen as an 'apologetic standard' justifying dominating relations of production.

Weber's writings on rationality are far more robust than Habermas admits. Weber's ideas on rational technique did not produce economic tunnel vision:

"The presence of a 'technical' question always means that there is some doubt over the choice of the most efficient means to an end. Among others the standard of efficiency for a technique may be the famous principle of 'least action', the achievement of the optimum result with the least expenditure of resources, not the achievement of a result regardless of its quality, with the absolute minimum of expenditure" (Weber 1947:161)

Of key importance to any critique of technical reason is his formal/substantive distinction. Weber maintains that substantive rationality orients action to ultimate ends (Weber 1947:185-186). It contains



"a relation to the absolute values or to the content of the particular given ends to which it is oriented. In principle, there are an infinite number of possible standards of value which are 'rational' in this sense".

Substantive factors are always in conflict with formal ones. According to Weber 'technical reason' is not entirely dependant on price criteria, it contains an undisclosed kernal of subjective motivation. Thus technicist polemics on objectivity are misplaced, and a politics of designing is placed upon the agenda. Roszak (1970), in his call for a rejection of the cult of the expert makes the political nature of technocratic society clear:

"The techocracy is...the regime of experts - or those who can employ the experts" (Roszak 1970:3, emphasis added).

What "expert" power has largely succeeded in doing is to create a technicist alienation by filtering out human intentionality in the interests of normative order. Paci (1972:338) talks of:

"...the connection between the loss of intentionality and the function of the sciences in the fetishism of commodities".

By canvassing a design's implications influential actors expurge the substantive issues which determined it, and replace them with ideological statements claiming functional necessity.

Within this view technical reason is no more than a cloak for the practical dealings of professional life. The bargaining, submission to superiors, gambling on hunches and the other activities of organizational life, are camouflaged in the folds of scientific discipline.

Hence the ideology of technical reason provides a discourse sustaining professional independence and managerial power. It enters into a "grammar of theorizing" (Clegg: 1975:10), which organizes designer groups internally into a power structure, and which bars the entry of external publics.

## CHAPTER 3

### THE CONTROL OF DESIGN

The task of industrial designers is to assemble configurations of resources to enable work processes to be carried out. Many writers on designing have emphasized the production of physical plant and the building of imperatives into the machine. This is a one-sided view. Equally important is the attachment of a complex of legitimating commands to the work environment. Industrial management succeeds in gaining control over work insofar as it succeeds in binding to the apparatus of production the combination of action imperatives that leads to the realisation of its objectives at a given time. This may mean the imposition of a rigidly standardised method of plant operation or the ability to switch flexibly from one production strategy to another.

The managerialist view of the harmony of interests between employer and employee would deny the need for control of the design activity. However, despite some recognition of tacit knowledge embedded in workers experience the design or redesign of work environments and processes gives management an opportunity to redefine the nature and meaning of work.

The control of design contains two components:

1. The control of designers and their outputs.
2. The implementation of designs in the workplace: i.e. the projection and realisation of a way of working with new technological equipment which ensures the survival and continuing viability of the enterprise.



### Controlling the Design Process

Governing the actions of design staff is a high level management problem. How can one ensure congruity with the aims of the enterprise? Budget control, product specification, and market research are some of the ways of evolving a tight brief. The existence of regularised product templates is also a way of indicating continuity of form. Such measures constrain designers, whose work must be explainable in terms of the criteria imposed. Chief among the stated objectives given to design teams is that of efficiency - that is to say efficiency in terms of economy of materials and effort. Efficiency for what and for whom? Baldamus (1961 : 1) asks:

"But what is efficiency? Despite its obvious importance, the question is rarely asked. It is generally assumed that no formal definition is required because the meaning of the word is firmly established on a common-sense basis."

He goes on to note that efficiency is not a scientific term, but is generally linked to productivity and hence to the profit levels of the firm. So efficiency is a value-impregnated term denoting a mode of operation ensuring the preservation of managerial prerogatives and interest. Points of reference for measures of efficiency may derive from comparison with similar organizations performing at a satisfactory level of output. Yet measures of efficient output may not be universal within an organization. Alternative definitions of effectiveness may operate, especially where organizational aims are complex and diffuse. Within the National Health Service managerial conceptions of cost effectiveness tend to be challenged by professional views as to the quality of care and scope of service provision.



Generally it may be said that design solutions which do not conform with organization specific patterns of managerial control will be deemed as inefficient. Designs must be capable of accommodating to the distribution of organizational authority. It follows that solutions that do not satisfy these needs are inefficient and that designing must operate in a manner which preserves the stability of organizational authority. Such solutions will not necessarily be the simplest or cheapest.

Designing can be difficult to channel. Too tight and imposition of constraints can rule out the discovery of alternative methods. Too loose a supervision can lead to delay and indecision. Burns and Stalker (1961) pointed out the advantages of an 'organic' management structure within which formal knowledge and hierarchical boundaries were broken down. They claimed that firms who adopted this more adaptive way of working produced technical innovations more successfully than those who were more 'mechanistic' and rule bound. Control was maintained by the recruitment of technical staff with a common educational culture (p.64), and by tying their endeavours to market openings already defined by senior staff.

Toffler (1971 : 120) makes play of the effects of rapid technical change upon organizational structure. He describes the "Ad-hocracy" with its changing configurations of project teams that dissolve traditional chains of command. Facilitation of invention requires dissolving of vertical and horizontal hierarchies of skill and prestige. The redesigning of the world under contemporary conditions is a process leading to liberation. As automation increases there is increased freedom for all. In taking this view he echoes that of Blauner (1964) who saw certain types of automation as



decreasing work deprivations. Early automation designed under a rigid bureaucratic framework imposed boring tasks upon workers. More complex process production was less alienative.

Clearly the nature of a technology envisaged by a management will affect the methods of controlling its inception. Perrow (1967) saw technologies varying according to the number of exceptional cases encountered in the workflow and the nature of the search processes used when exceptions occurred. Where exceptions were few, standardised procedures could be used. Where tasks were variable and unpredictable less formalisation was possible. In making these distinctions Perrow was thinking more of the operation and control of a completed work system. But his ideas can be transferred to the operations of designers. If the hardware to be designed is well known and has a well defined template designing can be subject to routine procedure. It can be ordered by what Perrow was later to call "direct" and "bureaucratic" controls. Direct controls comprise:

"...giving orders, direct surveillance and rules and regulations" (Perrow : 1979 :150-1)

Where the design aim is more diffuse and relates to tasks which are variable controls need to be more subtle and pervasive - i.e. the control of the cognitive premises underlying action. To control in the latter way involves hiring personnel:

"...who have complex rules built into them. We generally call these people professionals." (Perrow : 1979 : 26)

But management may still lay down certain overall design specifications relating to performance levels even where it cannot predetermine the nature of the solution through reference to a pre-existing exemplar.



What such ideas suggest is that there is a continuum of design control strategies. At one end given a relatively static and known process we would expect codified design refining on existing templates. At the other pole where a procedure is unquantifiable and unpredictable with a vaguely defined template we would expect designer groups to exhibit high autonomy, constraint operating through professional socialisation. We would expect that as a design area "solidifies", there will be a transition to a more explicit template and overt managerial policing. Alternatively these two forms of control can be seen as different strategies whose selection depends upon other factors extraneous to design such as the availability and price of skilled labour, market pressures and so on. In practice any dichotomy between the two may be illusory and both modes may operate together - freedom for senior professionals and close supervision for detail workers. NHS hospital designing involves the use of templates established at national level, which if implemented fully would lead to curtailment of design discretion. Their modification by lower tier authorities upon the grounds of mismatches with local conditions highlights how a bounded autonomy may be achieved. Thus considerable measures of discretion may operate within a prescriptive framework. Part of the political process of designing lies in defining such terms as generality or uniqueness of conditions with regard to a particular development.

#### Design, Deskilling and the Labour Process Debate

Are there consistent management policies in controlling the nature of the design process?

The theme of engineering training has been salient for those who have examined the nature of design and its connections with managerial behaviour. Merton (1947) regarded engineers as having a blind spot for human factors which hindered man-management. This made them unfitted for elite status. Bright (1958) implicated them as part of a movement to hand to entrepreneurs technical systems marked by every increasing centralised control and close supervision.

This critique of the engineering professions is founded upon the writings of F.W. Taylor and his work in fashioning the Taylor system of work organization. Taylor's studies ranged from the reshaping of tools and engineering techniques, as exemplified in his book "On the Art of Cutting Metals" (1906) to his full blown exposition of the principles of "Scientific Management" (1911). Taylor's attack upon existing work practices was two-fold: to abbreviate work by finding the most economical combination of tools and effort, and to place in the hands of management the knowledge required to dictate the nature and planning of work. It is this latter aspect of his output that has most relevance for the practice of design. Various expressed as the conception/execution or hand/brain division it has been siezed upon by numerous writers as the key capitalist control mechanism of the twentieth century. Through Taylorism, it is maintained, the craftsman's skills were removed and his discretion over the form and content of work appropriated by managers.

Braverman (1974 : 100) sums up Taylor's perspective thus:

"Workers who are controlled only by general orders and discipline are not adequately controlled, because they retain their grip on the actual processes of labour. So long as they



control the labor process itself, they will thwart efforts to realize to the full the potential inherent in the labor power. To change this situation, control over the labor process must pass into the hands of management not only in a formal sense, but by the control and dictation of each step of the process, including its mode of performance".

Braverman pinpoints the engineering view of humankind "as a mechanism articulated by hinges, ball and socket joints, etc." (Braverman: 1974:179). The effect of such typifications is to subjugate man to the machine, and to increase production whilst impoverishing the quality of work experience. Machinery, whilst a potential liberatory force is exploited by capital and its development forced into paths which enslave the worker. Ultimately, engineers themselves are robbed of skill, whilst retaining their design role they become subordinated to design management. The evolution of standard design templates restricts their discretionary powers.

Noble (1977) develops the theme of the incorporation of the engineering profession into the development of corporate capital:

"For the professional engineers who emerged during the second half of the last century in America as the foremost agents of modern technology became as well the agents of corporate capital. Thus, from the outset, they hardly proceeded according to the dictates of some logically consistent "technical reason", blindly advancing the frontiers of human enterprise, but rather informed their work with the historical imperatives of corporate growth, stability and control: as their technology progressed, so too did the science-based industrial corporations which they served". (Noble:1977:xxiii-xxiv).

He suggests that monopoly capital extended its control from patents and processes to the take-over of institutions producing knowledge and knowledgeable people. Invention was routinised and the engineer:



"...was guided as much by the capitalist need to minimise the cost and the autonomy of skilled labour as by the desire to harness most efficiently the potentials of matter and energy (Noble: 1977:33).

The assumption here that more "efficient" designs were always available seems simplistic. The idea that there is a unilineal route to economy given a changing commercial environment and varying technical means is difficult to sustain. Noble (1977:258) claims that at the highest level engineers were the agents of corporate advance:

"As engineers...they were professionally charged with the profit maximizing advance of scientific technology. And as corporate functionaries they assumed the responsibility for co-ordinating the human elements of the technological enterprise. It was because of this dual role, and without any great imaginative leap on their part that they began to view the second of their tasks in the same way that they viewed the first, as essentially an engineering project". (Noble: 1977:258).

What the arguments of Braverman and Noble are saying is that the socialisation and training of senior design personnel attunes them directly to the needs of capital. Their direction of the design process will ensure that artefacts fit the structure of corporate needs and will be fabricated to the minimum standard required to achieve maximum profit. In their view the organization of production incorporates a robotized view of the human being, whose needs are secondary to those of capital accumulation. Braverman's conception/execution divide places design staff on the conception side. Designer/planners produce a paper replica of real world activity to ensure control of method and output. However even Braverman realized that this divide was far from clear. Within the planning and design departments of engineering firms there were conceivers and executors, and his deskilling hypothesis failed to discriminate adequately between different functions within the engineering cadre.

Marglin (1976) argues that the hierarchical and technical aspects of factory production were not adopted because of their inherent superiority. They were chosen so that entrepreneurs might seize a directing role in industry. The introduction of specialisation and concentration of activity were intended to give enterprise owners control and to provide for disciplining of the workforce. It followed that the design of plant and machinery reinforced this centralising trend. Marglin does not:

"...deny the importance of the technological changes that have taken place since the eighteenth century. But these changes were not independent causes of the factory. On the contrary the particular forms that technological change took were shaped and determined by factory organization" (Marglin: 1976:33).

So the capitalist control of design aimed at monopolization of production on a given site in a form that permitted measurement and surveillance of output. However, this strong early trend towards hierarchy is showing signs of reversal. Given new strategies for control a change is occurring. The high costs of maintaining centralised production facilities is leading to increases in contracting out work and in some areas of business a return to homeworking.

Following up these late 70's contributors have come many refinements of the deskilling implications of hand/brain divisions and the thesis of centralised designing implementing the needs of capital. Cooley (1980) himself an engineering designer, has made one of the strongest statements. In examining the effect of microelectronics upon the design function he maintained that designers were increasingly subject to computer disciplines. Standard routines and optimisation inhibited



creativity. The quantitative elements of design were given precedence over the qualitative. Designing became more fragmented and many workers were deskilled. He ignores the alternative view that Computer Aided design has positive advantages of labour savings and an enhancement of the design process through a speedier consideration of options. For Cooley the negative features of operative stress and increasing obsolescence of knowledge are the ones to be emphasised. Design workers experienced high levels of alienation and a sense of losing control over their work.

The overall thesis emerging from the pro-deskilling position was of an inexorable extension of control over the design of work and workplace by managements using Taylorist methods. Later studies have thrown doubt upon the acceptability of this position. Editing a collection of detailed case studies Wood (1982) directs several criticisms. He points out that over stressing scientific management ignores the possibility of business adopting other strategies. He argues that "skill" is a term that is assumed, it excludes a consideration of actual job content. Furthermore deskilling protagonists view the working class as passive and disorganized, whereas the dominant class is organised and united. The possibility of worker resistance is ignored. Writers like Braverman credit craft workers, before Taylorism, with more real control over their work than they may have had. This is an over romantiscised view of a golden age of worker autonomy which never existed. Wood rests upon the work of Jones (Wood:1982:179-200) who illustrates the differences in management strategy in introducing numerical control. Jones notes the importance of product and labour markets, organizational structures, and Trades Unions upon the way skill is deployed. N.C machinery contains no inherent



characteristics enforcing deskilling, control patterns, or mode of surveillance. Deterministic deskilling hypotheses are to be rejected and judgements depend upon wider social and economic conditions which vary from enterprise to enterprise.

Lupton et al. came to a similar position of scepticism as to consensus amongst managerial aims. Examining the design of manufacturing systems they concluded:-

"The reasons which promoted a concern to redesign manufacturing systems in radical ways have rarely included explicit and simple-minded commitment to a set of humane values. Rather they have been piecemeal responses to events in labour markets and product markets with economic ends in mind...The process of humanising the work has therefore, mostly been a means to an end, rather than the end itself. The 'end' has variously been a need for production flexibility, to attract labour, to avoid revolutionary protest, or response to Trade Union pressure, all with economic survival and/or development in mind" (Lupton et al: 1979:53).

A similar view is developed in Kelly (1982). Thus more detailed examination of issues has shown the importance of specific case study work, and the pervasive influence of intra-organizational factors.

The nature of deskilling, if it occurs may be complex and not homogeneous. Designs may envisage the deskilling of one group and skill enhancement in another. Effects may similarly be different by hierarchical level.

This study does not therefore commence with expectations in line with the extreme deskilling hypothesis. It is rather anticipated that enterprise heads will set close specification limits in terms of cost, product appearance and so on to ensure congruity with profit and output levels.

However, it is assumed that the degree of direct surveillance over staff will vary according to hierarchical rank. Senior design professionals will be constrained by professional controls and be socialised into avoiding options that run counter to market demands. Junior staff will be subjected to specialised, subdivided work, whose nature is a realisation of details within the overall design conception. Control strategies will vary in nature over time and according to particular organizational events.

Designs will not be regarded as determining in any fetishistic sense. The meaning of a design for action will be constructed by designers in the process of its assembly, and will be refined and reconstituted for particular user groups. Binding a design and its realization in physical form to use imperatives will be examined in detail, and not taken for granted as technical determinists would have us do. The introduction of computer design techniques may change the quality of designers' work but it does not alter in essence the managerial problem of attaining hegemonic status for action projections. The imposition of managerial intentions will be problematic and involve organizational politics during which some modifications will occur. These modifications are unlikely to touch central economic questions, but ensure the co-operation of design personnel and those subject to the new system. In participating in this process of change lower level participants are required to understand and re-present their rival visions as being in tune with the overall gestalt. This bargaining for meaning is essential for understanding the new system and establishing co-operation. It is this building of a common pattern of meaningfulness that constitutes the actual "determination" of action by machinery and environments.



### Controlling the Implementation of Design in The Workplace

Given that a new design for a workplace and/or its equipment has been produced acceptance must be gained for the objectives it seeks. The desired behaviours must be presented as arising naturally from the new arrangements provided. The ideological role of design accounts has already been discussed. In a situation of technical change the design rationality of managers and their design agents must seek to gain acceptance amongst the user groups to whom the patterning of ideas may appear strange and disadvantageous. This problem of design legitimacy will be the greater the deviation from customary practice that the new system proposes.

A design rationality presents itself as an ordered but adaptive discourse. Clegg (1979 : 23) would describe this as a "form of life" ie. that which "has to be accepted, the given." The design rationality sets the public limits within which the possible future life of the changing organization must be conceived. Incorporating a conceptual scheme of interdependent hermeneutic elements it confines and limits conflicts within permissible boundaries. Managerially-backed rationales embody a command logic of intentionality, which, whilst admitting the negotiation of minor internal connections, foreclose any opportunity to publicly sustain another reality. To propose an alternative, places the critic outside the organization and the customary sedimented selection rules embodied within it.

Reference has been made to design accounts as providing a cloak for the exercise of professional and managerial power present during their formulation. The resultant text will thus be purged of conflictual



elements. Design rationalities assiduously avoid disruptive issues. As Bachrach and Baritz (1962) would have it, there is a mobilization of bias which edits out matters likely to cause friction and disintegration. Sensitive questions of changes in authority patterns and power tend to be expurgated. The "normal" objectives of the organization are retained but welded into a new configuration with the changed elements of provision present in the design; often presenting the latter as an improved realisation of the former. The effect of continuity is preserved and change made less threatening by reference to previous artefact and action templates. New planning is shown as emerging from a previously acceptable format. Indeed, revolts against the new rationality will tend to proceed through the medium of recognized template forms. The novelty of the unknown future is belied by its expression in terminology embedded in known practices. Debate must be filtered through the existing template, through the existing power relations. This "bounded" debate may haggle over what the conceptual categories in the design mean in qualitative or quantitative terms; it cannot reject the fundamental building blocks of the future reality and the direction of the linkages of intention which purport to cement them together.

Hence a major part of the control of a design's implementation is achieved through a design rationality. The form of rationality is constructed by designers and senior managers, and incorporates the aims of the owners and/or the directors of the enterprise. The rationality (or account) appeals to previous physical and action templates, and by its internal construction excludes contentious and potentially hazardous alternatives, thereby confining resistance to acceptance to recognized issues or resolution of fine detail. The rationality achieves its hegemonic power through its

ability to represent alternatives as outside organizational possibility and credibility.

Here it is necessary to comment upon the stability of design rationalities. In refutation of unilineal theories of management practice such as deskilling it must be stressed that design "accounts" are highly adaptive to external conditions.

Rationalities are frequently framed to allow for external factors and may advance them as prime reasons for change. Thus the underpinning of designs incorporates justifications derived from perceptions of the general economic climate, current developments in legislation and so on. Designers are anxious to advocate solutions as resolutions of the current state of affairs.

It may be asked, how durable is a design rationality/account? Its life is limited. Once a production or work system has been introduced the pressing need to sustain it may evaporate. As a manager-initiated device it may be acquiesced to by a work force, but defied, although not publicly denied, in practice. The expected changes in work motivation and behaviour may not occur. Or they may occur initially and then change as circumstances alter. This is not of great importance. Design logics seek to bridge the gap between existing states and future ones. Once the "new" conditions are in existence their *raison d'être* ceases. When existing rationales have served their purpose new ones will be constructed. Once the transmission of managerial patterns of intention has been completed, and the political process of adoption is over they become defunct. In many cases the full force of a design logic may not be deployed. In many

industries many workforces will accept entirely the managerial right to determine the means and the mode of production. Yet where the chain of managerial responsibilities and power is less clear, and the workforce is educated and articulate, the full persuasive force of the rationality will need to be employed. In a state-controlled service many managerial tiers are often involved in design change. Where such an organization is large and has many sub-units problems of control are increased.



## CHAPTER 4

### THE NATURE OF ORGANIZATIONAL POLITICS

Organizational politics are one of the most profound influences upon the direction of technical change, yet they remain one of the most difficult to capture in analysis. The process through which designs are realised and the sequences of bargaining, negotiation and influence involved are not easily encapsulated within a rule-bound exposition.

Benson (1977) argues for a dialectical approach. For him, organizations are multi-levelled phenomena and subject to continual redefinition. When one adopts a process perspective:

"The social world is in a continual state of becoming - social arrangements which seemed fixed and permanent are regarded as one among many possibilities. Theoretical attention is focussed upon the transformation through which one set of arrangements gives way to another" (Benson: 1977:3).

Examining studies of technology and organizational power structures he stresses the need to elaborate upon simple correlational studies:

"The demonstration of such relations...is not the end of enquiry but the beginning. Rather than treating such relationships as determinate causal connections for instance, arguing that technology determines social structure, the dialectician investigates the social processes through which the orderly, predictable relations have been produced and reproduced". (Benson: 1977:6).

Conventional organizational theory is categorised as an abstraction serving administrative ends. It operates ideologically to solidify a managerial interpretation of the world. In opposition to this informed study:

"...explores and uncovers the social and political processes through which a segmental view becomes dominant and is enforced; and it anticipates the emergence of new arrangements based on shifting power relations". (Benson: 1977:10).

Abell (1975:V) tells us that once we abandon simple assumptions of organizational goal consensus a consideration of power and influence is unavoidable. In addressing technological change he stresses the centrality of human agency. Dismissing crude technical determinism he places the "causal" relationships between technical and control systems inside the "belief" systems of significant actors. "Determining" relationships are the outcomes of the successful imposition of actors conceptions through power and influence. But he does retain a belief in the determining power of technology in a modified form:

"What...is being said is that there is sufficient consensus amongst the relevant actors(i.e. those with power and influence) both within and across organizations about the 'correct solution' or course of action; so a particular technology leads to a consensus (uniform beliefs) about the appropriate course of action which...becomes established in practice. More formally technology determines beliefs and beliefs determine outcomes so by transitivity technology determines outcomes" (Abell:1975:5).

There is a serious error here. A particular technology does not "supply" meanings unproblematically. What a technology implies is shaped conceptually through politics as its configuration is shaped physically and organizationally. Users who "buy in" equipment may impart use rationales, but those who develop a new design "in house" have to construct their own explications. These "imperatives" do not emanate magically from attributes of the design in itself.



Abell wants to see organizations:

"...as complex mechanisms for arriving at collective decisions through bargaining and influence processes amongst a set of power and influence holding units" (Abell:1975:11).

He maintains that decision making occurs within a system of intersecting bargaining zones composed of identifiable groups of actors. The zones possess norms which influence the direction of outcomes. This collective decision making exhibits "influence" and "bargaining" stages.

Abell's model suffers from criticisms of decision making theory already noted in this thesis. His picture of political process tends to concentrate upon the disruptive potentials of actors imposing their intentions upon others, within the scenario of a zero-sum game. In designing a technology actors do win and lose resources and control, but Abell neglects the activity of meaning reformulation which makes winning and losing acceptable. His "limiting" and "allocation" norms are decision centred (Abell 116-118). They do not explain the bargaining that occurs over the meaning of outcomes; i.e. the normative obligations projected onto the negotiated "end" state. In process, actors must present their political behaviour as in-accordance-with-a-rule, but simultaneously consider and rationalise the technological outputs of their actions as being in line with organizational purposes. Action-implications of objects and systems are related to existing physical and behavioural templates - a level of normative integration which Abell does not consider at all. Notwithstanding his references to the historical influences bearing upon change processes, his conception of bargaining and influence is particularly ahistorical. His history is a history of the bargaining process within a given



organization. We learn very little of the interpretation of the results of power-acts in terms of organizational continuity.

Pettigrew (1973) is more aware of the temporal nature of change:

"...an ongoing organization...may profitably be explored as an ongoing system with a past, a present, and future. The generalized implication is that man's behaviour at time  $t_z$  may be explained with reference to his past actions at time  $t_1$  and his future designs at time  $t_3$  as well as to the particular set of forces impinging on him at time  $t_2$ . Sound theory must therefore take into account the history and the future of a system and relate them to the present (Pettigrew: 1973: XV-XVI).

Examining the installation of a computerised system in a private company Pettigrew focussed on decision making and specialization. His analysis operates at the level of political struggle between sub-units:

"Political behaviour is defined as behaviour by individuals, or, in collective terms, by sub units, within an organization that makes a claim against the resource sharing system of the organization". (Pettigrew:1973:17).

Consequently he chronicles the knowledge/competancy conflicts between systems analysts and programmers and the strategies used by different individuals in advocating different solutions. The final adoption of a particular design resulted in changes in the power and status of different groups within the firm.

The motor of Pettigrew's political action is resource control:

"...power structures rest primarily not on social consensus concerning expectations about privileges or rights between superiors and subordinates, but on the distribution of the resources by means of which compliance with demands can be met". (Pettigrew: 1973:229).

This coercive lever operates within and between sub-units. Outcomes derive from the mutual checking of power sectors.

Pettigrew's focus on resource control invites the familiar criticism - how is it that resource controllers get resources in the first place? His emphasis on sub-units tends towards an intra-organizational pluralism that ignores wider external environments.

In a later work (Pettigrew and Mumford: 1975) the politics of planning receive another review. Challenging rational planning models the authors highlight the importance of individual human needs, expectations and relationships.

"Power is seen as deriving not only from hierarchical authority but also from other factors such as specialised knowledge, personal respect and acceptability, informal influence, external affiliations and historical relationships. Competition tends to centre round capital expenditure, the control of personnel and information, and new operations" (Pettigrew and Mumford: 1975:XIV).

Their research found that groups used the planning process to increase personal power and influence, and that much of the planning effort was directed into mechanisms for containing this conflict (p.34). Decisions which offended a major power group within a firm were unlikely to be taken (p.55). Power politics were seen to be the dominant factor in innovative decisions and made the deployment of "rational" planning methods ineffective. The writers set out four characteristics of organizational politics:

1. Using information and knowledge.
2. Damaging the credibility of opponents.
3. Organization of support through coalitions.
4. Taking action at critical moments.

For them the key difficulty besetting management was to control the uncertainty generated by change. If political process is volatile and unpredictable it becomes necessary to seek mechanisms to damp it down or to channel it into a bounded debate.

Pettigrew went on to develop a political/cultural perspective in several subsequent works, most significant of which are Pettigrew (1979), where organizational culture is given a prominent role, and "The Awakening Giant" (Pettigrew: 1985), which looks at organizational change in I.C.I. The lesson of the latter work is that study of a single strand of organizational life (in this case Organizational Development) cannot be undertaken without reference to wider economic circumstances outside the firm. Neither can distinctive subunit cultures be ignored. Organizational change, including technical change, is part of the overall political dynamics of an operating unit. The rationalities underpinning redesign can only be properly understood within an historico-political perspective which comprehends shifts in the power and imagery of organizational groups. Pettigrew (1985:36-38) elaborates the approach of a "contextualist" analysis. This method highlights the past-loadedness of change processes. Continuity is supplied by culture:



"...for people to function within any given setting, they must have a continuing sense of what the reality is all about in order to be acted upon. Culture is the system of such publicly and collectively accepted meanings operating for a given group at a given time. This system of terms, forms, categories and images interprets a people's own situation to themselves" (Pettigrew 1985:44).

Using culture as a yardstick to point up differences in change strategies Pettigrew noted striking differences in customary patterns of managerial behaviour between divisions that were reflected in capacity to innovate. Differences in political structure and the characteristics of different personnel played a key role.

Pettigrew's methods have many strengths. His work focusses upon "strategic change", a somewhat more ambitious category than the one of "design" dealt with here. From the present writer's perspective there are shortcomings. Culture is too imprecise a term with which to study design. It can explain recurrent and habitual modes of tackling problems but does not clarify the reproduction of organizations through the refinement of temporally transmitted and preferred configurations of resources. Although Pettigrew makes reference to resource-allocative struggles he has no detailed means of measuring the outcomes of these competitions in precise qualitative and quantitative terms. He is aware that power rests upon the possession of resources but the I.C.I. study tends to be neglectful of material bases of power. In focussing upon ideological elements in the management of change he rightly stresses the importance of rationalities in design. Yet he fails to link these closely to the activity of ongoing design as a day to day activity. He does not capture adequately the richness of the interrelationship between power play and the construction of legitimacy explanations.

### The Literature of Design: Signposts for Investigation

What lessons should the student of design learn from the texts examined in these first four chapters? What pointers are there for the researcher wishing to undertake a project concerned with the explication of designing within an organization?

Several salient points emerge from the existing literature. Consideration should be given to how existing design configurations are transmitted within organizations and exist as sedimented points of reference over time. Their mode of legitimation through the assembly of ideologically underpinned and situation specific rationalities must be elucidated. Attention should be focussed on resource-allocative competitions within an organizational framework of power and influence. This should be accomplished through a process perspective that highlights the negotiation of outcomes and meanings between "professional" and "user" publics. Rather than accepting the prescriptive frameworks contained in designers accounts the researcher must search designers' statements for rationalisations of action.

Design must be regarded as a wide ranging activity. Therefore, evidence is required from a variety of levels. Study must not only search the micro-politics of design, but extend to the corporate level where the introduction of a new production facility may change overall management strategy.

It was with these considerations in mind that the methodology of this study was constructed. It was with these aims that the case material was structured and laid out.

## PART II METHODOLOGICAL CONSIDERATIONS

### CHAPTER 5

#### STUDYING TECHNICAL CHANGE IN AN ORGANIZATION

The initial ideas for this research centred around issues of technical rationality and the depoliticisation of technical change in organizations. At this early stage of development it was expected that change would be revealed as a product of the values and professional socialisation of managers and designers.

Further investigation revealed that this initial formulation was inadequate. The essence of design activity consisted in something more comprehensive than could be revealed by a mere dissection of individual actor's professional training and motivations. By the completion of my fieldwork the questions I was asking had changed. Whilst still holding to my desire to explain the use of technical rationality in design I was looking at more basic problems. How do organisations produce and re-produce the physical environments that they inhabit? What correspondence do these activities have to the shaping of work tasks? How can one construct a specifically organizational perspective on design?



It had been decided at an early stage to undertake a study of a single organization and certain criteria had been set to select a suitable case. The organization should be large, involve considerable sophistication in its techniques of production, and be undergoing a distinctive process of technical change in some respect. The process of redesign should be either internal to the "firm" itself or involve major contracts from external suppliers. This criterion was to ensure that research could observe the process of "tailoring" technologies to "needs".

The disadvantage of a single case approach is the difficulty of generalising results. It can be difficult to relate empirical findings and theoretical developments to other organizations. Such drawbacks can be ameliorated to some extent. If the activity under scrutiny is not atypical it can be taken to be a representative probe which may reveal findings of wider applicability. Conversely one can argue that a single study which yields rich and detailed data may lead to a degree of sophistication in theoretical yield which cannot be extracted from a wide range of less comprehensive comparative studies.

### Designing the Research

In an area of knowledge where existing theory is fragmented, underdeveloped or non-existent formulating a tightly structured research design is difficult. Such was the position in my own work. Initially my study could only be what Bailey (1978:31) calls "descriptive". Explanation and theory building would have to wait upon data revealed by preliminary investigations. Certainly any attempts to set up formal hypotheses and to adopt a rigorous statistical testing procedure from the outset were

impracticable. Therefore I determined to test out my initial ideas in the field, to be flexible and to modify my 'hunches' as I went along. My intention was to be as adaptable as possible and to change my techniques to suit whatever situations arose. This proved to be a sound decision. Unexpected blocks in data gathering, and conversely, the discovery of unanticipated caches of information combined to make the adoption of a rigid research design both unwise and impracticable.

The lack of a detailed theoretical perspective at the commencement of work can be unsettling to the research worker. One is constantly forced to compare and seek to integrate emerging conceptions with fieldwork evidence and develop the two concurrently. Such an approach has many affinities with the grounded theory approach of Glaser and Strauss (1967). However, I rejected their methodology in one important respect. I started with certain concepts from existing writings and modified and added to them. I did not generate categories directly from the data and build bridges to existing theory afterwards as these authors suggest.

Such an interactive and investigative approach lays the worker open to criticisms of lack of precision and planning. In fact given the topic of the thesis it became a virtue. I had to struggle to make connections between the various bodies of knowledge I wished to bring to bear upon my problem. I used components of many subdisciplines i.e. organization theory, the sociologies of work, professions and knowledge, design theory and aesthetics. Although I intended the finished work to fall within the area conventionally known as organizational behaviour I did not wish the theoretical constructs of any one discipline to take automatic precedence. My aim was to make a new synthesis which might explain the design of



"technical" systems in a more holistic way. Much work was expended in understanding and translating different perspectives, reducing them to a compatible base, and underpinning them by the construction of a theoretical rationale.

The ultimate value of this exercise was my own realisation that these activities largely paralleled the behaviour of subjects I was studying. I was designing a research methodology in a situation where there was no existing "template" that achieved a perfect fit with my requirements.

### The Research Process

#### 1. Literature Search:

Subsequent to my initial research proposal I carried out an outline literature search. The two main constraints were the breadth of potentially relevant material, and the need to choose the research site and the specific object of study. The latter consideration made me determined to enter upon the casework as soon as possible so that my substantive materials could provide criteria of relevance.

#### 2. The Pilot Studies

I had the choice of two possible study sites. The first featured the installation of a new automatic production line for the manufacture of confectionery. The development was being carried out in existing factory premises using a package of equipment fabricated by foreign suppliers. The



development was part of a modernisation programme being undertaken in several plants by a large multinational company.

The second site was located within a District Health Authority of the National Health Service. It involved the design and erection of a new District General Hospital using the Department of Health and Social Security's "Nucleus" standard hospital design solution with certain modifications for a New Town site.

The food processing case displayed several advantages for research. It was local, and involved a separate and discrete operation within tight physical and organizational boundaries. The development's automatic equipment and computer control system offered opportunities to assess current vogue theories on "new technology" in the literature. The chief difficulty was in gaining detailed knowledge of company policy and decision making. The personnel I interviewed were guarded about the opportunities to work for long periods on the site, and the opportunities for direct observation or extensive document study of important policy and design decisions seemed limited.

The hospital case displayed an almost entirely reversed pattern of circumstances. Some travel was involved, and the sites for data gathering were dispersed. The subject matter would be that of building and not equipment design, and the process itself subject to a long timescale which I could not hope to observe from beginning to end. Yet it had important advantages. There was extensive and detailed documentation. Very good access was offered facilitating the use of a wide range of methodologies. Given that I hoped to produce work which would capture the detailed "feel" of an organisation it appeared the best choice for fieldwork.

### 3. Negotiating Access

In several respects the hospital site provided easy access, but there were certain areas of difficulty which emerged as negotiations for entry proceeded. The opportunity for research had arisen from an approach by a District Health Authority who had offered themselves as subjects for study for the Work Organization Research Centre at Aston. The host authority had selected WORC from amongst several academic bodies as meeting internal criteria of its own. The managers themselves projected an innovatory image within the NHS. Subsequently it emerged that Aston's involvement was a "push" factor in their campaign to implement the hospital scheme and a tactic they could use in intra-organizational bargaining. Caution was therefore required in keeping clear of direct "political" involvement. There were other considerations. My own work had to be coordinated with WORC activities. There was a dual problem: to ensure my own access and to delimit a distinctive area of concern from other workers.

An induction course was arranged within the DHA, and whilst it provided a valuable introduction to the study area, it was also a gatekeeping exercise by the sponsoring NHS officers who wanted to steer enquiries into their own preconceived areas. Although they granted generous facilities there was an expectation of a "deal" under which they could receive free advice from Aston academics - an expectation from which my own activities could not be excluded. As a District officer put it to me:



"Well sunshine, we know you're independent but I know there's going to be a spin-off. Knowing you guys, when things are going off, you're going to say something that will affect the process. In fact I can already say that you have, I've changed my ideas". (Fieldwork Notebook).

As a group of administrators they intended to gain "management knowledge" in labour force recruitment and job design to bolster their own attempts at neutralising rival professional groups within the NHS. Whilst "getting in" I was used as a channel of communication to the WORC group, a bearer of expectations from one faction to another. This made my own desire to remain independent difficult to sustain. I was entering before WORC. What I did could be, and was taken as a representative statement of what Aston was about.

"You realise, Gary, that as far as most people in these offices are concerned you are the Aston collaboration. You've been the toe in the water as far as we're concerned. If you'd had been a prat. it would have been off" (District Officer, Fieldwork Notebook).

The host institution had an initial expectation of some degree of "action" research. It was eventually expunged from the Aston/DHA relationship, losing its urgency from the DHA's viewpoint when detailed hospital manpower planning was shelved due to project delay.

#### 4. Problems of Data gathering

In many ways gaining initial access was a minor step. The confidence of individual officers had to be gained. They themselves had insisted upon qualities of maturity and responsibility in any researchers admitted. My possession of these qualities had to be demonstrated in negotiation. More junior employees were suspicious. Subsequently I discovered there had been



an office efficiency study which had made them wary of outsiders. I had been admitted by the management elite; only after some time and several visits were people convinced that I was harmless.

Similarly I had to make myself acceptable to medical and nursing hierarchies who could become hostile to the insertion of an "organization oriented" person into activities which they considered of purely clinical concern.

After preliminary contacts I submitted a formal research proposal to the DHA (see Appendix I). It was designed to give me as much leeway as possible so that my sphere of action was not too restricted. In practice I found most contacts easy to make once operating within the institution.

During the project I was able to maintain good rapport with my District sponsors. Several visits were made. These totalled almost three months of observation in all, over a period of two and a half years. I attended meetings, made document searches, was able to undertake extensive observation and to talk frequently and informally about particular issues as they arose. Accommodation was provided in various of the organization's hospitals and units which gave an opportunity to widen my knowledge of health care as a functioning entity. Towards the end of the research period I was also able to establish links with staff in a hospital within another Region and District to test out many of my emerging conceptions.

Through my agreement with the DHA I made contact with Regional Health Authority Staff, although various reorganisations within this tier of the service made access difficult. When my research was explained at a Hospital Project Team meeting a Regional officer replied:

"It's interesting and we'll help providing you don't want any of our time" (Fieldwork Notebook)

My intention was to carry out work at the three main levels of the NHS structure and the lack of much direct interview material at the RHA proved an obstacle. Fortunately absence of extensive interview data was compensated for by the large amount of Regional file material that I accessed at the DHA.

Through my contacts within the hospital design and planning system I was able to undertake interviews with senior officers at the Department of Health and Social Security who were familiar with the standard hospital design solution I was examining. This material was amplified by access to the DHSS Library at Euston Tower. Attempts to tap the original design data were unsuccessful. I asked to see the original files and materials:

"No...er, I don't think that would be advisable. There tend to be odd comments on files....Ministers..." (DHSS Officer: Fieldwork Notebook)

Although depriving me of facilities to observe NHS decision making procedures at the highest levels, other documentation came to my rescue. I was able to use published design information, and through the Kings Fund Library was able to locate several articles written by DHSS officers who had worked on "Nucleus" and preceding hospital designs. I also had the correspondence from Departmental officials concerning the specific project I was studying and could glean much of the information I required from these statements.



Researching in a large organization cross divided by differing professional loyalties can pose general problems of access to certain personnel. To some extent I felt "held" within the sphere of "administration". It proved difficult to get opportunities to meet medical planners. This did not hamper data gathering in a crucial way, but it seemed to indicate the NHS's unwillingness to reveal its key "technical core" of clinical practice. On several occasions I was given the advice that I should not "bother the medics" as my work was really concerned with management matters. Thus I was not able to develop as detailed an account of the formulation of environment/work practice 'causal' connections as I had wished. This difficulty in accessing high status professionals may have meant that I had become tarred with the "administrative" brush, and implicitly said much about inter-professional ranking within the service. Barriers were also created by formal management and representative machinery. At District level I was discouraged from searching for minutes from the District Management Team meetings. They were always somehow lost, divided up, or unavailable. Fortunately I was able to obtain some sections from files. I was not able to attend DMT meetings and in District Health Authority Meetings I was excluded from "Part II", the private session where more sensitive decisions were taken. As one of my informants observed:

"Threatening details, or details seen to be threatening are kept to the private part of the session" (District Officer: Fieldwork Notebook)

As my discretion was recognized I was able to elicit these events from various sources. In fact the DHA was far from being a spontaneous decision forum. It was more valuable to talk to officers and to observe policy formation as it went on around me.



### Data Collection:

Investigating a large organization to observe processes of politics and design poses difficulties of generating a definitive account. From the outset I determined that the collection of a single type of data would be insufficient. I wanted to be able to cross check accounts. This was especially crucial in the study of a lengthy hospital design cycle. The memory of respondents sometimes proved unreliable. Conversely, in some cases a comprehensive informal "history" of what had happened had been constructed which obscured the actual pattern of events.

There was also a wider problem of obtaining an overall background appreciation of the working of the NHS. The headings below classify my more important data sources, but do not capture the breadth of material that had to be covered to generate an understanding of NHS "culture".

#### 1. Interviews

The interviews were conducted with a wide range of subjects with differing roles and gradings. Design is an activity that encompasses many professional skills and perspectives. Therefore I could not produce a standard interview schedule. I adopted a semi-structured approach using probes to clarify certain points. I changed the form of some questions to match what I knew about each respondent, but whilst I was testing out an idea I tried to keep the wording of certain questions constant across interviews. I did not stick rigidly to my outline schedule when interviewees volunteered useful information but allowed them to speak at length. When

undertaking initial interviews I tape-recorded whenever possible. I transcribed this material and in the DHA study was able to follow it up with informal questioning at a later date as I built up rapport.

The breakdown of these formal interviews by profession and organizational tier was as follows:

	Medical	Nursing	Architectural	Pharmaceutical	Admin.
DHSS	-	-	1	-	1
RHA	-	-	-	-	1
DHA	1	4	-	1	10

Further details of these sessions can be found in Appendix 3.

## 2. Observation

At the DHA I was able to work within the administrative headquarters. Initially I was confined to an office within the Personnel section where I concentrated on document analysis. During this "probationary" period I was effectively isolated from other offices. As I gathered contacts and informants I was able to obtain information from throughout the authority's planning organization. I was able to observe planning work and to talk to people as they worked. I used coffee breaks to gather information in the canteen, and took long lunch breaks to meet new informants and to tap into what was happening. I hung around parts of the building where I could bump into individuals who had relevant knowledge to answer my questions.

I used opportunities to attend meetings, and travelled to hospitals to talk to staff and to observe hospital wards in operation. Whilst in hospital accommodation I established friendly relations with staff and I attended the authority's social club when I knew that individuals I wanted to see would be present. Officers invited me to their homes and I was able to consolidate friendly relations 'in the pub'.

There were virtually no opportunities to observe at RHA and DHSS levels, where documents and interviews constitute my chief data source. During my observations I kept detailed field notebooks in which I recorded important events and significant comments. After interviews I recorded my impressions as to the credibility of information given and the degree of rapport with subjects. Where breaks in observation occurred I undertook analysis of material whilst it was still fresh in my mind. I worked upon notes in the evening, reviewing progress, setting future goals and isolating problem areas.

To allay suspicions I varied my working schedule. The following extract from field notes illustrates my approach:

"I'm even more accepted by the staff. People ignore me as they come in and chat. Secretarial and admin. staff will gossip maliciously about each other in front of me in the canteen. I vary my routine by copying from books, looking at files, and note taking. By doing this irregularly I can take notes surreptitiously without being noticed. I am becoming regarded as a "visiting humourist" who gives light relief from the associations of work that others share."

Despite this apparent ease of acceptance I did meet with difficult situations that could have led to termination of the research. Early on in my work a senior officer made it plain that certain types of enquiry were



out of bounds and that certain types of "political" information should not reach publication. At other times I encountered influential members of the authority who questioned me very closely about my work. The deliberate flexibility of my observation technique frequently led me into situations that were unplanned and required quick thinking if the entire project was not to be aborted. As time passed the cost of losing my case increased whilst my need to obtain more detailed accounts forced me to undertake closer questioning which might have been regarded as invasive and rebuffed.

### 3. Document Collection

Several kinds of documentary material relating to differing dimensions of hospital planning and design were collected. The following list gives an indication of the range of sources.

1. Drawings, models, photographs, specifications for building work.
2. DHA Manpower Commissioning Team Minutes.
3. RHA Project Team Minutes.
4. DHSS "Nucleus" Green Packs and publications on "Best Buy" hospitals.
5. Internal RHA/DHA assessments of "Nucleus".

6. Letters and other communications between:
  - A New Town Development Corporation
  - RHA
  - DHSS
  - Local Government bodies
  - Members of Parliament
  - Community Groups

7. Newspaper cuttings.

8. Journal articles on hospital design.

### Problems of Data analysis

Difficulties occurred in analysing certain of the materials collected, and in translating them into conceptual and linguistic categories agreeable to social science analysis.

### Plans and Models

Plans and models are examples of areas of difficulty. Design drawings claim an objective quantitative validity by their expression in measurable qualities of line, length, direction, and representation of volumetric content. They are couched in a specialist language which nevertheless overlaps with commonsense discourse. They embody, in an abstracted form, two or three dimensional representations of a project incorporating

dynamic social processes. Analytic questions centre around the task of penetrating the language of visual representation and interpreting the kinds of social acts that underlie a design's creation and the kinds of group action that it may or may not be taken to create and condition. Respondents who have been engaged in the assembly of these materials may be interrogated as to their intentions. Physical designs reflect the nature of organizational task definition. They can be taken as snapshots of the relative power of groups devising them, and as indicators in terms of volume, area, spatial location and resource provision of the internal priority and status of tasks. I suggest that plans may be usefully understood by searching them for the following attributes:

1. The Ordering of Spaces

This derives from customary understandings of work processes and their interrelationships which are conditioned by political processes of task definition within the organization.

2. Hierarchies of Spaces or "Territories"

Relating to the prestige of persons and activities. An example is the relationship of supervisory control points to work areas, and the spatial separation of "clean" and "dirty" areas. The ordering of a spatial hierarchy embodies assumptions relating to its mode of use by controlling actors.



### 3. Design Imagery

This derives from a combination of environmental attributes: size and proportions of spaces and the nature and the disposition of surface materials. It is a complex interrelationship of factors reflecting designers conceptions of suitability for occupants. To the user it communicates an assessment of him or herself constituted by others and mediated through physical arrangement of matter.

#### Minutes of Meetings

These are constructed to account for interactions as purposeful, logical activities. But the priorities of the minute clerk are seldom those of the researcher and impose the following difficulties:

##### a) Abbreviation

Events are omitted.

##### b) Conflict suppression

Disagreements are likely to be muted or redefined in the interest of consensus creation.

##### c) Re-ordering of phenomena

An artificial structuring is imposed for certain purposes. e.g. formulating a framework for future action.

d) Unidimensionality

Recording of verbal content omits interpersonal dynamics and other non-verbal behaviour.

Conversely they can be advantageous in that they are paradigmatic expositions of the public construction of reality in an organization. They incorporate the key meanings and jargon of a group in a compressed and heightened form. Similarly they display the customary "grounds" for actions of the group.

This process of editing was vividly described to me by one informant:

"You have influences brought to bear...MCT influence from X [a senior officer] to keep them short and stick to the point, to bring out what is decided for action clearly - not to be too wordy. You must turn a set of minutes into an action sheet, or even an agenda so that items roll forward and give it a structure. Its difficult to take the MCT minutes because of the multidisciplinary input...you're having to deal with viewpoints coming from all directions. Somebody who knows about the NHS can do them more easily. I go through several stages. I write rough notes in a meeting, then a rough draft and get it typed up to put to X for approval, or to be sent straight out...

What you write down is what you hope people will do and also what you write down is a polishing up of what people have said. You try to be as accurate as you can. You tend to hit on words that mean the most. But you have to be careful with jargon.

If there's a good phrase you pick up you're anxious to use that phrase. To use normal English is a long way round, you may misinterpret. The NHS is about jargon, if you're not into that you're not able to understand what is going on. If you fancy a few bits of English in your own style you won't win any fans for it.

There's always a temptation to put something down which sounded controversial. I know that if I put down anything which is not to the point X would draw a line through it. In the early days I was proud to get what people had said down accurately."

[Subject was asked: "How do you decide what happened in a meeting?"]

"It's not easy to say. You can finish a meeting and at the end of the day you can say what was it all about?" (Fieldwork Notebook)

Clearly the meaning of minutes is not self evident. Checking with other sources is required.

### Problems of Data Selection

This research has generated complex selection problems. The hospital files date from 1968 and a large amount of varied file material is extant. Sorting through the material involved the use of the following criteria.

1. Key events

The isolation of crucial "decision" events

2. Typicality

How representative is any document of a "normal" process? This is to counteract biases leading towards the choice of "juicy" or sensationalist material.

3. Comprehensiveness

Selection of a range of material to facilitate the construction of an overview of design processes.



There were some problems of missing data; files were not available or else never archived. A more general difficulty concerns the overall representitiveness of written and diagrammatic materials. Much design co-ordination is done over the telephone, and few conversations are recorded in memos.

Different "styles" of data recording also raised obstacles. Reports tend to be formal, justificatory documents, whereas letters and memoranda often display more spontaneous and candid reactions.

There were certain ethical questions. Most of the data gathered was of a public and inter and intra-organizational nature, but the document search revealed some material of a highly sensitive and private kind. The solution adopted was to use this data to inform the work in hand but to avoid direct citation of sources. For more general considerations of confidentiality it has been necessary to disguise the names of specific organizational units and individuals. Any lack of precision that this introduces is necessary to honour undertakings of anonymity given to respondents. Despite selection difficulties the researcher was able to amass a comprehensive set of written records, the co-operativeness of subjects even enabling the collection of personal notes and copies of external reports which were not available on file.

#### Research Development and Data Collection

Initially I regarded the process of technical change as my main focus. I left the phenomenon of design unexplained. My data was collected to sample as many different types of participant as possible. This was to gain a grasp of

the main political forces operating within the organization. I looked at my material as characterising the differing values, dispositions and intentions of individual actors. Thus I was laying emphasis on the unique, ideographic aspects of my chosen case. Although this approach was capable of yielding a richness of description I came to realise that it did not capture the persistence of actors' conceptions over time. Although I could show how intersubjective understandings were negotiated I could not pinpoint the sources of their continuity. Quite simply, I did not understand why hospitals had come to be the way they are. There was evidence to show how change was shaped by conflict amongst individuals and groups, but I had no grasp of consensual elements. These were the very components that were appealed to as legitimatory knowledge bases by different professional groups competing in the design process. It was this awareness that directed my reading and theorising towards historical dimensions of hospital design. In observing the genesis of the hospital as a standard institutional type I learned much about the shared assumptions of my subjects, and how the subtle system of power relationships which directed their behaviour had been built up. I became able to discern how far my study case deviated from the norm. Many previous observations changed their significance. It was possible to see how designers laid patterns upon their experience to create a conception of a future state, and how they constructed rationalities to make these projections seem routine, compelling, and inevitable.

## PART 111 DESIGNING HOSPITALS

### CHAPTER 6

#### THE NATIONAL HEALTH SERVICE: VALUES, POWER, AND POLITICS

The complex political structure of health care in the United Kingdom has been touched upon at several points in this work. Here the aim is to draw together several threads:

- a) The assumptions underlying the priorities of British medical care.
- b) The ranking of professional power and influence.
- c) Changes in management arrangements in the N.H.S. over time.

The first two concerns help explain why certain priorities and groups take precedence in current hospital planning practice. The third area furnishes an essential background for the case study, a project extending over a long time period, and only understandable against changing patterns of overall control.



### Value Orientation in British Health Care

The ways in which health care is provided to a population are not simple reflections of client need. They are conditioned by the economic character of society, by power structures, and by professional conceptions of the nature of ill-health.

Zola (1978) has commented upon the potential that medicine has as an agent of social control and in defining social realities. Medicine, as practised within the NHS, displays certain fundamental characteristics which play an important role in the shaping and operation of hospital buildings.

Doyal (1979) in an over simplistic analysis claims that the basic tenets of care derive from the outlook of western scientific medicine. This approach conceives its prime task as the mending of sick bodies rather than the prevention of disease. The hospital functions as a repair shop, returning reconditioned bodies to their place in the economic order. As well as servicing the defective parts of the productive system medical development is closely linked to the operation of the market:

"Even...where medical care is organized by the state, it still remains an important source of profit, since equipment and drugs continue to be purchased from the private sector, while state hospitals are built by private contractors" (Doyal: 1979: 36)

Thus the development of the hospital with its expensive technological systems is seen as an outcome of the capitalist search for profits and

conditioned by the dynamics of commercial product innovation. Doyal (1979:56) reminds us of the Victorian public health reforms of the 1870s and 1880s which produced marked reductions in the rates of infectious diseases. Despite such demonstrations of the effectiveness of preventative measures the curative model of care was not dislodged. The acute hospital was to become the focus of medical development, displacing rival conceptions of community based preventative practice.

It is important to remember the internal dynamics of professionalism in this context. Clinical prestige attaches to the possession of knowledge and skills which can be exercised upon specific cases and with observable results. To cure dramatically with sophisticated techniques builds a career reputation. Preventative work offers no such glamour. The promotion of positive health is less amenable to immediate measures of success than the eradication of pathological conditions.

Since the inception of the NHS the curative tradition has ensured that the hospital sector has maintained its leadership in health care. In 1948 hospitals consumed about fifty five percent of total NHS expenditure, but by 1975 the proportion had risen to over sixty-five percent (Doyal:1979:195). Moreover expenditure on hospitals is far from evenly distributed across the country. Teaching hospitals (especially those in London) receive better funding and function as shop windows for high technology state-of-the-art medicine.

The professional interests guarding the status of the acute hospital sector are strong. The Black Report (1980) advocated more expenditure on preventative and community health measures, yet the medical members of



the working party strongly resisted the suggestion that funds be diverted from the acute sector (Townsend and Davidson: 1982:29). The subsequent suppression of the report by government and the rejection of its questioning of received wisdom on health care priorities testified to the ingrained biases of the NHS system. It is the nature of the groupings that preserve the emphasis of the service that the next section addresses.

#### Power and Influence in the National Health Service:

The pre-eminence of the hospital sector within the NHS has ensured that design activities centred around new buildings will attract the interest and participation of the most prestigious staff members working within health care. The layout and equipping of hospital services concerns one of the most important bases of professional competition - the acquisition of resources and territories upon which specialist technical reputations are grounded.

At the foundation of the NHS the state was compelled to provide guarantees of clinical freedom, but the right of government to determine the framework within which it was carried out was distinguished.

"There is no alternative to self government by the medical profession in all matters affecting the content of its academic life, although there is every justification for lay co-operation in the economy in which that is carried out. The distinction between the two is real. It is for the community to provide the apparatus of medicine for the doctor. It is for him to use it freely in accordance with the standards of his profession and the requirements of his oath" (Bevan:1976:114)

This was the political intentionality behind the service. But how was a lay community to provide the tools for professional practice - merely by



picking up the bill, or by detailed state monitoring of space and equipment? Central government efforts to define more closely the nature of hospital provision and the resistance from within the service will be discussed in the following chapters. This difficulty of establishing limits to professional discretion in matters of resource distribution was a problem that bedevilled the service from its earliest days.

The bargaining which led to the establishment of the NHS gave professional leadership of the system to hospital consultant groups. Pater (1981:145-6) notes the situation in 1947. The new Regional Health Boards were given wide discretion, there was a lack of formal service plans, and Hospital Management Committees were under medical control. RHB's had charge of capital works, but medical influence over health planning was strong at all levels:

"If the medical profession can be said to have won a victory in their long drawn out exchanges with successive ministers, surely this was it; that the doctors were henceforth fully involved in the process of making decisions" (Pater:1981:168)

Commenting on this situation Eckstein (1959:289) saw signs of medical domination of the service at the expense of lay representation.

The picture one receives from these images of the early NHS is of a doctor-led service and one that was largely self governing. Organizationally speaking an employee group had gained practical (although not formal managerial) control.

To establish medical determination of hospital resources is not to explain the internal system of medical rankings by which some specialisms have come to have more salience in health planning.

Given the curative bias of the service one should expect primacy of location to be given to specialties engaging in acute intervention and treatment. These attract heavy investment in equipment and personnel. Specialties crucially involved in diagnostic procedures will also form part of the "technical core" of hospital provision. Conversely specialties involving the long term care of groups with little or no prospect of recovery will be accorded less priority - their care yielding little demonstrable "cure". They are allocated little in the way of heavy capital equipment and if 'cured' are likely to contribute little to national economic output.

Thus a rough descending order of medical prestige would show acute surgical and medical specialties topping the list, accompanied by facilities such as X-ray, down through the intermediate rankings to psychiatry and geriatrics.

Broadly speaking the influence of consultants resource bargaining will be related to their ranking within this specialist hierarchy, all other things being equal. The primacy of location of a given department will relate to its controlling actor's ability to attract prestige and funds, and the specialism's co-ordinative role in relation to other branches of practice.

So much for medical gradings. Nursing staff wield influence second only in importance to medical hierarchies due to their functions of patient control and observation. The intimate supportive relationship between medicine and nursing means that in planning matters their interests are closely aligned. The nursing group gains prestige from its association with medical



personnel. Empirically the nursing and medical viewpoints are co-ordinated in many design activities, establishing the territorial distinctions between the two.

The planning influence of other groups - pharmaceutical, administrative, engineering and hotel services tends to be limited, except insofar as the engineering function affects the servicing of high prestige units. These "non-treatment" territories are considered as peripheral (conceptually and geographically), and their representatives are involved in design consultations on an occasional and ad hoc basis. Thus the degree of participation of planners reflects their position within the NHS status ranking system. High ranking medical and nursing cadres secure permanent representation, ancillary services warrant only periodic involvement.

These are the outline status considerations that determine the pattern of influence amongst working hospital professionals in NHS design activity. This influence is worked out within the NHS planning structure which includes other full-time and consulting "technical" staff.

#### The NHS Planning System: Changes in Administrative Structures Over Time

The politics of hospital design not only depend upon the influence of staff working in the hospital service. They are also shaped by the administrative tiers of the service and the allocation of responsibilities between them.

Under the original management arrangements the Ministry of Health presided over thirteen Regional Hospital Boards (R.H.B.s) in England, and these appointed Hospital Management Committees (HMCs) who supervised



day to day running of single or groups of hospitals. R.H.B.s were charged with the supervision of new building work and were headed by a senior administrative medical officer and a secretary. H.M.C.s were headed by a secretary. This system persisted broadly unchanged until 1974. As the hospital building boom of the 1960s got under way the RHBs became more influential than originally envisaged, enlarging their works departments and playing a key role in channeling communications to the central department.

Dissatisfactions with the system came to a head in the late 1960s when proposals were made for reform. These modifications were intended to eliminate maldistribution of resources and to achieve better value for money. Several influences operated to increase the managerialist emphasis within the administrative structure (Brown: 1979:46-48). The study group established to shape reorganisation were influenced by a number of current developments. First, the advice of businessmen recruited by the 1970 Conservative government who advocated increased efficiency. Secondly, the "social analysis" of the Brunel Health Services Research Unit (reported in Jaques: 1978) which sought clear definitions of role structures and introduced the idea of consensus management. Thirdly, the management consultants, McKinsey and Co., who wanted to streamline management and to concentrate planning decisions onto key issues. Certain political alliances on the steering committee sought to protect professional interests; the "leap to status" of nurses occurring, according to Brown (1979:48) because of joint manoeuvring of medical and nursing groups. A four tier system resulted from the re-organization which was completed in 1974.

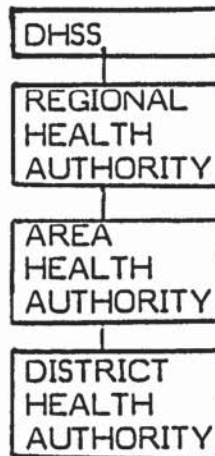


Fig 6:1 NHS structure after 1974 reorganization

At RHA level executive responsibility fell to a team comprising of administrator, medical officer, nursing officer, treasurer, and works officer. Representation of dental and pharmaceutical services fell outside the team. At Area the Area Team of Officers was comprised of an administrator, medical officer, nursing officer and treasurer. Works functions were omitted from the team at this level. District management teams included an administrator, community physician, nursing officer, finance officer, G.P. member and hospital specialist member. Brown (1979:31) provides a detailed summary chart. Teams at each level were supposed to operate on consensus management principles, and to guide the groups of lay authority members to whom oversight of the service was given. Hayward (1974) highlights the clarificatory emphasis of the reforms, but given the increase in managerial tiers one could argue that the political complexities were multiplied. Moreover, previously informal bargaining arrangements became entrenched and buttressed by the proliferation of formal consultative relationships. Barnard et al (1980:12) have said:

"...the 1974 reorganization took place against a set of conflicting trends and assumptions. On the one hand, the then current management thinking put forward a picture of



professionally trained officials making rational decisions within a well defined corporate structure. On the other hand, the political reality was a picture of different interest groups, with varying degrees of power, applying pressure on the decision-makers to ensure that their interests were protected, and their point of view heard and heeded. In many cases these political interests were intended to be contained by incorporating them within the formal structure...Some were soon also to operate extra-constitutionally" (Barnard et al: 1980:12).

According to Hayward (1974:15) it was still possible to ask "who are the managers?" and to get no clear answer. However, 1974 was a time of financial crisis and the new arrangements were firmly imposed by the Department, causing much local resentment (Brown:1979:185). At this time the DHSS was itself re-organizing into multi-professional service development groups, coordinated by a central planning unit.

The "Grey Book" (HMSO:1972) outlining the new management arrangements envisaged responsibility for new building being allocated thus: RHAs were to determine building type, whilst adhering to Departmental Cost Allowances. It could be said that the design discretion of RHAs was increased at the expense of lower tier authorities. With the financial stringencies of the mid 1970s the initiative was to pass to the Department.

Several years of operation exposed the unnecessary duplication of roles created by the 1974 arrangements. In 1982 the system was reformed and the Area level of administration removed. Under the new arrangements AHAs and Health Districts were replaced by District Health Authorities. District Management Teams were to be appointed which were similar in composition and function to the old Area Management Teams. They were coordinated by the administrator and to operate on established consensus principles (Chaplin:1982:481).



The NHS Planning System and the Case Study:

The brief outline given above serves as a guide to the changing management structures operating during the development of the District General Hospital examined in the case study. When fieldwork began the "host" DHA was implementing the 1982 re-organization and the implications of the hospital development were having to be rematched against changed patterns of responsibility. In fact the District Health Authority in question had been a single district area under the 1974 re-organization, and so changes progressed more smoothly than in multi-district areas. The relationship existing at the time of the study is shown in Fig. 6:2.

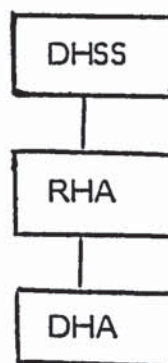


Fig. 6.2 NHS structure after 1982 reorganization

Fig. 6.3 attempts to show the formal elements of the NHS planning and design system as applicable to the case study of the Newtown General Hospital. This chart shows only the main elements. A reading of the case study shows that other parts of the NHS hierarchy are involved in the design of a hospital project. Not all of the elements shown in the diagram had continuous influence during the Newtown Development and the titles

used mainly apply to the situation after the 1982 reorganization. The Westshire Manpower and Commissioning Team was a comparative late entry to the process. The DHSS Nucleus Team had a strong influence in the mid to late 1970s but its importance declined as the Nucleus design was completed and as its implementation largely passed to DHSS casework officers.

NHS hospital design also includes an extensive system of informal contacts which is multi-levelled and unseen. This informal network of power and influence often decides crucial issues of resource distribution. In addition to the internal dynamics of the service the actions of local councils, statutory bodies, and public pressure groups can have great importance. The intervention of these agencies is chronicled in the case study chapters.

Thus the politics of the NHS exhibit great complexity. Designing involves the interaction of many interests within the service and the impact of a variety of extra-organizational factors. Many of these are underlain by long established and historically located beliefs and practices. The following chapter takes as its aim the elucidation of these attitudinal and value systems and their relationship to the development of hospital design.

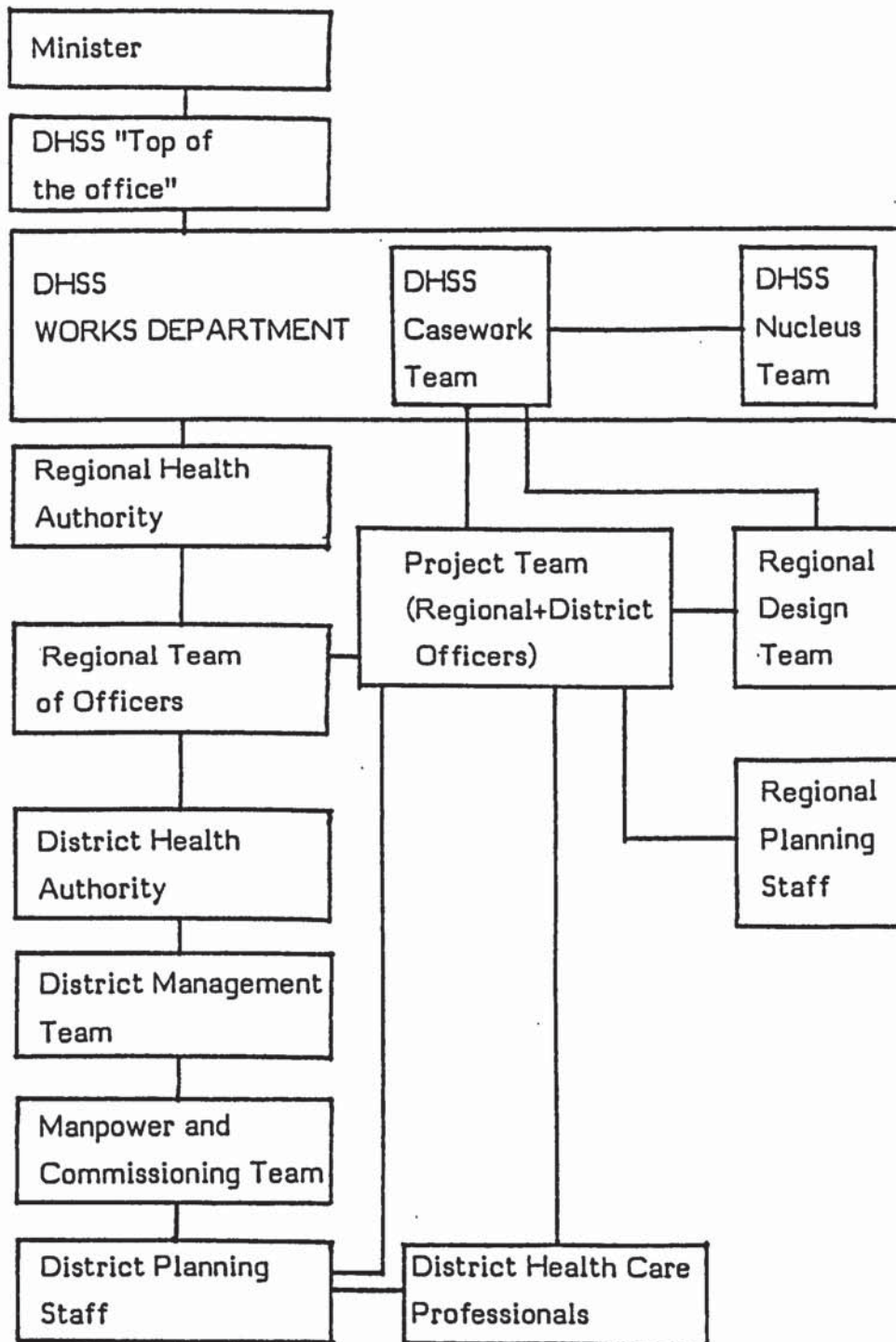


Fig. 6.3 Outline of NHS planning and design structure as applicable to Newtown DGH



## CHAPTER 7

### TEMPLATES, INTENTIONS, AND POLITICS; THE GENESIS OF THE HOSPITAL AS A BUILDING TYPE

The assumptions underlying the templates employed in the design of contemporary British hospitals have deep historical roots. The power relationships which have formed them and in whose interests they have been operated have changed over time. As lay personnel and professional staff struggled for the control of hospitals they evolved conceptions of patients and of disease which fundamentally shaped the pattern of hospital buildings and the modes of working within them.

The first chapter of this study maintained that design templates draw upon pre-existing practices. The social process of inventing a new "type" of institution is inextricably bound up with the pre-existing stocks of knowledge possessed by individuals and shared between groups. This knowledge furnishes exemplars for artefacts and action, and incorporates a moral component which endows the new enterprise with legitimacy.

### Hospital Design to the Mid Nineteenth Century

The antecedents of hospitals were several. Briefly, they were the basilican planform of the religious orders, the barracks of the military, the imagery of the English country house, the poorhouse, the factory, and the prison. These exemplary types incorporated certain authority assumptions: discipline, hierarchy and segregation from the normal social world.

The religious orders provided many of the basic elements for the growth of the hospital idea. The authority structure of church and monastery was strictly hierarchical and partitioned from the external world. Care of the sick was a mandatory expression of the virtue of charity. The church established not only the disciplined and uniformed care of the sick, but the first elements of a tradition of hospital design which persists to this day. Take the Roman basilican plan used for early church buildings; retain the altar at the east end and single entrance at the west, strip out seating and replace it with beds at right angles to the central aisle and you have the early hospital ward. Within this sacred space the mystical healing power of God was generated through prayer and offerings, and the magical process of cure proceeded through the fetishistic powers of Christ and Cross. Dolan (1973 : 65 fig. 4-19) illustrates this type of arrangement (in a later form) at Santo Spirito Rome, founded in 717 A.D.

Early lay attempts at hospital provision were connected with housing of the poor. The Hotel Dieu in Paris (founded 650) introduced the pattern of the almshouse - the cubicalisation and regimentation of building form in a uniform style. The visual imagery was again supplied by the church - the rectangularity and order of the cloister.

Church and military discipline combined in the Order of the Knights of St. John. A nursing order, the Knights functioned as Warriors in times of emergency. They established a firm system of control and surveillance and within one of their hospitals in Malta (built in 1617):

"a board was placed at the head of each bed upon which doctor's orders were written. The physicians and surgeons were accompanied on their rounds by a secretary who took down the prescriptions as the doctors dictated them. Nurses remained with the patient." (Dolan : 1973:69)

If the church established the subordination of the patient to a spiritual healing power exercised through a priesthood of specialist practitioners, army discipline provided a model for the organization of medical staff. Plagues, pestilence and natural disasters apart, the archetypal medical emergency has been the battlefield casualty. The treatment of large numbers of wounded under field conditions under the direction of an officer corps was a framework within which instant obedience was required and expected. It was a situation in which the dominance of a superior social caste was reinforced by the pressure of the caseload. Automatic responses instilled by military drill to deal with a large and unpredictable number of serious casualties became the method of handling authority relations within medical practice. The development of the civilian hospital, and the excitement and prestige accorded to accident and emergency work attest to the persistence of this ideal. The prescriptive military system of rank, badges, and reports was modified and transferred to the civilian hospital. Whole categories of patients such as the young, the elderly and the insane were subjected to command systems perfected under enemy fire.



But to characterise the disciplines of early hospitals as exclusively a product of repressive military methods would be a distortion. The pressures of military life and the need for adaptive change under stress conditions could result in innovations. Forty (1980:66) notes that the British Admiralty in its Stonehouse Hospital, Plymouth (1792) adopted a more experimental approach in its pavilion planform, than that used by civilian authorities at the time.

In organizing men on a large scale under changing technologies of warfare military authorities encountered unique problems. These difficulties had to be solved quickly and in a visual and organizational form that communicated itself easily, if not democratically. Foucault (1977 : 143-4) discusses the problems of control and supervision encountered in naval life:

"A port, and a military port is - with its circulation of goods, men signed up willingly or by force, sailors embarking and disembarking, diseases and epidemics - a place of desertion, smuggling, contagion: it is a cross roads of dangerous mixtures, a meeting place for forbidden circulations. The naval hospital must therefore treat, but in order to do so it must be a filter, a mechanism that pins down and partitions; it must provide a hold over this whole mobile, swarming mass, by dissipating the confusion of illegality and evil. The medical supervision of diseases and contagions is inseparable from a whole series of other controls: the military control over deserters, fiscal control over commodities, administrative control over remedies, rations, disappearances, cures, deaths, simulations."

Foucault's comprehensive views on the control intentions behind the creation of institutions like prisons and hospitals are contained in "Discipline and Punish: The Birth of the Prison." He develops a theory of corporeal control, a "political technology of the body" (p 26), assembled from the seventeenth century onwards. This anatomy of control involves the organized separation of people in space. Enclosure ensures regularity

of discipline. Space is subdivided and partitioned and each individual allocated a place. By such means movement can be monitored and randomness eliminated. Spaces are coded to serve as functional sites to pin down certain types of activity. Moreover spaces are arranged in a series which ranks the activities contained therein. In the case of the eighteenth century Rochefort naval hospital this mode of partitioning led to the possibility of creating an administrative system:

"...a system was worked out to verify the real number of patients, their identity, the units to which they belonged; then one began to regulate their comings and goings; they were forced to remain in their wards; to each bed was attached the number of its occupant; each individual treated was entered in a register that the doctor had to consult during the visit; later came the isolation of contagious patients and separate beds. Gradually, an administrative and political space was articulated upon a therapeutic space; it tended to individualize bodies, diseases, symptoms, lives and deaths; it constituted a real table of juxtaposed and carefully distinct singularities. Out of discipline a medically useful space was born." (Foucault ; 1977 : 144)

Thus the binding of certain meanings to certain spaces became more important than the limited therapeutic success early medical techniques may have had.

Laid upon the physical layout of people was a timetable which established rhythms, occupations and cycles of repetitions. The organization of patients into spatially located cases offered opportunities for further control. The medical examination combined hierarchical power with a "normalizing judgement" (p 184). The role of visiting physicians increased in importance during the eighteenth century until the hospital patient was under an almost continuous condition of examination. Examinations enabled documentation which constituted a bank of potential disciplinary data. More significantly the examination turned the sick person into a



"case" to be viewed impersonally as information for the comparisons used in the development of scientific medicine.

Foucault sums up succinctly the patterning of intentions

"...enclosed, segmented space, observed at every point, in which the individuals are inserted in a fixed place, in which the slightest movements are supervised, in which all events are recorded, in which an uninterrupted work of writing links the centre and periphery, in which power is exercised without division according to a continuous hierarchical figure, on which each individual is constantly located, examined and distributed among the living beings, the sick and the dead - all this constitutes a compact model of the disciplinary mechanism."  
(Foucault : 1977 : 197)

Hospital layouts were also deeply influenced by the plan of the military camp which embodied a "spatial nesting" of hierarchized surveillance (Foucault : 1977 : 171). Architecture became ordered internally to accommodate a series of regulating gazes. This system was designed to be capable of operation by clerks, supervisors and foremen on a shift basis. For Foucault the creation of this impersonal system of observation was one of the great technical inventions of the eighteenth century. The hospital buildings that housed it were shaped to permit its exercise.

In the nineteenth century this trend towards the environment of control reached its most explicit exposition in Bentham's design for the Panopticon. Consisting of ring plan form with a central observation tower it was intended for medical, penal, educational and other purposes. Inmates are separated one from another and subject to unseen observation from the centre. For hospital use it:



"...makes it possible to draw up differences among patients, to observe the symptoms of each individual without proximity of beds, the circulation of miasmas, the effects of contagion confusing the clinical tables." (Foucault : 1977 : 203)

Thus it functioned as a laboratory, restraining patients and enabling advances in medical knowledge to be made. As an example of "political architecture" Foucault maintained that it abandoned the enclosed institution and introduced a lighter more open constructional method more suited to the subtler coercion of the society to come.

Forty (1980) examines the links between scientific medicine and hospital design and concludes, like Foucault, that building form is more concerned with the motivations of hospital controllers than with the implementation of medical theory. Looking at developments in England and France, Forty maintains that the hospitals of the eighteenth and nineteenth centuries were primarily run by lay authorities, and in England used to reinforce the contemporary systems of poor relief. They were employed to inculcate a work ethic, encouraged self help and stigmatized the receipt of charity (Forty : 1980 : 62).

During the latter part of the nineteenth century medical influence upon design grew as doctors recognized in hospitals the possibility of prestigious and profitable basis for professional organization and power.

The religious domination of health care was broken in the eighteenth century, when private individuals began to finance and run hospitals. Given the limited success of prevailing medical technique the latter's chief contribution was to the organization of moral reform. Moreover the membership of hospital governing bodies through philanthropy gave an

upwardly mobile merchantile class the opportunity to mix with aristocratic groups. Further more the establishment of hospitals provided for a more efficient administratiion of Poor Law relief. By concentrating the sick in one place costs of care were reduced and malingerers could be discovered. By this mechanism wealthy subscribers could ensure that only the deserving poor recieved relief. Supervised medical provision was less open to abuse than cash handouts.

"Hospitals were designed to educate their inmates in the economic and moral principles which had made it necessary to build them; the generally unattractive conditions inside were meant to teach patients the virtues of providence and self help. 'Getting better' had more than one meaning inthe eighteenth century hospital." (Forty : 1980 : 69)

The imagery of the eighteenth century hospital resembled the Palladian mansion. This reflected the prestige of the English country house set in its own grounds. It attracted aspiring subscribers by its references to fashionable architectural tastes. Internal planning indicated the importance of the lay administration and the use of access corridors mapped out the ranking of functions and staff.

"The use of corridors was a reflection of the social organization of the hospital; a hierarchy of authority extended down from the governors and their resident member, the house visitor, to the medical staff, the apothecary, the nursing staff, the servants and, finally, the patients. Each group had separate identity and different requirements, although it was necessary for all to be able to communicate with each other, and for the governors to be able to exercise their authority over everyone. The corridor, offering the advantages of independence, privacy and supervision, made it possible to maintain this complex set of relationships." (Forty : 1980 : 70)



The growing interest of doctors in hospital designing indicated their belief in the hospital buildings ability to act independently of therapy as an agency of cure. In 1752 Sir John Pringle in "Observations of Diseases of the Army in Camp and Garrison" advocated the virtues of ventilation. It was not until the 1850's and the work of Nightingale that this principle achieved widespread recognition through the general adoption of the pavillion plan. Pioneered in the Lariboisiere Hospital in France, the pavillion layout was the first to be underpinned by a distinctly medical rationale. Forty claims that:

"Its supremacy was achieved through the combined aspirations of three professional groups: doctors, nurses, and architects."  
(Forty : 1980 : 78)

The pluralistic pattern of influence suggested is a plausible explanation, but it is here asserted that the greatest input was from the nursing profession. It was Florence Nightingale, more than any other figure, who established a legitimate planform for the British hospital.

#### Florence Nightingale: Templates and Territories

There can be no doubt that the work of Florence Nightingale was, and still is, decisive in establishing the pattern of hospital layouts in the British Isles and beyond. In this one personality we find an unparalleled combination of influences and circumstances. She was attracted by philanthropy and the organization of welfare programmes. The imprint of religious training was strong. Her nursing induction under the direction of the Lutheran Pastor Fliedner was reinforced by her Paris studies with the Sisters of Charity of St. Vincent de Paul. She travelled extensively in Europe and the east. She brought an analytical mode of study to hospital conditions in war and



peace, and made for herself an unequalled reputation as an authority on hospital design. Her breadth of comparative experience was unrivalled. Cope (1958 : 18-19) notes

"...she was consulted extensively by leading doctors on the planform of proposed hospitals in England, Canada, and the United States."

Nightingale was a protagonist of statistical methods. Winslow (1946 : 331) describes her as "the Lady with the Slide Rule", as well as a lady provided with the lamp of comparison and the broom of efficiency. A member of the Royal Statistical Society and an honorary member of the American Statistical Association she brought a numerical precision to the calculation of floor areas and the description of building elements.

Her work on health care in the British Army and her influential circle of political contacts enabled her to reform military and civilian medical practice, and to establish nursing as an occupation with a defined area of competence.

By the time she published her "Notes on Hospitals" (1st edition 1859) she had assembled a sustainable rationale for the detailed planning of wards, medical functions and whole hospital design. Her conceptions shrewdly accommodated the needs of professional staff and provided for the direction and control of patients and junior staff. Few people had better knowledge of hospital administration than she. Nightingale had experienced inter-professional conflicts and the difficulties of enforcing discipline in complex layouts. In seeking to template-ise hospitals her priority was to make such institutions governable entities. Within this framework the emerging profession of nursing was to be given some importance.

Her accounts of the reasonableness of her suggestions from sanitary and care perspectives march hand in hand with an insistence upon easy supervision and judgements of proper workloads. It is hard to escape the conclusion that the latter concerns constituted her prime motivation, and that the clarion calls to cleanliness were marshalled to justify them.

In order to bring out some of the subtleness of Nightingale's position it is necessary to examine her "Notes on Hospitals" (3rd Edition 1863) in detail. By doing so one may recognise the moral elements underlying her ideal hospital layout.

She argued for out of town locations in country areas condemning the poor health record of city hospitals. She critiqued existing facilities on several grounds. In her view large block plans were undesirable, existing bed spaces were inadequate and lighting and ventilation were poor. Criteria for suitable design were ample fresh air, light, space, and the subdivision of the sick into separate pavilions. Support services such as kitchens required to be separated from nursing areas. The complexity of existing buildings led to various penalties:

"Want of simplicity of construction in not a few hospitals is destructive to discipline. Effectual and easy supervision is essential to proper care and nursing. And as everybody knows, a patient may often be saved by careful nursing when everything else will fail. It is at this point that the hospital architect may either facilitate or prevent recovery to the extent to which his plan renders nursing easy or the reverse. Every unneeded closet, scullery, sink, lobby, and staircase represents both a place which must be cleaned, which must take hands and time to clean, and a hiding or skulking place for patients or servants disposed to do wrong. Every five minutes wasted upon cleaning what had better not have been there to be cleaned, is something taken from and lost by the sick." (Nightingale : 1863 : 49-50, emphasis added).



She makes plain the aims of building construction in facilitating nursing and discipline (p 50-53). "Economy of Attendance" is ensured by reducing building height, obviating stairs and circulation spaces, and by avoiding small wards. "Ease of Supervision" not only embraces patients:

"Attendants require inspection as well as patients. Whatever system of hospital construction is adopted should provide for easy supervision at unexpected times."

There is a need to distribute the sick "in convenient numbers" for staffing and she fixes the best ward unit at a size of 32 patients. Supervising nurses rooms should be placed carefully:

"She ought to have her room so placed that she can command her whole ward, day and night from a window looking into the ward."

Invoking conceptions of miasmatic theory of disease she insisted upon the pavilion plan:

"By a hospital pavilion is meant a detached block of building, capable of containing the largest number of beds that can be placed safely in it, together with suitable nurses rooms, ward sculleries, lavatories, baths, water-closets, all completely proportional to the number of sick, and quite unconnected with any other pavilions of which the hospital may consist, or with the general administrative offices, except by light airy passages or corridors. A pavilion is indeed a separate detached hospital, which has, or ought to have as little connection in ventilation with any other part of the hospital, as if it were really a separate establishment miles away. The essential feature of the pavilion construction is that breaking up hospitals of any size into a number of separate detailed parts, having a common administration, but nothing else in common." (Nightingale 1863, 56-7)

Blocks should be spaced at least double block height apart and have no more than two floors. The most economical limits to ward size are 20 to 32 patients and the area per bed space is to be 100 square feet with spacings at not less than three feet. One window is provided per two beds and the dimensions are specified in detail. Ventilation is to be natural and



assisted by open coal fires. Sister's rooms are to be sited to one side of the ward door.

More generally, apart from the wards

"Everything else, board rooms, chapels, quarters for officers and servants, except for the head nurse or nurses of each ward, stores, kitchen, laundries, should be placed in a separate building or buildings" (Nightingale : 1863 : 91)

Forty (1980 : 81-3) says that the cul-de-sac Nightingale wards were popular because they buttressed the supervisory power of nurses and facilitated the identification of intruders. The pavilion plan was embraced by doctors whose growing status could be enhanced by shaping large scale resources for the professional needs. The pavilion layout required large sites. Its sprawling planform established the idea that hospitals should be large institutions requiring heavy investment. The adoption of a standard pavilion plan type also contributed towards a corporate imagery for professional practice. Rationalisation of space could march hand in hand with the internal growth and re-structuring of professional medical specialisms. Architects saw in its introduction the opportunity to develop esoteric knowledge around a specialised building type and to collect large fees from the costly layouts pavilion planning produced. The refutation of zymotic/miasmatic theories of disease and the introduction of sterile procedures largely removed their rationale, but the template had been created - it would be hard to dislodge.

What was Nightingale's bequest to hospital design? Undoubtedly her most important contribution was that of clarification. Using systematically assembled comparative research material she distilled an acceptable type plan, plausibly articulated with some of the most fruitful medical and

nursing trends of the time. Out of the diverse traditions of church, military, and civilian ideas she evolved a template solution that was workable and ideologically acceptable. Into her ward and hospital plans could be read the imprint of recognised solutions. To these she bound a pattern of work relationships, setting out the size of work groups, a hierarchical command system and differentiation of activity spaces. Her conceptions of construction were underpinned by a desire for effective supervision. She defined the ethos of the hospital as a working unit - one in which the movements and actions of staff and patients required continuous monitoring. Her character is in line with these assumptions. Whittaker and Olesen (1978 : 23) describe her as "...power-loving, coolly manipulative, hypochondriacal, a woman of authority ...who mercilessly drove others." She clearly distrusted subordinates and subscribed to an aggressive version of the "rabble hypothesis." Patients and staff could not be trusted and must be pinned by an assertive supervisory gaze.

Secondly, Nightingale, in her capacity as a hospital administrator, clearly discerned that patterns of inter-professional power in existing hospitals were in some confusion. The role of visiting doctors was honorary, the status of nursing staff was low, the motivations of lay governors were various and amateur. She saw that it was possible to carve up the different parts of the hospital into precisely delineated functional territories and to draw boundaries between the sites of different tasks. This sharpening of physical barriers offered an adaptable framework to accommodate changes in professional self-images. It also enabled the development of autonomous work practices within different areas. The hospital was no longer a warren housing undifferentiated masses into which staff made periodic forays. It was a clearly articulated organism whose elements could be distinguished, ranked, and governed.



Nightingale's third, and connected aim, was to establish a physical and organizational power base for the emerging nursing profession. This was to have as its foundation the command of resources in terms of ward units and information. The cultivation of her planning expertise proved to be timely. No single centrally organized professional group existed across the entire health field. Military and civilian systems were separate, and the latter divided amongst local authority administrations. The emergent medical profession had yet to secure the advantages of hospital control, and lacked a database which would give authority to its ideas on hospital planform. Nightingale grasped this situation of political indeterminacy. By laying out hospitals so as to create separate ward blocks she conceived a work zone operated and superintended by nurses. This excluded the influence of other ancilliary occupations whose services to the wards became mediated through the nursing system. The representative of first line management, the ward sister, was given a pivotal position in shaping the nature of access to patients. Visiting medical staff might have the power to direct treatment and discretion over admittance to beds, but they did so within a nurse controlled environment. The power of nurses to typify patients, to obtain continuous monitoring of their condition within standardised surroundings, gave them opportunities to influence treatment and to monopolise certain aspects of knowledge. Given the sheer site area occupied by Nightingale wards in pavilion blocks, nurses gained direction of the working of the largest part of the hospital building. As medical technologies and specialist departments bulked larger in building provision nurses were able to protect and consolidate their prestige in the hospital hierarchy.



The Nightingale template proved very far-sighted. Her conceptions shaped "scientific" hospital medicine in its early stages. As conceived in "Notes on Hospitals", medical specialisms were relatively undeveloped, and catering and other services were elementary. But by separating out nursing territories she anticipated a pattern of growth which was well able to cope with change. As the number of medical and care professionals proliferated they were housed in separate areas. These rival groups would compete with nursing staff for resources, but the Nightingale format ensured that the modern hospital would take the form of discrete professional areas and departments. John Weeks writing in a modern handbook (Putsep : 1979) avows:

"No matter how complex a hospital, its map must be easy to understand by all its users. If the major means of communication is used by everyone at some part of the day, giving access to the public areas - the restaurant, library, shops etc. as well as to the front doors of each of the departments, this will be a wonderfully useful reference, and the key, in everyones mind, to the shape of the hospital.

But each separate department needs its own identity and within it, its own map, its own private and public spaces as well as its own front door. The hospital must be designed so as to allow the identity of the many 'families' which form its workforce to be identifiable, physically, from inside the complex. Thus it is better designed not as a single block, in which the identity of the various parts are submerged in the mass of the whole, but a complex with separate parts..." (Weeks, "Introduction", Putsep : 1979).

Thus Nightingale's separation of powers persists, precluding from the outset the establishment of multidisciplinary and integrated treatment facilities. By separating work groups she set a pattern of planning which emphasised rather than reduced inter-professional rivalry and which produced a map facilitating occupational ranking drawing its inspiration from the class divisions of British society.

### The Nightingale Legacy : Template Persistence

It may seem strange in a thesis that studies twentieth century health care planning, to lay heavy emphasis upon the work of a mid nineteenth century nursing pioneer. Let one justificatory statistic suffice: in 1977 there were 2,655 hospitals with 463,000 allocated beds, nearly half built before 1891 (McFarlane et al : 1980 : 7). The sheer bulk of hospitals erected in the heyday of Nightingale ideals has ensured that her influence has remained strong. The pavilion plan declined in favour at the end of the nineteenth century and was replaced by multi-storey blocks (Forty 1980 : 84). The influence of private patients resulted in the introduction of more single rooms (Forty 1980 : 85). Notwithstanding these trends the Nightingale ward has stamped itself indelibly upon the working experience of hospital staff, and new design developments tend to be measured against it. During my own research I found it difficult to find a nurse who had not worked Nightingales and who did not speak of the reassuring ease of supervision they provided. Combined with the charismatic myth of Nightingale herself they continue as a sedimented point of reference orienting later policies.

### British Hospital Design in the early Twentieth Century

A detailed study of the hospital buildings of the early part of this century need not concern us. As specialist services grew building forms adapted to house them without losing the essential features of the Nightingale template outline. As the number of environmental services increased they were housed in separate areas following her recommendations. The basic categories of task differentiation had been established, professional development merely added to their complexity.



To discuss hospitals as large institutions should not disguise the fact that much work in Britain went into the erection of small hospitals, especially in the voluntary sector. The country became "littered with small hospitals" (Abel-Smith : 1964 : 406) With the outbreak of W.W.II:

"...it was found that of about 700 general hospitals only some seventy five were equipped with over 200 beds, some 115 provided between 100 and 200 beds, over 500 had less than 100 beds, and more than half of these had less than 30 beds." (Abel-Smith : 1964 : 406)

The distribution of hospital facilities was chaotic and bore little relation to population distribution or need. It was a problem which had to be grasped when the State service came into being.

At the outbreak of war the Ministry of Health took over the supervision of hospitals and established an Emergency Medical Service. The erection of "temporary" E.M.S. huts, (still used in some hospitals) reinforced the dominance of the Nightingale style and its barrack room origins. Although the war itself brought about attitudinal changes favouring the establishment of the NHS, the postwar position raised problems:

"In 1948 the NHS in England and Wales inherited some 2,800 hospitals with more than 500,000 beds...About 45 per cent had originally been built before 1891 and 21 per cent before 1861...the Emergency Medical Service had left a legacy of hospitals in temporary brick or timber structures. Most of the building stock was therefore in need of replacement, and there was a backlog of maintenance. In the event much of the stock was still in use in 1980." (Chaplin, 1982 : 284)

Amongst the many immediate problems that faced the NHS from its inception on the "appointed day" of July 1948 were two related to long long term hospital planning:



- 1) How should hospital buildings be distributed to meet health care needs?
- 2) What plan-form and character should buildings have so as to be sympathetic to the structure of a State-funded service?

#### Post 1948 : The State Searches for a Template

With the foundation of the NHS design of hospitals became a State responsibility. The initiative passed from private to public hands. This led to a position of indeterminacy. The nineteenth century legacy provided a base of existing knowledge, yet its rationales and moral underpinnings were outdated. Born in an environment of Victorian capitalism the institutions of the past did not square with the spirit of post-war socialist idealism that existed in 1948. In the event, the problematic question of the configuration of new hospital types was not be approached until 1960 due to the post-war financial shortages. Equally decisive was that the medically led professional domination of the service complicated design initiatives. Thus from its inception state sponsored design effort was circumscribed severely by the place of health as a priority within the national budget and the traditions of professional control over work practices.

Howells (1980) states that most early design work was restricted to the care and maintenance of existing building stocks. Noakes (1982 : 118) dubs this as the "make do and mend" era in which Ministry of Health officers confined themselves to casework and the checking of schemes by Regional authorities. Design activity was related to small scale renovation, additions, and extensions.

There were a few important influences upon the direction developments were to take. One of these came from the Nuffield Foundation's division of architectural studies headed by Richard Llewelyn Davis. This work is summarised in "Studies in the Function and Design of Hospitals" (1955) and re-assesses hospital "functions" and planning approaches. The book looks at the acute general hospital, the type most characteristic of Western "Scientific" medicine. Beginning with an historical analysis confirming the importance of the Nightingale model (p.1-4) the team compared conventional Nightingale layouts with variations of the "corridor" or "bay" ward arrangement drawn from English, French, Swedish and American examples. Working under the influence of the more cubicalised layouts of private medical care, their recommendations steered planning towards the breaking up of large open wards into combinations of small bays. They utilised data from the Nuffield Provincial Hospital Trusts Job Analysis of nursing (begun in 1949) in which time and motion studies were made of tasks and staff circulation. The main thrust of their argument was to call for changes in ward planning and to attack the view that open wards were the most efficient in terms of staff time. They advocated the provision of ancillary and treatment rooms in ward units. Wards should be made as large as practicable to economise on administration. Subsequent sections of the work treated technical requirements of buildings, establishing a trend towards the collection of detailed data - later to be taken up by the DHSS.



Yet essential questions about the nature of hospitals, their size and disposition remained unanswered. In 1960 an important exhibition and conference was held by the Royal Institute of British Architects. Reading through the published papers (R.I.B.A. : 1960) one inescapably concludes that no contemporary authoritative blueprint existed. M.C. Tebbitt, Superintending Architect, Ministry of Health told his audience:

"...it is a fact that few textbooks have been written on this vastly interesting subject of hospital planning and design. Let us add at once; however, that as much has been written in book form or in articles...about hospitals and the work carried out in hospitals, about the medical and nursing requirements in the various departments, about patient care and medical treatment, as on any other subject. You may well have asked yourself why all this wealth of information has not been collected and collated and published as a whole.

The reasons are of course quite clear and in fact lie in the answer to the question 'What is a hospital?' From what those of you who have as yet little experience in this field of work may have learned from this conference; you will...agree with me that there is just no answer." (R.I.B.A. : 1960 : 90)

Other speakers stressed the advisory role of the Department and its desire to permit experiment, whilst Godber, Deputy Chief Medical Officer, M.O.H. emphasized the need to avoid standard type plans, whilst ensuring a similar content for each unit. John Weeks, an ex-member of the Nuffield group proposed a break with the Nightingale tradition.

"Today discipline has ceased to be one of the major problems of ward organization. Nurses are respectable and therefore, no longer need always to be under the eye of the sister in her room with a spy hole in the end of the ward." (R.I.B.A. : 1960 : 19)

Llewelyn Davis, who had also moved on from the Nuffield studies, affirmed a typically functional outlook, thinking that form could derive magically from technical studies:



"I believe that, for hospitals as for all kinds of building, true architecture springs from a deep understanding of function, and that it can only be reached the hard way through function."  
(R.I.B.A. : 1960 : 86)

The assertion that sophisticated technique might provide solutions seems pervasive at this time. Noakes (1982 : 119) records that in 1958 Tatton Brown became the first M.O.H. Chief Architect. His experience in educational design and industrialised building gave him a penchant for systematic research. His approach was to begin the first series of Hospital Building Notes, Equipment Notes and Technical Memoranda - the technical baseline from which developments could be generated.

How does one explain this apparent uncertainty as to which route to take? How can we explain it at a time when the developing British economy was to finance an unparalleled boom in new hospital building which was to last until 1974? Nightingale had found it possible to provide single-handedly a method and rationale in the previous century. But the political complexities of the N.H.S. with its central, regional, and hospital tiers incorporating rival groups of professionals at each level was unable to emulate such certainty. The advent of Labourite welfare politics had sought to replace the collecting tin charity-mindedness of the past. Traditionalist attitudes were well entrenched within existing hospitals and changed slowly. Given these conflicting circumstances it proved difficult to immediately formulate a contemporary moral view of the hospital as a working and curative organism. Given economic growth in the 1960's close definition was less necessary.

The "Hospital Plan for England and Wales" (1962) set out government aims. It attempted to define building needs and to identify building project

starts for a period of ten years. Taking population estimates it laid down bed ratios for different medical specialisms. The Plan stipulated how the numbers of beds and outpatient facilities should be grouped and distributed. This was done through the concept of the district general hospital (DGH). The Ministry's interpretation of the DGH was founded upon the claimed interdependence of branches of medicine and the need to bring together a range of facilities for diagnosis and treatment. Each hospital was to be sized at 600-800 beds serving a population of 100,000 to 150,000. Regional specialties requiring larger catchment areas would be provided at selected centres. As the DGH system grew smaller hospitals would be closed.

It should be realised that at this time Regional Hospital Boards had considerable discretion in designing. Departmental intervention was related more to budgeting and standards of provision. Taking an immediate post Hospital Plan view Gainsborough and Gainsborough (1964) were able to enthuse about the creative freedom offered in hospital planning:

"Each hospital is an individual problem determined by the medical requirements, which are not constant, by the historical development of the hospital in its particular setting, and by the qualities of the site and its approaches. Each new hospital is also an experiment." (Gainsborough and Gainsborough : 1964 : 11)

Designing was inductive, not reductive, and individually tailored "one-off" solutions were the order of the day:

"The architect...can analyse the requirements in his own terms and in relation to his detailed study of the site or sites. He does not think of shapes into which he will pour his specified units, for this would be still the reverse of good sense as he would then have to fit the functions into such a "shape." He in fact, by a process based not only on knowledge and experience



but also on imagination, finds the right sorts of areas and spaces that will fit the resources and relationships. In other words he does not cast his hospital into a mould but rather builds the clothing for the specified units and subdivisions" (Gainsborough and Gainsborough : 1964 : 16)

However, these writers recognized the persistence of entrenched work practices which might subvert their futuristic intentions:

"The medical and nursing professions are among our greatest conformers and traditionalists. Plus ca change, plus c'est la meme chose is more a policy than a motto (an intention rather than a discription) for them to use as they rebuild with open wards or semi-open wards according to this policy." (Gainsborough : 1964 ; 21)

What they grasped, and what was to be decisive in detailed design work within the NHS system, was the resistance and control exercised by staff groups protecting strongly demarcated and competing areas of competence. Working health professionals had highly articulated behavioural norms, and new design rationales had to be understandable in terms of these expectations. The formal system of "democratic" representation given to these groups was to curtail the change aspirations of design staff, lead to long development periods, and eventually to lead to attempts to impose centrally devised layouts.

Unfortunately there is insufficient space here to chronicle the individual developments pioneered by Regional Hospital Boards or the work of consultant designers. The focus is upon the priorities of the Ministry of Health (later the D.H.S.S.) staff to lead the service by example or by decree.



### The Department Experiments

Howells (1980) and Noakes (1982) both highlight the M.O.H.'s intention to attain leadership in hospital design, and to link activities to the realisation of the Development Control Plan evolved for each building.

The first small scale projects tackled were at Walton Hospital, Liverpool and at Kingston Hospital, Surrey. Walton was completed in 1968 and aimed to test the new cost control system associated with the Departmental Building Notes and to evaluate new arrangements for consulting rooms in the outpatient department. Kingston, completed in 1967 was an experiment in centralised kitchen and dining facilities. Like Walton it approached limited technical questions of integration of services. The challenge of whole hospital development had still to be grasped.

This problem was tackled in 1962 in the redevelopment of Greenwich Hospital on a crowded urban site. Conceived as a four storey 800 bed unit it featured ward areas in a band around the perimeter. Holroyd (1968 : 24) notes its template basis in the Palo Alto Hospital in the U.S.A. Departments were grouped in the centre and the well serviced and air conditioned building envisaged what was called a "Universal Hospital Space" which allowed change of space usage. The first phase was completed in 1969 and the fourth and final phase in 1976. The evolution of the project was studied by Green (1971 : 12). This apparent decoupling of what is done and the environment in which it is done, the links being formed only at the commissioning stage, is regarded as entirely unremarkable by the author. He comments on the non-linear nature of the design process stressing the interweaving of research, briefing and design

"stages" (Green : 1971 : 13). By this time the NHS had roughly codified template forms for hospital shapes : slab block, tower and podium, finger plan, high and low blocks, and the low compact block. Greenwich was typified as the latter. The unanimity of this classification is evidenced by its use in Holroyd (1968 : 21-24).

According to Green these categories were derived from United States examples and he illustrates them (P.14). Green speaks illuminatingly of the practice of design pinpointing the difficulties of constructing consensual meanings and the clashes of interest the project evoked.

"During the early stages of the Greenwich projects comments concerning recently completed hospitals revealed that quite often when a building was completed, the user had not got what he thought he was going to get. And worse, that this situation often arose when user and designer each thought that they had understood the ideas, languages and requirements of the other...

...it was seen as comprising two related problems which worked together to prevent good communication. First the users and designers often came together in a structure which emphasized the disparity of their roles rather than their continuity. Second, the users themselves frequently had no common identity of aims.

The users of a hospital comprise many different professions and among them will certainly be real clashes of interest. In this kind of situation one of three things can happen: one group gets what it wants and the others do not; a compromise is reached which does not finally satisfy any group; or all find agreement by identifying and reaching a common objective." (Green : 1971 : 26)

So this research reveals the political nature of designing technical change, and its exacerbation by complex consultative procedures.

In 1966 the Ministry of Health published "The Hospital Building Programme : A Revision of the Hospital Plan for England and Wales." It said that the



timescales for planning and building had been underestimated. It increased population projections and stretched the original programme. Review procedures were strengthened and the increasing costs of provision of specialist services noted.

#### Standardisation by Default : "Best Buy"

Howells (1980 : 8) tells us that the DHSS Best Buy design was not an attempt to provide a standardised layout. Starting in 1967 it was a response to economic recession (Noakes : 1982 : 122). Within the service the slogan "Two for the price of one" was taken up to characterise its cost saving advantages. The DHSS project team was instructed to attain:

"The utmost economy in whole hospital design and construction...consistent with maintaining acceptable medical and nursing standards...and a proper balance between capital and running costs." (DHSS/CO1 : 1973 : 1)

Cost cutting was achieved in several ways. The assumption was made that the community health services should undertake more patient treatment and that hospital length of stay should be shortened by early discharge. Consequently bed ratios for acute medical and surgical specialities were decreased from three to two per thousand of population. A 1968 M.O.H. publication describing Bury St Edmunds and Frimley (where the system was first used) makes clear that rationalization was a prime aim. The stated objectives included an increase of planning and design productivity, coordination, economy, and the intention to build to a minimum standard. On the wards progressive patient care was seen as a cost-saving measure and the introduction of a Central Treatment Area sought to concentrate resources and avoid a multi-corridor layout (M.O.H. : March 1968 : 16). It



was hoped to save 25% of normal space allocations. Bury and Frimley went to tender in 1969 achieving a contract price 30% below current cost limits (DHSS/CO1 :1973 : 1).

Noakes (1982 : 122) relates the Best Buy configuration to the Greenwich example. It showed the "ring main" traffic pattern, but with seventeen courtyards instead of three. He recounts that space standards were found to be too tight, but the design went on to a "Mark 2" version used at Kings Lynn, Great Yarmouth, Huntingdon, Sheffield, Rotherham, and Chesterfield. Organizationally Best Buy had other effects. Exclusive Ministry supervision was abandoned and work carried out jointly by R.H.B.'s and private consultants.

Turner (1970, 1971) studied the use of the Best Buy material in two projects. He noted the lengthy process of "consultation" delaying the development of hospital plans. He says:

"...it was very time consuming process, which slowed down the process of deciding what was required...and it tended to encourage the "over-design" of hospitals, in that they were fitted too closely to special local circumstances or personalities." (Turner : 1970 : 7)

Examining the ranking of designers he pinpointed the pre-eminent position of medical members and noted a split between "technical" and medical/nursing/administrative groups (Turner : 1970 : 13). Medical and nursing representatives combined.

"...to tell the remainder of the project team 'what really happens' at various points..."(Turner 1970 : 17)

The technical staff depended upon medical and nursing decisions before

they could proceed.

In a later work he chronicles the suspicion of DHSS motives and tactics such as continuing work whilst waiting for approval of a previous stage. This aimed to forestall Departmental "slowness."

"...the impression remains that the Department moves very very slowly and indeed unpredictably, in dealing with submissions. It is to note that the approval of the Board's first submission was delayed because of indecision over fairly minor items which were eventually included in the scheme. These circumstances give rise to a suspicion that the Department's officers, perhaps because of the political pressures to which they are subject, are unwilling to commit themselves to final approval of a submission." (Turner : 1971 : 14)

Turner's studies show the two conflicting interests beginning to operate at this time - the DHSS desire to cut costs and time by standard solutions, and the RHB's wish to design for local circumstances.

The situation was however more complex than this. There would seem little doubt that the central department hoped to reduce the delays caused by the complex NHS decision making process. If a standard solution could be imposed, the extensive pattern of 'local' consultations involving medical and nursing professionals could be cut. Control of overall medical policy could be obtained by limiting professional inputs to staff at departmental level. This would offer the opportunity to direct the nature of health care by narrowing the range of projected environments and their associated working practices.

These aims were not to be achieved and Turner's work demonstrates that the level of 'local' design participation remained high. Organization-wide politics were to continue to have strong effect on detailed building form



The design outputs that resulted still bore the stamp of the power and influence of personnel within all organizational tiers. They were certainly not the result of any supposedly determining relationships between needs and provision.

#### The Super DGH concept and the Harness Design

The late 1960's was an era when the large, technologically sophisticated, super District General Hospital seemed viable. The 1969 Central Health Services Report (The Bonham - Carter Report) envisaged hospitals concentrating a full range of services on one site. It was implied that D.G.H.'s could be sized up to 1,500 beds. The report was never formally accepted, but its grandiose projections had wide influence.

During this period capital expenditure on hospital building was rising rapidly, peaking in 1972-3 (Chaplin : 1982 : 287). Against this bouyant economic background the DHSS conceived Harness - a detailed and costly standard design solution generated with the assistance of Computer-Aided Design techniques.

Commencing in 1967/8 the Department had developed several standard departmental plans. At a conference on October 3rd 1973 Paul Goodale, Assistant Secretary, Hospital Building Research and Development, DHSS, described the system's genesis and its technological imagery:

"What we decided upon...was an extension and rationalisation of this work on standard departments. With the support of a number of Regional Boards, who agreed to work under the general co-ordination and monitoring of the Department, we embarked upon the production of a range of standard designs



for the major hospital departments which could be assembled in a variety of ways and which would be operationally and dimensionally compatible. Why Harness? The analogy is with the electrical harness of a car into which the various terminals - lights, flashers, windscreen wipers etc. are plugged. In our case the Harness Zone...provides a hospital street, along which at floor level, staff, patients, visitors, goods etc are moved and where, above ceiling level, provision is made for the distribution of all main engineering services." (Goodale : 1974 : 2)

The aim was to produce a complete document package to contractors, drastically cutting hospital planning periods. Nicholls, a DHSS engineer elaborates:

"Standardisation...embraces all aspects of planning and design, and extends into the production and construction stages when the engineering components and their assemblies and junctions with each other and the building components must follow predetermined patterns (Nicholls : 1974 : 5-6)

Davis (1974 : 3-11), himself a DHSS officer gives a useful overview of Harness. The concept mapped a hospital of 600-1000 beds, assembled from standard departments and linked together by the corridor/service Zone (the "Harness"). A planning grid of fifteen metres was used and a height limit of four storeys imposed. A variety of planforms was possible given different shaped Harness Zones. The aim was to economise on skilled design resources and the reduction of briefing and design periods. A library of departmental plans was assembled (Davis : 1974 : 6-9) and the whole design made amenable to computerised production of design documents. The CAD procedure employed is recorded in Goodman (1972 : 611-619). Goodman relates the Department's attempts to break the mystique of hospital design:

"It has long been felt that hospitals were unique buildings servicing a unique community, that there is something esoteric in their design that can only be understood by specialists, and that no two problems were the same. A series of research and

development projects carried out by the DHSS attempted to rationalise some of these beliefs and attempted to simplify the apparently conflicting requirements of the various parts of the hospitals and the various users. In building terms this meant attempts to reduce the construction to the lowest common denominator compatible with housing dissimilar functions, to identify the common functional elements particularly those which were inter-departmental and to go further into the rationalization of the construction in an attempt to find a system of modular or dimensional coordination." (Goodman : 1922 : 611)

Circulation space was chosen as the critical justificatory variable.

"It was hypothesised that if the communication system at the hospital was the key to its planning, and if its communication system was 'generically' typed then it would be possible to build up a range of hospitals with identifiable and measurable communication patterns, together with the standardised planning components. Based on researches...the likely communications (or harness) shapes seemed to be the ring main, the T, the H, the L, and the linear pattern..." (Goodman : 1962 : 612)

Readers may care to conjecture that this advocacy of neutral, non-territorial circulation space sought to defuse criticisms that might have arisen from the imposition of standard departmental and ward layouts. Without doubt, the computer techniques were used to justify changes in the structure of the design process.

Cross (1977: 26) comments that once the initial design was completed, designing was in fact confined to arranging departments along the Harness spine. The method reduced the number of factors designers had to consider. Goodman (1972: 619) was to note that the computer could not differentiate between different professional expertises:

"It raises the question of whether the independent professional roles as at present exercised can continue."

Whilst there may have been some moves towards redefining design roles in the work on Harness, there was little apparent shift in the overall NHS



patterns of design and planning procedures. The literature of this period does not show that the methods of reaching project specific solutions on Harness were conceived as in any way abnormal by NHS designers. The overall impression is that they were interpreted as a codification and development of existing trends.

With Harness the Department had a means of imposing standard solutions if it should so have wished. However, users were unlikely to complain as the standards it incorporated were generous. Whether or not Harness would have been a "Trojan Horse" for the introduction of more centralised control is hard to determine, as events led to the design's rapid demise. If government was to curb the competitive politics of health care planning Harness was not to be the answer.

Stone (1980: 9-10) writes of the construction difficulties imposed by the wide spans, with consequent deep floors to avoid deflection. O'Niell (1980: 36-37) takes up this point. The West Midland Regional Health Authority's schemes at Dudley and Stafford ran into problems. Cost savings were threatened as contactors tried to develop viable methods. Building consultants schemes for modifying the Harness discipline had to be accepted. On the Dudley project delays arose as troubles over accommodating services occurred. Further criticism came from James (1974 : 1441). He argued that the Harness building envelope was too large and imposed general dimensions demanded only by a few specialist functions. The "fit" was too loose for the more domestic aspects of hospital accommodation. He called for provision to be of the minimum standard for each area and advocated smaller scale hospitals.



Dudley and Stafford were the only two major Harness schemes completed, along with four other minor projects (Howells: 1980 : 9). It was to be superceded by "Nucleus" - a layout more adapted to a cost conscious economic situation.

### Nucleus: Economy and Control

The early 1970's were a period in which a popular revulsion against the large became epitomised in the slogan "small is beautiful." This found an echo in evaluations of hospital buildings. Calderhead (1975) stressed the need for imaginative use of interior design and landscaping to make hospitals more reassuring to patients. This aesthetic of the small scale was fortuitous for those who had to justify future design trends; it coincided with the "Oil Crisis" of 1974 which determined that standards of provision would have to drop.

The effect on design work at the DHSS was profound:

"...between the two elections, in 1974, there was, which was of course just after the oil crisis, ...a kind of bemused hiatus, because a lot of these Harness and other vast schemes were just coming up. Dudley was supposed to start building on the 1st April 1974...that was put back first six months, and then... the second election happened. Then the government admitted that there wasn't going to be the capital to undertake this vast programme. So David Owen, as Minister of Health said, well what can we do with the limited capital we've got, and Howard Goodman responded, and thats how Nucleus came about."  
(Superintending Architect, DHSS: Interview Transcript)

There was strong pressure for a return to the Departmental Cost Allowances which had been ignored in the Harness programme.

"There had to be a change of heart in that there was an edict from the top of the...must have been from the Minister, that on hospital buildings the cost allowances must be adhered to. Because the other of the Department's sort of standard work which fell to the ground as well, was our programme on standard departments - standard maternity, standard psychiatric departments, which again were not based on Departmental Cost Allowances. The design was lavish so they bit the dust also, because of this edict...And I would suspect although I can't quote chapter and verse that our masters in Treasury had a lot to do with that decision as well" (Administrator; Nucleus Team; DHSS: Interview Transcript).

The DHSS Works Department considered the idea of phasing to solve capital shortages, and by this criterion Best Buy - conceived as a single package - was inadequate.

"...one of the Ministers at the time...I think it was probably Owen...was having a look around Works and seeing what we were doing. And this idea of this first phase hospital was mentioned and he siezed upon the idea, thats it, thats what we want" (Administrator, Nucleus Team, DHSS: Interview Transcript).

The new project was to be a centrally devised one. Time was short and the 1974 NHS reorganization meant that existing planning arrangements had been disrupted.

"...under the Harness programme much of the Harness departmental designs were done by Regions... What happened at reorganization was that the design teams were dispersed. A lot of them went to Area and District, taking the plum jobs you see, and the Regions had not the capability, capacity to do any further work on Harness. The Department hadn't got the capacity to, because it was a mammoth programme..."(Administrator, Nucleus Team, DHSS: Interview Transcript).

In the search for a solution to pressing problems existing template solutions figured strongly:



"...and the Chief Architect sometimes said...that's Howard Goodman...Well, you know, what we ought to be thinking about is a small hospital. We can perhaps base it on Harness, or take the best from Best Buy and put it in the bottle and shake it up" (Administrator; Nucleus Team, DHSS; Interview Transcript).

The "bottle" was to be the Harness cruciform plan, suitably trimmed.

"...the cruciform template was developed under the Harness programme, and for a number of reasons it was found to be a pretty good shape...so the thousand metre cruciform shape which was adopted for Nucleus follows very closely the Harness idea, configuration. So to some extent one had that fixed sort of shape to start with. As far as the services zone is concerned, that was more flexible...but one of the real constraints there was the cost..But, having got your twelve clinical templates plus the services zone, which our Q.S.s [Quantity Surveyors] said...well thats probably what you can get for your money...one had to see how, what functional content you could get into that and whether that functional content was what we were really after. In fact the two came together pretty closely. There had to be...a certain amount of hard thinking on certain departments, and perhaps things like office accommodation were pruned pretty heavily, and I think with hindsight we pruned some of it too hard" (Administrator, Nucleus Team, DHSS: Interview Transcript).

Using a cruciform shape simplified phased planning and assembly of different components:

"...it was the shape we inherited from Harness, we carved it up differently. The Harness was typically dealt with in whole squares so the ward as you saw went like this and you had always the problem of right hand or left handed things...it was like putting two pieces of a jigsaw puzzle together. This cruciform with the half module made it much easier to assemble" (Superintending Architect, DHSS: Interview Transcript)

This fund of pre-existing information led to a very rapid evolution of the new design. Geoff Mayers a DHSS architect later commented:



"We came up with the initial idea of a Nucleus hospital virtually within a week!". (Health & Social Service Journal, 30 March, 1979:336).

The DHSS Nucleus Team began work in 1975. Progressing rapidly they had devised a series of outline layouts for a basic range of hospital departments by 1978. Unlike Harness computer technology was not used. Innovation was not aimed at and DHSS staff did not see themselves as breaking new ground. "Nucleus thinking" extended beyond the design. Previously designing had been guided by Building Notes. The space and cost cutting exercise that Nucleus involved meant that subsequently Building Notes had to be regraded to Nucleus levels. Hence Nucleus was to have a more fundamental effect on provision than any preceding exemplar.

During the evolution of the Nucleus solution the DHSS began its campaign to get the project accepted by the service. In September 1975 circular DS278/75 was dispatched to Health Authorities. The document stressed the need to curb large schemes and to build modestly on a wide front (DS278/75:1). Nucleus was to be expandable, have 300 beds, and for new projects have a works cost below £6million. Developments would be capable of expansion to 600-900 beds.

On December 6th 1975 the Minister, David Owen, spoke to the Medical Practitioners/ASTMS conference on Community Hospitals. Here he developed a rationale explaining the necessity for Nucleus implementation. The NHS wage rises in 1974/75 had exacerbated funding problems and there had to be a reduction in capital spending. Training of doctors and teaching hospitals would be protected, but hospital construction would be cut. Regional design initiatives would be affected.

"We need a new attitude to hospital design. The health service in many areas has not achieved sufficient benefits from being a national centralised service. Nowhere is this more obvious than in hospital design. Up and down the country regional health authorities have been designing their own one-off hospitals." (Owen: 1975 : 7, emphasis added)

He tied the limited provisions of the Nucleus solution to the concept of community care which would place more treatment outside hospitals. In the acute treatment sector Nucleus aimed at an intensification of work:

"Not only should it be a hospital primarily focussing on acute services, it must be a hospital that is used intensively. In this way the very high capital equipment and revenue costs of 24 hours a day, seven days a week, cover can be concentrated and justified. Intensive diagnosis and intensive care will mean a high turnover but all the evidence shows that higher bed utilisation is an obvious area for economy." (Owen: 1975 : 10)

The Minister's speech was laced with references to consultation, but in fact the development of Nucleus had been very much an internal DHSS matter.

"...In the early days of Nucleus...there was a time constraint, we had to go ahead making our own decisions. But once we had got some way down the road, we did in fact have presentations to the Joint Consultants Committee of the BMA, and Nursing Colleges. They weren't what one might term consultations as we know it with mainly...well, erm...this is really what we've done." (Administrator, Nucleus Team, DHSS: Interview transcript)

This omission reaped criticism in the medical press. An anonymous article in the British Medical Journal defended the large hi-tech hospital against the community hospital idea. Government policy imposition was attacked:

"...time and time again in the last few years of economic stress the NHS staff actually concerned with treating patients have had new schemes of organisation, administration, building, and staffing imposed on them from above. Whose advice was sought before this radical change was announced? What consultation or discussion took place with the professions concerned? Virtually none." (BMJ: 31st Jan 1976 : 246)



The accusation of no consultation was put more pointedly in the B.M.A. News Review:

"The press announcement introducing Nucleus gave the impression that, in future, all buildings would be of the Nucleus type with diagnostic facilities, backed up by more patients being cared for by G.P.'s in community hospitals. This statement must have been vetted before it was issued. But faced with the criticism from the profession the Chief Medical Officer is busy assuming that no change in the present pattern of care is intended.

What the profession is increasingly concerned about is that it is not consulted by the Department...The Joint Consultants Committee...has demanded that doctors should be involved to a greater extent and at an earlier stage in the central Department's policy making machinery. Although, perhaps because its hospital planners are so keen for the profession to espouse Nucleus, a promotional team has given a teach-in about the concept to groups of representative consultants." (BMA News Review, May 1976 : 206)

By 1976, then, Nucleus was meeting opposition from powerful groups within the NHS. Its initial aims were being attacked. The precise meanings and implications of the concept were to be refined, modified, and adapted as it was introduced into service.

### The Explication of Nucleus

The DHSS summarised its own aims in "Nucleus" (1976). The size and cost parameters already mentioned were retained. The solution was to provide an extendable first phase development, giving a choice of content to meet service planning needs. Economy in capital and running costs was a priority. Engineering work should be sufficient for the accommodation provided and not be provided in advance for future stages. Significantly for future organisational structuring Nucleus attempted:



"...to achieve multi-use of space by good functional relationships and clustering of departments; avoiding fixed specific equipment wherever possible; avoiding provision for exceptional demand, occurrences or procedures." (DHSS: Nucleus; 1976 : 3)

In practice this was to mean the use of light partitions so that internal layouts could be moved to meet changing needs. The built form was to be two storeys with three as a maximum, with use of natural light and ventilation. It was assumed that many customary hospital facilities would be provided off-site. Hospital contents were divided into a priority list of those necessary in any hospital first phase. Wards and other facilities were to be added according to local need. Model layouts were illustrated showing cruciform "Nucleus Templates" arranged along a linear hospital street. Regional Health Authorities were to carry out their own detail design but model briefs, line diagrams for architectural and engineering layouts, and cost plans were to be dispatched by the DHSS. These were later distributed in green hard back folders generally known as "the Green Packs."

Looking at the overall form of Nucleus one is struck by the return to the Nightingale pavilion ideal, with her separation of wards, specialist services and detached services block. Although internal replanning is possible the retention of territorial segregation is remarkable in terms of the weight given to integration of hospital and community care.

Subsequently several members of the Nucleus Design Team were to publish accounts of the project. Howells and Hitchcox (1976 : 206) argue for the the reasoned continuity of DHSS work. Best Buy and Harness were the "quarries" from which Nucleus was developed. Wards are based on a universal nursing space, with 28 beds and 50% of patients visible from the

staff base. Each ward section is self contained which means that specialties can be mixed in a single ward. They recount that RHA works officers had urged the Department not to take work further than the line diagram stage. The authors seek to damp down the criticisms over consultation by stressing the steps taken to give information. In recommending Nucleus they stress economy, the ability to evaluate from a common baseline, the facility to build quickly with "windfall" money, and the quick replacement of abandoned schemes. Furthermore:

"In producing Nucleus, the DHSS is providing an early worked example in building terms of its current policy objectives."  
(Howells and Hitchcox : 1976 ; 211)

In a series of articles Armored Billing (Nurse Planner, DHSS) developed the "story" of the Nucleus Hospital (Billing 1977a). She says that facilities such as education centres, laundries and pharmacies have no part in first phase hospitals and the Department consequently did not design them. Project Teams wanting them would have to find money from overall project budgets. Regional Authorities are given freedom to work up the line diagrams provided but adaptations must remain within budget.

In a second article Billing looks at ward layout. She advances a legitimating framework;

"An environment was sought which would put people at ease, and would also provide areas within which they could retain their individuality and quickly identify the various rooms that they would use. Care was taken to consider the needs of an ageing population; ways in which noise and other disturbances...might be reduced; how walking distances could be cut; and observation of patients by staff, and staff by patients, facilitated." (Billing 1977b: 17)

Intensive building use is clearly a main criterion. High and intermediate



dependency patients are to be nursed in the same sections. There is extensive sharing of rooms between pairs of wards. Storage for supplies and refuse are limited and a regular topping up and removal system is assumed. The planning is tight. In 1977 the Nucleus architect Hitchcox compared continental hospitals with Nucleus and suggested that the latter made space savings of 20-30 percent of the total hospital area (Hospital Engineering, Nov 1977 : 31)

By the end of 1977 a consensus was developing about what the standard design meant, and a recognition that given the complexity of the NHS more local modifications would have to be permitted. Thus as the Nucleus ideal type had congealed as an organizational entity, its coherency began to be destroyed as actual projects began to be designed. Rather than continuing as a standard blueprint the Nucleus material was to become a bargaining ground upon which intra-organizational resource games were played. "But is it Nucleus?" became an important question in debates on specific schemes. What Nucleus was gradually became less clear.

A bulletin from the Welsh Office to Area Health Authorities (HBSS 130/141/1, Jan 1979) stated that many developments were being called Nucleus although bearing little similarity to the standard design. It classifies five different ways of using Nucleus material. Although the hope is expressed that standard Nucleus formats would be adhered to by this time considerable deviations were being permitted.

Evidence shows that early schemes experienced very strong control from the Department. At Newham the DHSS told the project team they could not make changes. The commissioning officer commented:



"You took the standard package, and that was that." (Health and Social Services Journal, 30th March, 1979 : 337)

This initial rigidity was later to be relaxed in the face of hard bargaining by some RHA's.

In early 1980 the Minister, Patrick Jenkin reiterated governmental policy on the trend towards smaller hospitals (DHSS Press Release 80/36, 5th Feb 1980) bolstering the arguments for Nucleus as the first projects were coming to completion.

At the end of September a conference on Nucleus at the Kings Fund Centre saw the Department's officers beginning to retreat from the rigidity displayed at Newham. Denials of any "tyranny of the template" were made (Health and Social Services Journal, 10th Oct 1980 : 1309). Much use was being made of the system as tack-on facilities to existing hospitals. At this time around forty Nucleus based schemes were running and the first example had just been completed at Pinderfields Hospital, Wakefield. Many of the user authorities were complaining of tight space standards and the difficulties of convincing hospital staff of the design's merits.

In mid-January 1981 a further conference was held at the same venue and the report summarises views of user groups (Kings Fund, 81/77 1981). Most criticism centred around the design of service areas and the rigidity of template forms. There was a general call for more freedom in interpretation of materials.

As schemes proceeded many user authorities became involved in the detailed examination of Nucleus implications. Checketts et al (1982) report a study by the Worcester Health Authority on Central Delivery Suite provision for maternity services. The nub of this study was the highlighting of the time/space constraints of the layout. According to their figures Nucleus underprovided delivery rooms by 45 percent. They argued that the design assumptions of Nucleus included a higher patient "turnover" rate than could be realised in normal practice.

Towards the end of 1982 a Departmental engineer reviewed the current situation on Nucleus solutions;

"When first developed it was anticipated that users would simply take the published Data Pack material and work through to tender documents, thence to construction stages. The Data Packs were put together with the fairly certain knowledge that some local trimming would need to be done to suit particular circumstances in individual hospitals. As things have turned out the use of the Nucleus material has been much wider than any of us envisaged initially. At one end of the scale users have taken the Nucleus Data Pack and simply translated that to tender documentation without making any changes whatsoever. At the other end of the scale the Nucleus policies have been abstracted from the Data Packs and themselves used to generate new designs. Between these limits we have seen all manner of combinations and permutations." (Ratcliffe, Hospital Engineer, Oct 1982, pp8-10)

This statement marks an acceptance of the "liberalisation" of the Nucleus philosophy. The ability of Regional and Area Health authorities to exploit the complexities of the NHS planning system to subvert the control aims of the Department is recognised. Before the inconsistencies of the design had been known Departmental pressure had been hard to resist. As user authorities came to know Nucleus they were able to articulate rationales nested within its rhetoric but serving their own purposes. Thus Nucleus diffusion proceeded subject to a detailed intra-organizational process of

redefinition. The apparent initial Techno-Determinism of an unknown solution had been replaced by a pragmatic adaptation process.

### Templates and Politics: an Overview

This chapter has attempted two chief tasks:

- 1) To trace the evolution of specific hospital "template" plans
- 2) To elucidate the political processes lying behind the generation of these forms

It has been necessary to examine these factors against the intentions of designers.

The first aim involved a look at the exemplars from which early hospitals derived, and the aspects of moral education and social control they incorporated. The factors favouring the persistence of some of these tendencies over a long period have been noted. The problem of discontinuity in design posed by the creation of a state-run service was highlighted. The use of standard designs to control standards of provision and expenditure became a chief focus.

The second aim was realised by an examination of the roles of influential individuals and professional groups. As hospitals changed over time and the patterns of control exercised over them and within them altered, the rationalities supporting their modes of conception and operation underwent modification.



Throughout use has been made of design accounts and their implications for the legitimation of the design process have been noted. These interests are taken up more closely in the case study, where the detailed development of a "Nucleus" hospital project is examined.

### The Hospital as a Building Type

Through an historical investigation of the development of hospital planforms one becomes aware of the changing systems of power and influence shaping their development. This is not only apparent in a consideration of general movements in design, but in specific project instances. But the development of single hospital sites involves not only processes of design using temporally transmitted concepts of layout and labour organization. In each new hospital existing template preconceptions are modified within localised political and influence structures. The nature of the hospital as a building type may be well known, but the allocation of resources embodied in each new project will vary according to the peculiar constellations of power operating within the design process at a given time.

## CHAPTER 8

### DESIGNING NEWTOWN DISTRICT GENERAL HOSPITAL:

#### THE FIRST HOSPITAL PROJECT 1967 - 1975

##### Introduction:

The Newtown General Hospital underwent two distinct development stages. This chapter outlines the evolution of the first design solution. The following chapter takes up the story from 1975 when a new design was developed on a different site.

In the interests of confidentiality names of places and persons have been changed or omitted to prevent identification.

##### The District Health Authority

Westshire Health Authority falls within the area administered by the Borders Regional Health Authority (before 1974 known as the Borders Regional Hospital Board). Westshire is a primarily rural county with a dispersed population. The county town of Bartley was the major population centre, but is now rivalled by Newtown, a planned new city developing in the East of the county. The Authority's major hospital facilities are sited in Bartley, where the old Bartley Infirmary has been replaced by a new development at Bartley Down East, near an existing E.M.S. hospital at Bartley Down West. In terms of resources, the Bartley Down complex is Westshire's primary acute hospital centre. Hospital staff enjoy Bartley's facilities, and for senior medical staff private practice is conveniently at hand. Despite transplantation to new buildings the traditionalism of the old

Bartley Infirmary lives on, and the environment of a medieval county town constitutes surroundings congenial to a leisured and cultivated lifestyle.

Westshire also boasts a Regional Specialist Hospital at Danesworthy. Danesworthy has a national reputation and receives strong support from the local community. Although relatively underused in terms of throughput of patients, it has successfully defended its prestige and resource allocation during successive NHS expenditure reviews.

The remainder of Westshire's hospital provision is housed in older buildings, with several small cottage hospitals sited in market towns. Resource comparisons show that the eastern part of the county is underprovided with hospital facilities and the growth of Newtown has exacerbated its problems.

#### The New City Development

Newtown was planned around several older established industrial areas and has provided accommodation and employment for those moving from the Borders conurbation. Planned and administered by the Newtown Development Corporation (an agency of the Department of the Environment) it grew from a few scattered housing developments to become, by 1980, the largest single population centre in Westshire. Characterised by young rapidly growing families its population structure exhibited variations from the county norms. The higher proportions of skilled and unskilled manual workers living largely in Development Corporation dwellings gave it a more proletarian-industrial character than the surrounding agricultural areas.



This contrasting character, and the alleged financial burden that Newtown laid upon the remainder of Westshire has caused opposition to the town's growth and to stereotyping of its inhabitants as undersirable foreigners.

"...I think that Newtown has been considered in many parts of Westshire as an excrescence on the whole of Westshire. I'm not sure that outside the eastern part of the county the people really felt they needed Newtown...there have been a great number of social problems that have come in with the development of the new town...the view was that the Newtown District General Hospital was a political gambit..." (DMT member, Westshire Health Authority; Interview Transcript) <sup>1</sup>

The original Newtown plan envisaged a hospital serving the projected 250,000 population, and Newtown residents moved in with the expectation that hospital services were to be provided at an early date. Newtown Development Corporation placed pressure on the Health Authority to provide a D.G.H. to give the city credibility as a viable development. Through its successive chairmen influence was exerted at local and national governmental levels. Much of this contact was informal and recieved backing from local council representatives and members of the public, some of whom set up action groups to further their case.<sup>2</sup>

Several issues emerged - the lack of Accident and Emergency facilities - a shortfall in maternity services for the youthful population - and the transportation of patients and relatives to the main centre at Bartley. Newtowners argued that these were unreasonable burdens given the higher levels of social deprivation experienced in the Newtown development.<sup>3</sup>

Within the completion of the new Bartley Down East Hospital the position became more complicated. Bartley Down's first three phases were erected

with an expectancy of a fourth phase to follow on. The Newtown project posed a threat to this continuing concentration of services. The senior medical staff at Bartley Down were to resist Newtown D.G.H. in order to avoid a division of resources, and the professional establishment at Danesworthy saw it as a potential threat to the growth of their specialist services.

The design of the Newtown D.G.H. facility was thus beset by a complex of rival local professional and community interests. The hospital concept had to satisfy many factions. Within the service Westshire had to convince Regional and Departmental tiers. The local specialist medical staff had to be persuaded, and amongst the Westshire Authority's members the divisions between Bartley and Newtown supporters had to be healed. Outside the NHS system the demands of the Development Corporation, local councils, and community pro-hospital groups had to be allowed for. All these considerations had to be weighed within changing national government policies. The marginality of certain Parliamentary seats was also significant, and at times local M.P.'s, some with Ministerial influence, were to intervene. The subtleness of this political framework was complicated locally by the tight social network of Westshire. Many actors in this situation held membership of more than one influential group.

#### Outline of the First Hospital Project

Newtown Hospital was first officially proposed in 1966 with its inclusion in the hospital building programme. Following this initiation by government the site was selected in 1968, included in the Basic Plan for Newtown, and approved by the Secretary of State for the Environment<sup>4</sup>.



The early feasibility studies for the hospital envisaged a full blown D.G.H. solution of around 800-900 beds. Work began at the Borders Regional Hospital Board where the Project and Design Teams examined various design options. In turn Best Buy, Harness, and Regional standard design solutions were evaluated. At this stage of the proceedings Borders and Westshire were assuming a free choice of design solutions. By late 1971 the "A1 assessment of functional content" proposals were being finalised. Sized at 800 beds the layout was planned to include inpatient facilities for General Surgery, General Medicine, Accident and Orthopaedic Surgery, Children's facilities, Obstetrics, Gynaecology, Geriatrics and Mental Illness specialisms<sup>5</sup>.

In its press release at the end of December 1971 the Borders RHB estimated a cost of £8 million and saw the hospital as serving a population of over 200,000. Planning work was to be completed by 1975<sup>6</sup>.

The Development Corporation's reaction was favourable, and it stressed the importance of a full D.G.H. to meet the rapid expansion of Newtown<sup>7</sup>. By April 1972 the Design Team had worked out its target dates. Detailed room design was to commence in June, drawings were to be completed by the end of 1974 and the building start date was fixed for January 1976<sup>8</sup>. By June 1972 a detailed schedule of accommodation had been built up and work was progressing smoothly<sup>9</sup>.

At the Westshire authority the liaison with the Region had been chiefly through the Authority's Administrator and Nursing Officer<sup>10</sup>. They attended Project Team meetings. Evidently the problems of design were



few. The initiative lay with the RHB and by early 1973 the Best Buy and Harness solutions had been dropped and a decision made to model Newtown upon the Regional Standard design then being built at Bartley Down East<sup>11</sup>.

In May 1973, as the AI submission was due to be sent to the Department under the Capricode procedure, the DHSS Casework Team indicated its desire to visit the Bartley Down and Newtown sites. The DHSS group wanted an informal visit and the RHB told the Westshire Authority that discussions would be less than frank if representatives other than officers were involved<sup>12</sup>. The Bartley Hospital Management Committee pressed for a meeting with the Departmental Officers, but when the visit took place in early July medical representatives were denied a formal session<sup>13</sup>.

At this stage of the Newtown project the Bartley Down East complex was nearing completion. Bartley staff were keen for their projected Stage Four to go ahead and the building had been designed for this to be added on. It was important to influence thinking on the relationships and ultimate sizes of Newtown and the Bartley sites. The promotion of Newtown as a large D.G.H. with Development Corporation and Newtown support seemed likely to create a rival facility, better equipped and more up-to-date than the Bartley hospitals.

Events were about to occur which would ensure the continued importance of the Bartley Down hospitals. There appeared to be problems over the Newtown site<sup>14</sup>. In August 1973 the Westshire chairman speculated publicly that the new hospital would have to move site<sup>15</sup>. The Newtown and District Trades Council were quick to respond and convened a meeting to oppose any delay in the Newtown project.

This move was to result in a public awareness of the difficulties of sustaining the proposed D.G.H., and was a contributory factor in the mobilising of public protest within the Newtown area. It brought into the open certain events which had been taking place over the preceding months. At the meeting Borders Regional representatives outlined possible industrial pollution associated with the existing site, and put forward financial reasons for the setting back of the Newtown scheme<sup>16</sup>.

The detailed issues raised at this meeting had a long history stretching back to the initiation of the project, and involved the Development Corporation's relationship with Borders Regional Hospital Board<sup>17</sup>. At the time of the first agreement over siting, the area to the north of the hospital site had been zoned for light industrial development. In 1972 several local authorities combined to draw up plans for a refuse incinerator on the industrial estate. Planning permission was granted and in 1973 the RHB had heard of the scheme and expressed concern to the Corporation, asking for details of further developments near the D.G.H. site. It was learned that another development to the north of the site involved the erection of an aluminium processing plant. Borders Region had informed the Ministry and the DHSS Casework Team had viewed the proposed sites during their July visit. Subsequently the DHSS reserved the right to withdraw support for the hospital unless the Board could show that the hospital and industrial developments were not compatible.

Consequently the Borders RHB commissioned a report from a firm of consulting engineers to investigate. By November 1973 the RHB Project Team received their findings on the incinerator plant, which considered the



latter to be satisfactory as long as certain recommendations on chimney height and operating procedures were observed. The report on the aluminium smelter project which followed was unfavourable and the Region began looking for alternative sites. At this time the recommended start date for Newtown D.G.H. construction was October 1978, but within the N.H.S. planning system talk was already beginning to circulate which placed commencement back into the early 1980s.

Hearing of the Regional environmental consultants view's the Bartley Down doctors on the Hospital Management Committee protested to the Regional Board over the hazards thought to be associated with the refinery<sup>18</sup>.

The "problem" soon reached the highest levels of government. Writing to the Secretary of State (DHSS) in early November 1973 a local M.P. complained of a lack of straightforwardness in the approach of the Borders RHB<sup>19</sup>. Discounting the alleged pollution problems he pointed out that his local political opponents were blaming the project delays upon government cutbacks. He claimed that the RHB's site misgivings had occurred before a Prime Ministerial announcement of building cuts. He asked the Minister to receive a delegation at the Commons and to reassure them that the hospital would not be delayed. Furthermore he wanted the Minister's assurance to the delegation that financial difficulties were not at the root of the problem. Subsequently the Minister told the arranged delegation that, although he could not give a firm start date, the hospital would be provided<sup>20</sup>.

Under pressure from critics the Borders RHB was compelled to deny charges of using the incinerator and smelter developments as an excuse for



financial cuts. In a letter to a Westshire newspaper the RHB's Public Relations Officer laid the blame squarely at the door of Newtown Development Corporation for the poor communication of its planning intentions to the Borders Authority<sup>21</sup>.

Annoyed by the Region's delaying tactics over siting the Development Corporation had commissioned its own pollution expert<sup>22</sup>. His report maintained that the incinerator and smelter would be suitable neighbours for the hospital. The Development Corporation stressed the advantages of the initial site, pointing out the communications, public transport, and staff recruitment opportunities which its central location offered<sup>23</sup>. A factor not publicly aired was the convenient position to the homes of socially disadvantaged groups. The first site choice made the hospital more accessible to these families and dovetailed with the social welfare and social engineering aims of the Corporation.

The "technical" environmental arguments had reached an impasse. It was possible to argue the case either way. However, other pressures were operating which would affect outcomes. The Development Corporation were trying to expedite hospital building against a background of criticism directed at what many saw as the "failure" of Newtown to reach its objectives. Borders RHB were coming under the latest Health Service budget restrictions, and had to weigh the cost of aborted work against the probability that the DHSS would refuse approval on environmental grounds. Westshire Health Authority were facing dissention amongst existing hospital staff and groups in Bartley who had always regarded Newtown as a drain upon the county as a whole. Yet pro-Newtowners in influential positions within the Health Authorities could exert some

control. To cancel the scheme would have been almost impossible. The decision, taken by Borders RHB was to delay the project by resiting. It fell into line with the uncertainty caused by the oil crisis and government attempts to control hospital building costs by scrapping Harness and withdrawing support for large single site D.G.H.S. It suited Borders Region who were undergoing the process of NHS re-organisation and who were unclear as to what Regional priorities were to be. Westshire, became a single district Area under the new arrangements and so was relatively unaffected by administrative rejigging. However, given the divisions within its own organizational constituency, to wait and to make a pledge of faith to Newtown until the dust settled became an attractive proposition. Thus the public face of debate centred upon the pollution issue whilst the substantive political considerations underlying the decision were different.

In early September 1974, the decision to change sites was formalised. At a meeting between Borders and Westshire officers the original site was "to remain zoned for hospital purposes" whilst one of the alternative sites examined earlier on became a front runner<sup>24</sup>. The site change was estimated to add six months to the Newtown development period. At this stage Harness and Regional one-off options were considered for the new location<sup>25</sup>.

Two months later Borders RHA made clear to Newtown Development Corporation its preference for the new site. However, in February 1975 the Corporation was still trying to obstruct the site change and was supported by the District and County Councils<sup>26</sup>. On the 20th February the Newtown General Manager wrote to Borders RHA seeking to break the deadlock, but tacitly accepting the move to the new site. At this moment



Borders had received a favourable geological report on the new site - there was now no question of the original location being developed<sup>27</sup>.

An early February meeting of the Project Team clarified the Regional stance. Pressure on Westshire's hospital resources from the mooted closure of a nearby military hospital made it necessary to move to the new site<sup>28</sup>. A meeting with the Minister had shown that the DHSS were sympathetic to a revised Newtown scheme and that an early first phase approval might be expected<sup>29</sup>. The DHSS opposition to the old site left no alternative but to change<sup>30</sup>. In this way the earlier decisions at Regional level were elaborated into a rationale of technical necessity. The detailed analysis of the effects of smoke plumes and sulphur dioxide emissions became the formal scientific grounds upon which substantive political interest worked. Atmospheric pollution was but the public face of a debate which also involved crucial organizational resource distribution issues.

In April the Westshire Area Authority lay members met to formally consider the siting problem. Facing a recommendation from Regional and Area officers to reject the original site<sup>31</sup>, they split 7-6 on a named vote and rejected a motion to continue on the first site proposed by a Newtown representative. In qualification of this decision, they agreed to revert to the original site choice if agreement on a new location could not be reached<sup>32</sup>. Following this decision the Authority was contacted by the Newtown Hospital Action Committee. The Action Group expressed dismay at the passive role Westshire had adopted towards Borders Region<sup>33</sup>.

Detailed negotiations over site preference continued between the Borders and Westshire authorities. The preferred alternative site was rapidly



gaining support. All professions on the Area's Professional Advisory Committee added their weight to the argument, as by now industrial development was already taking place at the first site<sup>34</sup>. At the end of September the Borders Authority members voted the change. Region informed Westshire that the start date would depend upon the availability of capital and that the position on finance was unclear for the period 1976/77, let alone further ahead<sup>35</sup>.

It was at this stage of the Newtown project that the first hospital design was scrapped.

#### Template Conceptions During the First Project

Throughout the eight years of the first project Borders Region gave emphasis to the use of its own standard designs used in one-off solutions<sup>36</sup>. The Region had been developing its own template forms since the early 1960s and had produced its own departmental and ward layouts. DHSS Best Buy and Harness solutions were rejected, although the Harness system had been deployed in other Regional schemes. This can be seen as arising from the workgroup preferences of the Regional Design Team. Similarly the parallel development of the Newtown and Bartley Projects meant that both hospitals were discussed in the same project team meetings and were handled by the same senior design staff. Regional and Westshire officers developed close working relationships over a period of time and whilst this research was being carried out Westshire staff stressed that they used their Bartley experience to orient their actions on the Newtown scheme<sup>37</sup>.

To the Region therefore Newtown D.G.H. represented a limited refinement of existing layouts and Westshire's circumscribed experience of new developments encouraged them to lean on the stocks of knowledge emerging from Bartley. The Regional Design Team decided to adopt some DHSS Standard Department plans but sought wherever possible to continue with their customary design conceptions. Westshire's participation in design activities was relatively small. Important inputs came from Bartley medical staff over departmental interrelationships within the overall scheme and in the examination of detailed departmental design.

With the resiting of the scheme in 1975 all of this work was thrown into doubt. The Design and Project Teams considered that the same layout philosophy could be applied to the new site, but DHSS design initiatives were to prevent this aim<sup>38</sup>. Economic restraints meant that if the Newtown project was to continue it would have to be developed and redefined in far more modest terms. The obligations laid upon Areas and Districts under the 1974 re-organization meant that hospital provision would in future have to be related to more detailed and explicit justifications of service provision. Rather than deriving the legitimacy of the Newtown D.G.H. from the needs of Newtown itself future efforts would have to present it as an integral part of Westshire services.

#### Political Considerations during the period 1968-75

In this chapter little consideration is given to the detailed work of building design. In the first phase of the project the continuing threat of cancellation outweighed the significance of detailed design. The overall justifications for the project were constantly being questioned. Thus, the



history presented concentrates on macro-design issues of project siting and credibility. The bare picture so far presented needs further development if certain questions are to be understood.

The Newtown project was very strongly led by the Regional Officers from the beginning. Westshire's role was largely limited to that of client. However, as the scheme got under way, events within the Area became more important in determining outcomes.

After 1973 during the period of the pollution debate attempts were made by the controversial Westshire Health Authority Chairman to widen the influence of his authority. He had connections with local left-wing politics and attempted to increase local participation in decision issues. He suggested the formation of a joint Regional/Area/HMC/Development Corporation Liaison Committee. At this stage the inter-authority dispute over siting was at its height and the Chairman (a pro-Newtownian) sought to assert the Area's right to choose. His aim was to involve lay members in detailed planning matters. His efforts were rebuffed by the Secretary of Border's RHB who asserted that member involvement was not permitted and that these were officer-only matters<sup>39</sup>.

Westshire's Chairman was active in other directions. His relations with Borders Region became frosty when he attempted to involve himself in Project Team Meetings and in the mid July 1973 visit by the DHSS Casework Team. Borders region rejected his efforts leaving him to speculate that the looming 1974 re-organization would see more power in the hands of officer groups<sup>40</sup>. These incidents clearly represent the strength of Regional control and the limited degree of influence open to lay



members in detailed planning activity. During this period the chairman was working regularly in Westshire's headquarters and these research investigations revealed that this unusually strong lay intervention caused much resentment amongst officer circles.

What appeared as lay interference in professional matters disguised the Chairman's response to external political influences from Labour Party, Trades Union and Hospital Action group pressure. Politically the Newtown area was more radical in complexion than the conservative areas surrounding it. The hospital project had always been a sensitive issue, and seen as an integral part of Labour Party social welfare ideals connected with the British New Towns movement generally.

External influence was not the only delicate matter to be handled. From inside the Westshire Authority the Bartley Down medical interest siezed upon the health hazard issues in the siting debate, and made strong representations about the start of the hospital under these conditions<sup>41</sup>. Eventually, the technical debate proving inconclusive, Westshire's officers took on board the pollution argument advanced by doctors and approved the Region's search for a new site. At this period in 1973 the problems for officers trying to preserve the "technical/administrative" status of the project were great. Attempts to insulate Regional/Area design activities from internal and external political influences were unsuccessful. Delaying the site selection gave a breathing space as it meant that the project could not be included in the Areas Capital Works Programme, and thus in effect secured the posponement of the whole scheme.

Publicly the delay was explained as a lack of communication between Borders Region and Newtown Development Corporation, who were said to have permitted the controversial industrial developments without informing the Regional Board. Research documentation shows that whatever the situation was, Regional and Area personnel were well satisfied with what they saw as the Corporation's inept handling of the issue and with the opportunity to gain acceptance for the scheme's postponement. The Development Corporation were forced to develop the Newtown industrial base as quickly as they could, and building began on one of the sites objected to by the Borders Region. This gave the health authorities the opportunity to bolster the site transfer case by implying bad faith on the Corporation's part. In early January 1974, the Westshire Chairman wrote to the Regional Chairman:

"...I appreciate the case you put up on behalf of the Regional Board when we met the Newtown Corporation representatives last Monday.

I felt that they were in a very demoralised position and I know from private contact that they have got themselves into a situation of saying "well, the hospital may be some years ahead so let us proceed with industrial development" in the hope that the situation as regards siting can resolve itself.

I am quite satisfied as a result of your outstanding contribution that the Newtown Corporation representatives were in no doubt where the blame lies..."<sup>42</sup>.

The relationship between Newtown Development Corporation and the Region and Area had become very strained by this time. The prediction of the letter proved correct. Faced with the prospect that their insistence on the original site was causing even further delay the corporation acquiesced to the site change hoping that the D.G.H. would not be lost altogether.



Indeed the site change decision gave all parties advantages. The DHSS avoided expenditure commitment and had gained the opportunity to control future proposals more closely in line with current economic restraints. The Region could reconsider their inter-Area priorities. The Area was able to contain the split amongst its lay members and to pacify its professional lobby. The Development Corporation kept the hospital on the Newtown development agenda. On the debit side and in terms of equity of hospital provision, the Newtown residents were the losers and the Bartley interest the winners. The possibility of squashing the Newtown facility and attaching it to the Bartley Down complex was still alive.

#### Template Redefinition through Political Action

As detailed design work on Newtown D.G.H. proceeded the justificatory grounds upon which it was based were constantly changing. This occurred in response to the political action aimed at shaping the nature and the location of the provision.

In the light of opposition to the project, sustaining its credibility proved difficult. Design and Project Team members discussing the site issue had constantly to be aware that their work could be abortive and to develop alternative design options for new locations. Starting with a conception of a large D.G.H. as a taken-for-granted element of new town provision, they began work using their customary "in house" solutions. As events began to undermine the Newtown social welfare rationale of the scheme, the grounds upon which it was defended changed. Newtown D.G.H. came to be portrayed as a necessary antidote to the maldistribution of resources in



Westshire and as a response to the lack of resources in the eastern part of the authority. Thus it was intended to allay criticism by arguing along neutral distributive lines. As criticism mounted further, the Newtown provision was justified in area-wide terms. It was advanced as an addition to total resources which would not poach from existing institutions. The "possession" of the D.G.H. by Newtown was denied and its usefulness to the whole county advanced. It would provide a more rational and integrated service overall.

Such were the changes in the underpinnings for the hospital concept as a whole. That they failed to sustain the scheme was due to the form of the tactics directed against the project. An inherent part of the overall concept of the hospital, which at this time had yet to be developed in detail, was that of a large prestigious new unit sited in a greenfields location. This bright imagery of a "high tech" new town provision married perfectly with the "new frontier" lifestyle portrayed by the Development Corporation's publicity department. The hospital was part of an overall symbolic representation of Newtown as a dynamic and healthy place to live. It was precisely this popular public imagery that the proponents of the industrial health hazards argument attacked.

One may argue that this critique of the scheme was successful for two reasons. First, the health hazard debate was one upon which antagonistic and powerful medical factions could pronounce upon with professional authority. The authority deriving from expertise could serve to protect the position of those in the existing status hierarchy. Second, and more fundamental in terms of template assumptions was the ability to draw upon long established preferences for siting hospitals in clean out of town

locations. This ideal of the uncontaminated rural site had been an important assumption since the establishment of the Nightingale style of planning. To place a new hospital near an industrial development, however clean, violated basic Health Service assumptions about the nature of hospitals. Despite assurances from prestigious environmental consultants this deep rooted prejudice asserted itself. Once this argument was brought into play all the unfavourable associations of urban squalor could be invoked to doom the project<sup>43</sup>. The fact that Borders Region had built hospitals and maintained older ones in urban areas was a factor never mentioned in debate. Opponents of the scheme were able to seize upon basic template ideals and articulate them into acceptable grounds for the rejection of the complete development. A minor part of a preferred constellation of design attributes became utilisable in a campaign to question the acceptability of the whole configuration. Backed by the authority of technical/professional knowledge, it became a counter rationale which justified and disguised the political interests which underlay it. Delay, if not abandonment, of the D.G.H. could be accepted by those who lost resources, because the line of reasoning was so fundamental to Health Service and general public imagery. Sanity ideals triumphed over social engineering. Alternatively it could be argued that sectarian professional power had subverted a more equitable distribution of health care provision.

### Implications of the First Hospital Project

Several elements stand out from the first Newtown project. There is the independence of the Regional and Area authorities in evolving their own design. Also notable is the part played by Area politics in bringing about

the demise of the scheme. In addition one must attend to the complex of extra-organizational factors that complicated the internal NHS design debate. Finally there is the interaction of these considerations within a framework of national economic crisis at a time when conceptions of what a DGH should be were undergoing revaluation.

The influence of certain of these dimensions continued into the second hospital project, particularly the opposition of Area medical staff. However, given a changed pattern of resource allocative priorities within the NHS, the detailed texture of the design negotiations took a different course.



## CHAPTER 9

### DESIGNING NEWTOWN DISTRICT GENERAL HOSPITAL:

#### THE SECOND HOSPITAL PROJECT 1975-1983

The first Newtown scheme had been lost in a period of central government uncertainty over finance. The exploitation of local site conditions by those opposed to the scheme during this time of design policy reformulation had brought the project to an end.

Given governmental, development corporation, and local council pressures for the continuance of the new city, Westshire Area Health Authority officers determined to pursue the DGH scheme in changed circumstances. Acutely aware of the dangers of continuing splits amongst the Authority's lay members and the entrenched opposition of the Bartley Down medical faction they decided to protect the Newtown hospital development in two ways. First, they would restrict the amount of information getting to the lay members, structuring the material so that it was less likely to cause controversy<sup>1</sup>. Secondly, the Bartley anti-Newtown lobby would be handled by trading in on their lack of belief in the credibility of the Newtown scheme. Detailed design would proceed with only the minimal necessary consultation of the Bartley Staff<sup>2</sup>. Those consultant staff involved in the management team and project team deliberations were subsequently to obtain larger than "norm" provisions for their specialties in the Newtown design<sup>3</sup>. More generally, as the new design solidified it was to be presented as more of a "Satellite" hospital to Bartley Down, and the acute services lobby pacified by characterising it as a necessary core Accident and Emergency provision for the new city<sup>4</sup>.

### The Advent of the "Nucleus" Design:

What design exemplar was the hospital to follow? By early August 1975 the first information about the Nucleus standard design solution was reaching Westshire<sup>5</sup>. Seeking a base of existing knowledge to draw upon the administrator in charge of planning secured outline details of the Newham Nucleus hospital being developed by S.E.Thames R.H.A.<sup>6</sup>. On 19 September DHSS issued circular DS 278/75 setting out the design rationale of the Nucleus layout<sup>7</sup>. It is clear that even at this early stage of familiarisation with the new design the possibilities of bargaining over design solutions were being anticipated. Writing to Westshire about Nucleus on 30 September 1975, Borders Region observed:

"Immediate reaction of some people at Region is that certain of the Department's views are challengeable"<sup>8</sup>.

Whilst the general view was that Nucleus type proposals would have more chance of Department acceptance, Region and Westshire were anticipating a margin of autonomy in defining their own scheme.

### Newtown and Nucleus: Defining the Scope of the New Hospital

The Newtown Development Corporation were keeping a watchful eye on health policy. The first hospital project would have provided Newtown with a large medical complex. The Nucleus solution and its modest scale seemed likely to reduce the status of the Newtown provision. In late October 1975 the Development Corporation General Manager wrote to Borders and Westshire supporting a Nucleus project for the new site:



"...particularly if the nucleus hospital is by definition capable of being seen as the first phase of what would ultimately be a much bigger hospital to serve the area"<sup>9</sup>.

At this time the Westshire Administrator and Chairman discussed a direct approach to the Minister. The outcome of this deliberation was to continue to make representations through Borders Region and to press for a Nucleus hospital in Newtown<sup>10</sup>.

Newtown residents had been disappointed at the abandonment of the first scheme. The lack of accident and emergency provision was a particular grievance. The personnel officer of a large Newtown firm was trying to persuade Westshire to open a local casualty centre to serve industry and the housing estates. Nothing came of this move but the appearance of this campaign in the local press helped to reinforce Newtowners' awareness of the continuing lack of facilities<sup>11</sup>.

By mid November 1975 the RHA and the Development Corporation were working together to make arrangements for the new hospital site to be purchased quickly in line with the availability of Regional finance. This agreement was conditional upon the placing of the Newtown project in the RHA's "top 5" capital schemes<sup>12</sup>.

Westshire dispatched their initial proposals for the content of Newtown's first phase to the Region at the end of November 1975<sup>13</sup>. There was an anticipation that this first phase could be added to within a short timescale. The document stressed the new unit's dependence upon the Bartley complex and speculated upon the need to improve facilities at Bartley to meet these increased demands.



The Development Corporation was taking steps to ensure that the hospital would not slip in the Region's priorities<sup>14</sup>. Its chairman met the Minister of Health on December 4 1975. He demanded that the decision to close a nearby military hospital be linked to a firm Ministerial commitment to the Newtown scheme.

The nature of NHS hospital provision was a central concern of the Minister at this time. On the 6 December 1975 he made his "Nucleus Hospitals - the basis for future development" speech, in which he dismissed the super DGH concept and advanced his intentions for more modest developments<sup>15</sup>.

Westshire's chairman viewed with alarm the Corporation's involvement in high level NHS decision making. In a letter of 29 December 1975 he commented to the Westshire Administrator:

"A number of members have expressed to me their concern about this development and feel that the position is now becoming one where the Area Health Authority appear to be doing little or nothing in any of the matters concerning hospital development in the Newtown Area and that the Development Corporation should not be involved in matters of representation on hospital facilities at all.

I am not certain which is the correct way to play this matter but I do feel we ought to discuss with the RHA the way in which the Development Corporation want to be the authority responsible for everything in this county if we let them, and I would not think it amiss if the RHA took the opportunity to advise the Ministers of our concern about the third party interference which continues from time to time"<sup>16</sup>.

At this moment Westshire's priority was to get Borders Region to give Newtown a placing in their "top 5" developments. Awareness of this delicate stage in negotiations led the Administrator to reply on 31 December 1975:

"I am sure you would feel as I do that (the Development Corporation Chairman's)...meeting with (the Minister), if it has any effect at all, can only work to our advantage...With this in mind, now would not perhaps be the best moment to take up through the RHA the question of Newtown Development Corporation in such matters. It might be better to wait a few weeks until the priority of the new hospital has been decided"<sup>17</sup>.

The Chairman's reaction was to emphasize the "dangerous nonsense" of keeping the nearby military hospital open<sup>18</sup>. If this happened Westshire's arguments for a Newtown hospital would be weakened, as many Newtown cases were now treated at the military facility.

Subsequently the Westshire Administrator raised the matter at Region and discovered that Development Corporation representatives were seeking further meetings with Ministers. The Regional policy was to stick to normal NHS formal procedures over this kind of question, and Borders told the Central Department of this intention<sup>19</sup>.

At the turn of the year DHSS issued outline drawings and descriptions of Nucleus to Borders Architects Division and at a December meeting of the joint Bartley/Newtown Project Team the concept of phasing central to the "Nucleus philosophy" was considered<sup>20</sup>.

Work on site acquisition was proceeding rapidly to meet Regional financial deadlines. By mid January 1976 detailed matters of access had been discussed<sup>21</sup> and by early February the details of the site investigation works finalised<sup>22</sup>.



Outline design was already in hand. At a Project Team meeting on February 6 the Regional Architect demonstrated the location of Nucleus, Best Buy and Bartley Down type developments on the site<sup>23</sup>. At this time the Regional designers were not only comparing options. There was a hope that their own Regional templates, as exemplified by the Bartley type layout could be used within Departmental Cost Allowances. Best Buy was to prove a non starter as it envisaged a whole hospital provision above current levels of finance. Thus in early April 1976 the Regional Architect was telling the Project Team that Nucleus or Bartley type solutions were the only practicable choices. The limited content of Nucleus meant negotiating for extra greenfields site accommodation or providing these at an existing A.H.A. facility<sup>24</sup>.

By this time Newtown DGH had been placed in the middle period of the RHA's ten year programme which gave a start on site in 1980/81<sup>25</sup>. A draft management control plan of 5 May 1976 showed sketch designs completed by late 1977, with production drawings and documents finished by September 1981<sup>26</sup>. A building start was anticipated in April 1982. Yet in mid-May 1976 Borders Region was complaining of a "slippage" of five months due to Westshire's inability to provide a completed Stage I(AI) submission under the DHSS "Capricode" procedure<sup>27</sup>.

Local Newtown pressure for the hospital was still being applied. The chairman of the Newtown Hospital Action Committee wrote to a local paper complaining of a year of inaction since a Ministerial visit to Newtown<sup>28</sup>. His alarm was probably fuelled by the latest population growth figures for Newtown. These showed a mere net growth of 800 for the year June 1974-1975. The lack of Newtown's ability to reach its



projected population targets was a prime argument used by the scheme's opponents<sup>29</sup>.

On August 12 1976 the Action Committee wrote to Borders RHA asking them to receive a delegation<sup>30</sup>. On the same date a member of Westshire Community Health Council wrote to Borders objecting that information released on a local radio broadcast by a Borders officer was not known to the CHC. She suggested that the Region had kept local representatives in the dark. She concluded:

"I think it is about time that the RHA met with the CHC in public with the Action Group...District Council, Newtown Development Corporation, Trade Unions and all those concerned over the future plans for our hospital and you put your cards on the table. We would much rather be told the truth than this continual tossing that goes on between the Ministry and yourselves and moreover it would make life easier for those of us on the CHC who try and advise the public"<sup>31</sup>.

The proposed meeting mentioned in this letter did not take place. The Westshire Chairman circumvented the event by writing to the CHC chairman<sup>32</sup>.

#### Evaluating Nucleus: The Formulation of Meanings

On 23 July 1976 Regional representatives met the DHSS Nucleus Applications Group in London. A general briefing session took place on the utilisation of Nucleus, but the Newtown development was not examined in great depth. At the same time Borders were making details of Nucleus known in a staff bulletin describing it as a stripped first phase design solution<sup>33</sup>.

When the encounter with the DHSS group was described to the September meeting of the Project Team at Region more details emerged. The meeting was told that the DHSS officers had misgivings about the viability of Nucleus on Newtown's "greenfields" site. The Applications Group doubted that it could receive adequate back-up services from Bartley. This was to prove an important admission. The Department was keen for Nucleus to be adopted, and did not want major modifications to its template. However, in expressing doubts over its viability for Newtown's peculiar circumstances they gave Regional and Westshire designers the opportunity to argue for extra support resources to be added to basic Nucleus provision. Yet at the same meeting another basis for future objections to the scheme was raised. A Westshire consultant representative claimed that it would be difficult to attract consultant staff with a first phase of 250 beds, the size of the development being projected at that time<sup>34</sup>.

The full implications of Nucleus still being unclear, a joint Borders/Westshire team visited North East Thames RHA in mid December to learn of that Authority's experience on the Newham scheme<sup>35</sup>. As Chapter eight has shown Newham was very much a standard Nucleus development, imposed on the Region and Area by the DHSS. Subsequently Borders and Westshire were to use the Newham experience. They drew up comparative Newham/Newtown schedules of accommodation to give credibility to their own proposals<sup>36</sup>.

December 1 1976 saw the Region still worrying about continuing "slippage" of the Newtown scheme due to non completion of the "Functional content" proposals by Westshire<sup>37</sup>. However, by mid-December the documents were



with the Region and being used as a basis to work up alternative solutions. There was much doubt over the validity of the population projections for the Newtown area, where economic development had been slowing down for some time. Westshire's initial proposals for the Newtown first phase envisaged a bed content of 291. There were already moves to argue for increases in provision above Nucleus norms, pathology being especially singled out as requiring more space. The Bartley Division of Pathology was preparing an outline of accommodation<sup>38</sup>.

Local community efforts to promote the hospital had reached a new phase with the establishment of a voluntary committee to co-ordinate efforts to raise money for the DGH. Giving consideration to the offer Borders Region told the group that given the long time scale involved voluntary monies were unlikely to advance the start date<sup>39</sup>.

Westshire was experiencing misgivings about Nucleus, and certain professional interests within the Authority were opposing some of the design's key assumptions. In January 1977 Westshire obtained details of the Central Treatment Area incorporated in Frimley Park Hospital - a "Best Buy" design<sup>40</sup>. The concept of the CTA was a feature of the Nucleus proposals and was not liked by the senior nursing staff at Westshire. They considered that its drawbacks were high patient transportation costs, difficulties in nurse training, and the destruction of the ward sisters' ability to monitor patients' conditions. A visit by a Westshire nursing officer subsequently confirmed these objections and they were to later become the basis for modifying the Standard Nucleus ward layout<sup>41</sup>.



### Detailed Designing Begins

Westshire decided to formalise its planning efforts. On February 4 1977 an ad hoc working party of Medical, Nursing, Works, Finance and Administrative representatives was set up<sup>42</sup>. Their aim was to match existing operational policies to the outline building layouts emerging from the Region. This proved a timely move and by March 1977 the DHSS was issuing key layout plans of Nucleus to planning authorities<sup>43</sup>. Work on the project was now moving to detailed content and at the February 4 Project Team meeting it was agreed to approach the DHSS informally with an outline Stage I document outlining hospital content<sup>44</sup>. Long experience had taught Borders Region that this was a good way to forestall delays over Departmental approval. In mid February this documentation was complete. The Newtown project now envisaged 302 in-patient beds. Bearing in mind the assumption by Borders and Westshire of the building of further phases the final size of the Newtown development was estimated at 748 beds<sup>45</sup>.

Furthermore Westshire had now also to consider in detail the contentious question of hospital closures and speciality relocation which would be required when Newtown opened. Westshire was near to its financial targets set out by the NHS Resource and Allocation Working Party (RAWP) formulae. There would be no special funding for Newtown and the running (revenue) costs would have to be met from savings by closures and redeployment<sup>46</sup>.

Westshire Community Health Council continued to be concerned about the status of the project and arranged to lobby the Prime Minister for a definite start date for the hospital<sup>47</sup>.

Design work in the early stages had been centring around alternative types of layout for the hospital site. This exercise was facilitated by the availability of standard type plans and the Regional architectural staff were able to work up several alternative schemes relatively quickly. Looking at two different locations on the northern and southern parts of the site Nucleus, Best Buy and Bartley Down type options were examined. The current estimate for the project was £7.5 million<sup>48</sup>.

In April 1977 a meeting at the Westshire headquarters in Bartley looked at the design options in greater detail. The "Best Buy" solution was rejected as giving too high a bed complement. Choice was narrowed to Nucleus or Bartley Down type options<sup>49</sup>. The "Bartley Down" type solution used the Borders Region's standard designs, but is here referred to as the Bartley type because of its designation in Project Team documents. Significantly these papers always describe the Borders standard layouts as Bartley type solutions, indicating the preference of Westshire and the Region for designations deriving from existing schemes. It should be noted that not only were Newtown and the Bartley hospitals being considered at the same Project Team meetings, but that they were being developed by the same design personnel at Region. The membership of Regional and Westshire staff remained unchanged over a long period. Therefore the experience gained on the Bartley Down Project (under construction at this stage of Newtown DGH's history) strongly coloured the preconceptions governing the choice of solutions by all parties. Having used Regional Standard designs to reach an accepted solution at Bartley, meant that its continued use would give time saving advantages. Furthermore its espousal by the powerful Westshire medical faction was another argument for remaining upon familiar design terrain.



Many of the members of the working group at the April 1977 meeting were unfamiliar with the Nucleus design material. Indeed DHSS were only beginning to distribute detailed proposals throughout the NHS planning system. Consequently the meeting decided to study Nucleus and Bartley type one-off solutions so that comparisons could be made<sup>50</sup>.

Westshire's assessment of the type of accommodation needed at Newtown DGH revealed that their requirements breached the provisions incorporated in Nucleus by the DHSS. The initial proposals for obstetrics and gynaecological specialty provision had been dropped but Westshire wanted a laundry, pathology department, and education centre which were ruled out of the Department's conception of a first phase Nucleus development. The Area's justification for claiming these extra facilities was to be the "greenfields site" argument and the distance of Newtown from Bartley. Nucleus proposals assumed a support facility from existing hospital establishments. Building a Nucleus design upon a virgin site gave an opening for bargaining over viability<sup>51</sup>.

Later in April the planned Nucleus/Bartley comparison exercise was carried out. Newtown working party members toured the Bartley Down complex to see the design solution at first hand<sup>52</sup>.

As a result of continuing deliberations mid-May 1977 saw a decision to build on the southern part of the site, and to base the Newtown hospital operational policies on the Bartley Down exemplar<sup>53</sup>. The hospital content proposals now envisaged a Phase One complement of 317 beds. The document asserted that:



"It has been impossible to suggest a Phase I size of any less than 300 beds. This is because the hospital will be on a clear site with no acute in-patient specialties within 15 miles. Joint medical cover with Bartley Down would appear impossible and in the clinical specialties the hospital must be numerically self sufficient, containing also a balanced mix of specialties<sup>54</sup>."

The service planning proposals which accompanied the content proposals looked at necessary closures of cottage hospitals and the closure of 56 beds at the prestigious Danesworthy Regional Specialist Hospital. In a contemporary consultative paper, Westshire outlined to staff the reason for closures, and the necessity of raising money for Newtown DGH by cuts elsewhere<sup>55</sup>.

On 1 June 1977 Westshire submitted its "AI functional content" proposals to Borders, explaining the delay as due to pressures on Area planning staff<sup>56</sup>. On June 9 a joint Westshire/RHA working group was already voicing disquiet. The precise number of bed closures to be undertaken at Dansworthy was deleted, and the consultant Pathologist was objecting to the delivery of Newtown pathology services from Bartley<sup>57</sup>. Clearly pressure had been brought to bear. As a Westshire informant would have it, the Danesworthy consultants "were gods" within the Area Authority. Some idea of what had been happening emerges from newspaper reports. A Westshire paper of 24 March 1977 reports that the Westshire Area Medical Committee had asked Borders RHA to abandon Newtown and enlarge Bartley Down<sup>58</sup>. In a later article of 31 March 1977 a Newtown member of the Westshire Authority attacked this move. Westshire officers defended the Newtown D.G.H initiative and the authority chairman refused to re-open the debate<sup>59</sup>.

In May 1977 the dispute was still rumbling on and Westshire's officers were using the latest government policy advocating small DGHs to rebut demands for a bigger Bartley Down<sup>60</sup>. The Newtown Hospital Action Committee had sent an open letter to the Prime Minister. The reply contained an apology that no firm date could be given for the construction of Newtown Hospital. The start date would depend upon the length of the design period and the availability of finance<sup>61</sup>.

Developments were occurring elsewhere which gave Newtown opponents ammunition in their campaign. Giving consideration to the projected size of the new city, the Department of the Environment, in May 1977, decreased the final population targets and accepted a slower rate of growth<sup>62</sup>. The resulting discussions, which involved Westshire County Council, highlighted the increasing proportion of unemployed and "socially disadvantaged" within the Newtown population<sup>63</sup>. Westshire County Council opposed policies to place more disadvantaged people within its area, a course of action advocated by the Minister of the Department of the Environment in April 1977<sup>64</sup>. The Council viewed with alarm the possible increased burdens on the police and other local authority services.

Whilst the relative poverty of many of the Newtown population could be used as an argument for the District General Hospital, these exposures of new city problems served to strengthen the opposition to new city developments generally in Westshire. They aided the Bartley Down cause by providing the basis for a portrayal of the new town as dying demographically and economically. The current state of this debate was summarised publicly in a Westshire newspaper of June 15 1977<sup>65</sup>.



Borders Region was still delaying over its detailed programme of capital developments. Newtown was one of several schemes "jockeying for position for an actual start on site in 1981/82"<sup>66</sup>. Priorities were to depend upon Regional political considerations which entailed weighing the demands of other Areas.

Regional design work was tending to emphasise the merits of "Nucleus". Work was going ahead on the detailed consideration of room arrangement and the nature of accommodation. The Central Treatment concept was under attack. At a July Working Group meeting Westshire representatives opted for ward-based treatment rooms and the CTA idea was abandoned<sup>67</sup>.

During August 1977 the AI submission was still causing problems. Borders Region queried the future role of the Danesworthy Specialist Hospital<sup>68</sup>. The influence of the consultant group was making itself felt. The Newtown proposals were to need careful modification to satisfy these demands<sup>69</sup>.

This stage of the project saw key design decisions being taken. Important intra-organizational contacts were taking place. In early September 1977 Westshire and Regional Officers met the DHSS Applications Group at the Borders H.Q. when the basic pattern of design intentions behind Nucleus was explained. The Departmental officers were adhering strongly to their design assumptions. In opposition to Westshire's AI proposals they insisted that laundry, pathology facilities, and other support services should be provided off-site. However there had been some change in DHSS thinking. The Applications Group said that Nucleus was not the best solution for a greenfield site. It was more suited in a "tack-on" role on existing hospital sites<sup>70</sup>.



### Choosing the Design Solution: The Adoption/Adaptation of Nucleus

Borders Region and Westshire now had to make basic choices on design solutions. At a two day meeting on 20 and 21 September 1977 officers met to make these decisions<sup>71</sup>. The Regional Architects Department had prepared sketch designs comparing Nucleus and Bartley Down type "one-off" solutions<sup>72</sup>. Early on in the sessions Nucleus became an attractive option. The RHA Design Architect pointed out that the Nucleus material could be used as a basis to which Westshire could add its other requirements<sup>73</sup>. Despite the Applications Group's attempts to steer the Region and Area towards accepting a scheme without additions, the lower tier authorities were clearly regarding basic Nucleus as a minimum reference point upon which to negotiate for a larger scheme<sup>74</sup>.

The current Newtown proposals were costed at £8 million. The Regional Architect pointed out that following a Nucleus approach would lead to a lower project cost. At Bartley Down Regional design solutions had been made more costly by medical insistence on the provision of diagnostic facilities in single storey accommodation. The Borders Standard ward design had also added to costs in the Bartley project<sup>75</sup>.

When the Bartley Down solution was examined in detail it was discovered that extensive modifications would be required to meet DHSS cost allowances. These modifications would take time and the final outcome would not be dissimilar to Nucleus<sup>76</sup>.

The Regional Architect argued that it would be possible to get extra accommodation over and above Nucleus levels if Westshire provided a detailed supporting rationale. Nucleus could be perceived as a benchmark onto which extra resources could be grafted and not, as DHSS officers had argued a tightly constrained package<sup>77</sup>.

The work at the two-day meeting included matters arising from the previous Nucleus versus Bartley Down comparison exercise. Several points had emerged from this activity. The consultant was questioning the siting and number of rooms for medical staff<sup>78</sup>. Westshire regarded Nucleus-type changing facilities as inadequate. Furthermore they expressed disquiet about Nucleus's lack of storage facilities. The arrangements on the Nucleus children's wards did not match Westshire consultant practice<sup>79</sup>. The Nucleus Outpatient Department seemed too small, but, it was argued at the meeting the normal practice at Borders Region was to design this as a one-off solution for local needs<sup>80</sup>. The number of cleaning rooms in the Nucleus operating theatres was criticised as was the lack of specific provision for anaesthetics<sup>81</sup>. The idea of a Central Treatment Area (already rejected by Westshire) was accepted in principle, on the basis that Newtown would deal with more day surgery for which CTA facilities were advantageous<sup>82</sup>. However, in fact the Newtown solution subsequently involved carving up the relevant space allocation and distributing it between wards. At Bartley Down the consultant staff had consistently opposed day surgery work on a large scale. They would not perform it saying that it lowered standards of patient care. Bartley medical policy thus stood in opposition to national trends, and represented a striking anomaly within Borders Region<sup>83</sup>. The rejection of the CTA for Newtown was thus not only for reasons of nursing convenience it also suited the attitudes of local medical staff opposing the extension of day surgery work.



Final criticisms of Nucleus planforms centred around its inadequate provision for laundry and teaching facilities, Westshire representatives maintained that Newtown DGH required a higher level of investment<sup>84</sup>.

The Westshire team left the meeting having agreed to make detailed submissions justifying their demands for above Nucleus norm accommodation. Work began immediately upon this task and in October 1977 the case for a combined education centre at Newtown Hospital had been assembled<sup>85</sup>.

The discussion within Westshire and Borders Region about the content of the hospital had been extensive. Under the assumptions embodied in the DHSS Nucleus design they had been compelled to cut out certain departments. This had local consequences. On 19 November the local press reported the Development Corporation's worries about the lack of provision of maternity and psychiatric services. The latest phase of Bartley Down was to become operational on the following day and the local medical committee were pushing for its further development and the axing of Newtown<sup>86</sup>.

#### Redesigning Nucleus: The Process of Template Reformulation

The advent of 1978 saw the detailed functional content proposals being reviewed at Region. Shaped by intra-Westshire politics concerning specialty mix and location it was framed within Departmental and Regional norms, purporting to satisfy Area definitions of "need". Its gestation period had been relatively long and subject to bargaining with a vigorous local medical lobby. A project team meeting in early January called for final



comments before its submission to the DHSS<sup>87</sup>. The meeting also looked at negotiations between Borders engineers and DHSS engineering officers. Borders staff were alarmed that the Nucleus hot water design would give rise to dangers of pathogen growth at the operating temperatures envisaged<sup>88</sup>. A discussion followed the viewing of the DHSS film of the Prinderfields prototype layout. The Westshire nurse planner explained his objections to the Nucleus Central Treatment Area. He condemned the high capital cost of the unit and the associated circulation space. There was also an extra staff cost due to the transportation of patients. Nursing sisters lost control of treatment and there were training difficulties<sup>89</sup>. He outlined his objections to the researcher at a later date:

"Virtually, it [the CTA] is a group of wards, major treatment areas, and ancillary accommodation in an area which serves both the outpatients and the in-patients. There's nothing wrong with the accommodation in central treatment areas, the environments are...clinically superb...the reason why we objected...well there's a few reasons. One was the communications distances from wards...that these wards were upstairs. The inpatients, the difficulties, one actually physically taking people in their beds out of a ward, down the ward corridor...in their beds. Or sometimes in a chair...down the ward corridor, onto the hospital street, down the hospital street to a lift shaft, down the lift, along the bottom hospital street to the central treatment area. And then back again. That's time. Not only is that time, the patient has to be escorted, and there's one porter and one nurse escorting that patient"<sup>90</sup>. (Westshire Nurse Planner: Interview Transcript)

CTA's had been incorporated into Nucleus as an act of DHSS policy. Consistently the Department had designed to save capital costs, leaving health authorities to find hospital running costs out of overall revenue budgets. The nurse planner elaborated further on his design thinking and the C.T.A.

"...purely from the capital point of view it looks attractive. But from a practical, working, everyday point of view it's less attractive. And the reasons were, one, high revenue costs...and two, ward sisters didn't have an intimate knowledge of patients wounds and lesions, and everything else, or their actual physical treatment...because she was on the ward and she couldn't be there. And student pupil nurses, wouldn't get the same degree of training, you know, practical training, and it was mainly for these reasons...[that he rejected the C.T.A.]

91. (Westshire Nurse Planner: Interview Transcript).

The nurse planner worked closely on this scheme with the Westshire consultant representative on the Project Team (a Bartley Pathologist)<sup>92</sup>. They had been "thrown together" as another Westshire informant put it. They worked together on the detailed proposals, the pathologist filtering through consultant opinion. Much of their work was conducted by telephone and is not recorded<sup>93</sup>. This alliance of medical and nursing interests in the Newtown design reflected the two professions complementary working roles and the need to negotiate separate territorial and clinical priorities.

The nurse planner's rationale for CTA rejection is apparently motivated by cost cutting considerations, but its substantive component includes the preservation of existing professional roles, and fortuitously coincides with the Bartley medical staff's opposition to the extension of day surgery in Westshire. These latter considerations were not voiced when the proposals went to the Department.

"...they [the DHSS] obviously challenged us when we said we were not going to adopt central treatment facilities, that was an immediate challenge, which we had to answer. We only answered it in the way described. They recognized it as a very serious response to their challenge. But their remit was a capital one...but we as users had to think of the revenue consequences of that"<sup>94</sup>. (Westshire Nurse Planner: Interview Transcript).



The conclusion reached at the January 1978 meeting was that although the Nucleus solution seemed appropriate, the degree of change required by Westshire

"...caused the adoption of Nucleus to be brought into question" (Borders RHA Chief Architect: Project Team Minutes, 13 January 1978).

Consequently it was agreed to relate the functional content submission to the Departmental Cost Allowances, work out floor areas and relate these to Nucleus provision levels. If more area was required they would argue for a "one-off" solution<sup>95</sup>.

The 3 February 1978 saw further evolutionary changes in design. Westshire AHA was now insisting that CTA facilities should be split up and individual treatment rooms provided on each ward. Whilst detailed planning of internal accommodation was under way the actual location of the building on the site was left fluid. The hospital could be built on the northern or southern part of the site - no decision was yet made<sup>96</sup>.

#### Informal Consultation with the DHSS

The final touches to the Stage I content proposals were put together by mid February 1978<sup>97</sup>, and on 22 March informally submitted to the DHSS for comment<sup>98</sup>.

Westshire informants told the researcher that in their judgement the DHSS could process applications within six weeks. That they delayed was because they were subject to Ministerial control and their indecision was due to



changing governmental policy. Delays and the "challenges" on technical details thrown back to the RHA and AHA were not just about detailed scheme evaluation, they were also expressive of national political constraints. On the Newtown DGH scheme Borders and Westshire clearly anticipated delaying tactics. Prior to the submission on 22 March they held a meeting on 3 March 1978 and drew up a list of concessions they were prepared to make in response to Departmental criticism<sup>99</sup>. These bargaining areas included the deferment of consultant offices, (opposed by the Westshire medical representative) the omission of the rehabilitation department, and other measures. By anticipating troubles they hoped to counter DHSS procrastination. Work on the Stage 2 approval documents had also been put in hand so that it could follow quickly upon the Stage 1 approval and telescope the development timetable<sup>100</sup>.

Meanwhile in the Westshire Area the Newtown Trades Council was opposing the closure of cottage hospitals<sup>101</sup>. Early proponents of Newtown DGH they were now insisting that it's development should not lead to reductions in existing hospital provision. They also asked for maternity services in the first phase of the new hospital. The AHA justified its policies by referring to government instructions on the phasing out of cottage hospitals. The Authority said that Westshire birthrates were falling, therefore maternity facilities at Newtown were unjustified. In a letter of reply to the Trades Council the Westshire Administrator concluded:

"There is little point in pursuing any 'political' activity to secure an early start on the Newtown Hospital, if we ignore the extensive practical activities which have to be completed to bring the project to fruition"<sup>102</sup>.

In fact in intra-organizational design terms the project at this time was reaching a period of intense "political" bargaining. What the Administrator terms "practical activities" were in reality serious resource allocation battles<sup>103</sup>.

#### Redefining Nucleus for Newtown:

At the March 1978 Project Team meeting it was stated that the AHAs proposals for the accommodation at Newtown were 4000m<sup>2</sup> greater than permitted by Departmental Cost Allowances. They were 12,500 m<sup>2</sup> above "Nucleus" norms. The Borders Architect said that it was essential to include all desirable services at this stage, as the cost limits decreed that there would be no uncommitted spaces. The AHA would have to accept the Nucleus concept, although this did not imply acceptance of the specific Nucleus design. The discussions on planning policies would be channelled through Westshire's nursing and medical planners. By now the southern portion of the site had been chosen as the best hospital location<sup>104</sup>.

The crucial feature for the construction of design rationales at this time was the adoption of Nucleus as a bench mark for legitimating Area attempts to obtain an above norm provision for their greenfields site. From this time the Newtown scheme began to be described as "Nucleoid" - indicating its origins in, but deviations from Nucleus. The arguments for Westshire's desired departmental floor areas were to be constructed upon a comparison of alternative layouts. Bartley Down, Newham (standard Nucleus) and DHSS Departmental Cost Allowance derived areas were juxtaposed in a summary table. From a comparison of "maximum" and "minimum" provision there was a hope of arriving at an intermediate figure



which would be above that specified in the Nucleus design<sup>105</sup>. Both Region and Area had to pay lip service to Nucleus because it was the Department's preferred solution. In seeking greater resources they had to exploit the inconsistencies within the Department's previous and present recommendations to argue for their own view. In April the Area gave its approval to several standard Nucleus departmental layouts and agreed to others given minor modification<sup>106</sup>. This gave their intentions a Nucleus connotation and the ability to press for extra accommodation within a non-Nucleus envelope.

On April 25 1978 the Project Team met at Bartley Down to discuss the Nucleus type departments in detail. Severe criticism was directed at the Out Patients Department and Pharmacy. Minor amendments were incorporated within virtually all departmental plans. There were decisions to "misuse" two single rooms in the Nucleus ward plans to provide a doctor's room and a treatment room<sup>107</sup>.

The Department's comments were still being awaited. Work was proceeding on detailed planning for an early Stage 2 submission. By 5 October Region and Westshire had assembled a coherent design rationale to sustain their excess levels of provision and to make them acceptable to Department officers. They had produced "Design Notes related to Nucleus policies". One section of this document reads:

"...The basic brief for the Newtown DGH has followed the philosophy, originated by DHSS and endorsed by RTO, which is to meet the minimum viable need only and not to make any additional provision against future requirements"<sup>108</sup>.



We have already noted, however their intention to deviate from Nucleus and to over provide in Nucleus terms. The "Design Notes" continue:

"Nucleus Planning principles and Design Descriptions have been examined in detail together with Nucleus plan arrangements by the Design Team and by the Users and these are generally agreed to be adequate to provide an extended hospital service where there is an existing hospital service in the immediate vicinity"<sup>109</sup>.

It will be recalled that DHSS officers had admitted the shortcomings of Nucleus on greenfields sites to Borders in 1977. Use was made of this concession. The Design Notes continue:

"The DGH at Newtown will be situated on a virgin site at least sixteen miles from the nearest supporting acute hospital and Area support service departments. The composition of the District General Hospital facilities reflects this situation in the functional content required. On examination this reveals the need for considerable enlargement of all Nucleus support service facilities. In addition, the available Nucleus operational policy has been studied and in respect of a number of departments has had to be rejected or modified to suit the Newtown situation, and this, in turn, has lead to a number of consequential modifications to the basic Nucleus departments. However a sufficient quantity of basic Nucleus planning material is still considered appropriate to the Newtown situation to make its use expedient to the design of the new hospital"<sup>110</sup>.

Thus did Borders Region seek to establish the ancestry of its Newtown proposals within the Nucleus format.

What, then, were the specific changes adopted for Newtown? Generally the Nucleus ward design was accepted, but a treatment room, doctors office and enlarged store added. Paediatric wards were included on the grounds of the large childbearing population in Newtown and its supposed "social problems". In Nucleus the Intensive Therapy Unit and Coronary

Care Unit were combined but in Newtown they were to be designed separately as "one-offs". A "one-off" department of Anaesthesia was envisaged (absent from Nucleus), and the HSDU, Pathology, Pharmacy, Mortuary and Rehabilitation facilities were to be provided in a purpose built non standard service zone. X-ray and A & E departments were to be a la Nucleus but the latter was to have an additional recovery area. OPD Consulting & Theatre facilities were to be one-off designs and the Dental OPD extended beyond Nucleus levels. A joint nursing/medical education centre was to be an additional "one-off" element. Medical/Nurse management areas, dining rooms, kitchens and laundry facilities, and chapel buildings were to be purpose-built and exceeded Nucleus norms. Extra stores premises were envisaged and residential on site accommodation provided in contravention of Nucleus which allowed for none<sup>111</sup>.

This brief outline shows that the Newtown scheme represented a substantial departure from DHSS policy. Borders and Westshire would have to argue their case well.

On October 2nd 1978 the formal Stage 1 submission document went to the DHSS after approval by the Regional Team of Officers<sup>112</sup>.

Four days later the Project Team considered the emerging Newtown design solution. The minutes recorded that:

"...signs are that 30% is basic Nucleus or Nucleus with minor modifications; 60% comprises departments in respect of which Nucleus departments are not large enough...or do not exist at present; re the remaining 10% the users do not see Nucleus operational policies as being suitable/acceptable..."<sup>113</sup>.



At this meeting the Borders Design Architect accepted the Nucleus cruciform template and the nursing representatives acceded to the Nucleus ward layout. They found it satisfactory from the points of view of staff surveillance and patient grouping. In response to criticism of Nucleus by a medical planner the AHA representatives

"underlined that 60% of the necessary functional content had no existing Nucleus counterpart. They added that they regard their proposals as realistic as opposed to idealistic"<sup>114</sup>.

Readers should note at this point how the meaning and identity of designs changes to accommodate political expediency. In the Design Notes quoted above the Region stresses to the DHSS the Nucleus-ness of Newtown. At the Project Team meeting Nucleus ancestry is denied to a critical opponent.

The October 6 Project Team meeting also put in hand the final preparation of the Stage 2 document. Changes in layout would not be permitted after the conclusion of the Stage 2 procedure. Work commenced on the compilation of detailed room layouts, room data sheets, operational policies, and equipment schedules.

A contemporary Management Control Plan summarised the status of the project. Stage 2 approval was expected by the end of 1979. Production documents were to be completed by November 1982 and the hospital let to tender in May 1983<sup>115</sup>.



In early October 1978 Borders Architects had produced the block plans for the Stage 2 document. Showing a layout of Nucleus derived cruciforms and a rectangular "one-off" service block the diagrams coded building areas under three categories.

- " 1. Virtually Standard Nucleus
- 2. New or Extended Nucleus
- 3. Redrawn"<sup>116</sup>.

The future stage developments were shown in outline as Westshire was anticipating a rapid progression to a second phase. The drawings were framed to convince the DHSS of adherence to Nucleus ideals, although the actual format of Newtown hospital was far removed from initial Departmental definitions of the scope and content of the Nucleus standard type.

The Stage 2 document was completed in November 1978 and included detailed cost figures, accommodation schedules comparing Building Note, Nucleus and Newtown floor areas, together with block plans and departmental layout drawings. Throughout the Newtown proposals were advanced in a comparative context, seeking to gain credibility through their association with existing Departmental exemplars and standards<sup>117</sup>.

Under the DHSS "Capricode Procedure" this Stage 2 submission could only be sent for Departmental scrutiny after Stage I approval, and the Department seemed to be delaying. Writing to Borders RHA on 14 November 1978 the DHSS requested details of revenue consequences and changes in planning. Furthermore they insisted upon justifications for the layout of the HSDU. They asked for assurances of an immediate second

stage scheme to justify "overprovision" in the laundry, pharmacy, rehabilitation and HSDU departments. The Department wished to know the extent to which Nucleus designs were to be used<sup>118</sup>.

The Minister visits Westshire:

Parallel to the Regional/Departmental negotiations there had occurred some local political events. A Westshire newspaper (4 September 1978) reported the Minister of Health's support for Newtown DGH. The Minister announced that small local hospitals would have to close:

"Given the rapid developments in complexity and sophistication of modern medicine, it is very difficult to provide a medical service in a hospital of that size"<sup>119</sup>.

The Minister's remarks were made on a visit to Bartley Down Hospital where he met medical staff. Newtown completion was due in 1986 and he gave assurances that the Bartley site would not be robbed of staff.

The outcome of this Ministerial visit was that Newtown Hospital opponents were beginning to argue that the cottage hospital closures were only necessary because of the new hospital. They drew upon the intense loyalty that these small hospitals generated in their local areas.<sup>120</sup>

These objections again reached the House of Commons. On 6 November 1978 a local M.P. and influential front bench opposition spokesman wrote to the Westshire Administrator:

"I have just been in my constituency and was confronted with assertions that cottage hospitals such as X, Y, and Z would have to close as a result of the concentration of resources in Newtown Hospital which I gather is due for completion in 1986.

I would be grateful if you could comment upon the above statement and indicate what hospital plans have been formulated for North Westshire ten years hence"<sup>121</sup>.

On 5 January 1979 the Administrator replied, playing down the status of his Health Authority's proposals:

"You will note that many of the proposals...are of a tentative nature. Before any action is taken on hospital closures relating to Newtown DGH...the Area Health Authority is committed to enter into formal consultations with interested parties"<sup>122</sup>.

#### Designing Departmental Relationships

February 1979 saw the Project Team considering departmental relationships within the hospital. Area medical views were being obtained on detailed planning and the Bartley Radiologist (a member of Westshire Management Team) was exerting a considerable influence on overall interdepartmental relationships. Detailed room planning was being undertaken and drawings were passing between Region and Area for comment<sup>123</sup>.

Extra-organizational interest in the project was becoming more intense. Another local M.P., later to achieve Ministerial rank within the subsequent Conservative Government wrote to the A.H.A. chairman:

"There has been the odd press report and rumour recently about the Newtown DGH and the AHA's capital programme in Bartley. Could you update me on the situation please? I'd hate to see any stoppage - especially just before a General Election!"(14 March 1979)<sup>124</sup>.

The Chairman replied in reassuring terms that everything was going



according to the previous pattern of proposals, and framed his response to be non-threatening to the Bartley Down hospital interest<sup>125</sup>.

By April 1979 the Regional Architects' department was re-examining overall hospital planning. Juggling with the Nucleus template shapes and the "one-off" service block, they had worked up four alternative layouts. These alternative formats used different departmental arrangements, whilst adhering to an overall plan of cruciform templates arranged along a straight hospital street. They clearly demonstrate the simplified planning procedures used in designing with standard layouts. They also attest to the routine process of layout imaging deriving from the shared knowledge concerning departmental linkages and rankings<sup>126</sup>.

The DHSS was still withholding Stage 1 approval, probably due to the political uncertainty surrounding the result of the forthcoming General Election.

On 6 April 1979 the Project Team decided to press on with design work despite the Department's reticence. Design was then centring upon the layout of adult acute wards. The RHA Chief Architect:

"...reported that all permutations of layouts within the Nucleus shell...had now been exhausted. The Design Team were currently working on a variation, arising from a suggestion by DHSS, which retained 28 beds and increased the ward area by the transfer to the ward of some of the space, which, in the original Nucleus design philosophy, had been allocated to the shared treatment facilities; this followed the replacement room on each ward"<sup>127</sup>.

This is an interesting note for two reasons. First it indicates how successful the DHSS standard had become in exerting overall template

control. Region was designing by re-arranging standard template shapes rather than by using one-off methods. Second, it places the carving up of CTA facilities, claimed by Area planners as their idea, to the credit of the central department<sup>128</sup>.

At this stage of the programme the compilation of operational policies and room data sheets was falling behind and the "let to tender" date had slipped two months to May 1983<sup>129</sup>.

The purchase of the site was being finalised in April 1979 with detailed negotiations over the developments to be permitted on surrounding sites. The Borders Region and Westshire were again concerned about environmental hazards<sup>130</sup>. Over the following months the necessary restrictive covenants were obtained and the land finally changed hands in late October 1979<sup>131</sup>.

The programme for detailed departmental design had begun in February 1979, and the end of April saw it well under way. It was intended to complete the entire scheme by February 1980, giving a finished set of sketch plans, operational policies and room data sheets<sup>132</sup>. Now this type of design activity was not unique to the implementation of the Nucleus system. The use of room data sheets, whereby equipment and space requirements are matched in detail had been evolved by the DHSS over a long time period as part of their work on standard hospital designs. The use of the Nucleus approach on this scheme however does seem to have truncated the process and to have increased the speed of design output. By filling in equipment details for each room independently of the total design process generally, the fine texture of hospital layout could proceed whilst



overall shape and block arrangements remained flexible. Deciding upon the nature of individual bits of hospital arranged within standard planning envelopes was a highly bureaucratised process. This proceeded according to a timetable of separate departmentally-oriented meetings attended by Regional and Area design, medical, and other professional staffs.

The continuing DHSS delay in approving the initial Newtown submission was beginning to place a question mark over all detailed design activity. By May 1979 the level of concern had become considerable<sup>133</sup>. The national political situation became clear soon afterwards when the General Election resulted in a return of the Conservative Party to power.

Within the NHS authority chair appointments are political matters. In Westshire the Labour Party appointee was replaced by a local Conservative activist<sup>134</sup>. He was an industrialist who ran a business in Newtown and who lived near Bartley. A newspaper report of 17 July 1979 reports the replacement of the old chairman. The new Westshire chairman had a reputation as a tough negotiator. He was to change authority policy to match the new government's intentions. However, he was also to experience a conflict of party/authority loyalties in the financial resource struggles which were to occur in the early 1980s.

The overall planform for Newtown DGH had still to be finalised. In August the layout was still fluid. Seven more block plans had been produced by the Region, bringing the number of options up to eleven. Key departmental relationships had by now been codified (6 August 1979) and are quoted here to show the strength of NHS template assumptions:

- " 1. Clinical/Diagnostic Departments to be planned in general in Nucleus form clusters (extended to 1044m<sup>2</sup>).
2. Service Departments to be planned on ad hoc basis.
3. Service zone to be separated from hospital street and other departments by 7.5m. for fire purposes.
4. Major Theatres to be adjacent to HSDU.
5. Accident and Emergency Department to be adjacent to X-Ray.
6. OPD to be adjacent to main entrance.
7. Rehabilitation to be adjacent to main entrance.
8. Administration Department to be adjacent to Education
9. Major Theatres to be adjacent to ITU.
10. CCU to be adjacent to Adult Acute Ward.
11. Laundry to have corridor access to the street if possible.
12. Future expansion of hospital to be allowed for as follows:

Additional Diagnostic/Treatments Departments  
(probably further Nucleus clusters)  
Two additional Theatres  
Enlarged Pharmacy  
Catering and Works Departments"<sup>135</sup>.

Although some of these relationships are tailored to the Newtown Scheme many can be taken to characterise all hospital developments of the period. They testify to the existence of extensive intra-organizational agreement over hospital template frameworks. In the case study the reaching of this agreement seems to have been facilitated by the standard Nucleus format. During the research several respondents were able to reel off a list of departmental relationships. These were well-known amongst NHS planners and constituted a stock of pre-existing knowledge which made the composition of hospital layouts seem obvious and



uncontroversial<sup>136</sup>. Yet the constant re-ordering of departments and sketch layouts on the Newtown scheme did have some professional political input. The Westshire consultant radiologist was very influential:

"Everybody wants to be next to X-Ray (Planning Officer, Westshire AHA, Fieldwork Notebook)<sup>137</sup>.

X-ray is a crucial diagnostic facility and always obtains a prime territorial location within any new hospital development. The radiologist in this scheme was able to exercise considerable influence on the size and location of his department. His early presence on the Project Team combined with his position on the Westshire Management Team to give his arguments weight. He was able to protect the X-ray departments' status throughout the design period. Informants suggested to the researcher that X-ray could be regarded as relatively over provided in Newtown as compared to other departments.

Thus the production of layouts and department relationships were not just a simple jigsaw exercise using the Nucleus cluster shapes. The process took place against a background of power and influence involving medical and other professional groups. Not without significance in this respect is that all but one of the eleven block layouts increased the number of "Adult Acute beds from 196 to 224 in order to rebalance Ground and First Floor areas"<sup>138</sup>. So the acute services, already the dominant NHS sector, were to be further buttressed in the Newtown plan.

The Newtown development had, as we have seen, assumed the closure of the cottage hospitals. This had been argued on the grounds of cost efficiency and safety. With the new Conservative government came a

fundamental policy change. On July 31 the Borders RHA chairman had been told by the Minister of Health that cottage hospitals must be retained<sup>139</sup>. The DHSS wrote to the Region asking for a revision of plans to eliminate cottage hospital closures. Only when this was done would Newtown proposals be passed to their medical planner for vetting. Borders instructed Westshire to consult locally over closures<sup>140</sup>. On 7 September 1979 the Westshire Administrator replied that some consultation had already taken place:

"...the present estimated operational date for Newtown assuming no delays, setbacks etc. is seven or eight years away. Changes in medical practice and technology; changes in Area needs; changes in resource assumptions; changes in government policy; and changes in manpower availability over such a period, make it impossible to give a precise blueprint for the pattern of hospital services"<sup>141</sup>.

The Administrator did agree to some of the buildings earmarked for closure being considered for alternative uses.

In October 1979 the Region's consulting engineers were beginning to work on calculations concerning internal and external traffic movement in the hospital. For this purpose Westshire had estimated a hospital staffing figure of 1,092<sup>142</sup>.

Borders and Westshire were coming to terms over the Minister's "no closures" edict. By late November they had informed the Department that the Area would retain all of its cottage hospitals<sup>143</sup>. To balance their running costs Westshire proposed to cut bed numbers at Bartley Down West, Danesworthy Specialist Hospital and at another smaller hospital unit. Through this concession they hoped to speed DHSS Newtown approval,



telling the Department that if approval was not given design work would halt and delays occur. The Borders Region Planning Administrator warned the central department on 27 November 1979 that:

"The political implications in the Newtown Area of a decision to halt design work will be considerable and the Region accordingly wish the Department to be appraised of, and alerted to, these implications"<sup>144</sup>.

It was now anticipated that the programme of room data sheets for the scheme would be completed by mid 1982 with working drawings finished by September 1982. Despite the lack of Departmental approval all the preliminary design drawings were completed by the end of 1979 and the Regional Design Team were ready to commence working details<sup>145</sup>.

The DHSS were now taking an interest in proposals for Newtown staffing arrangements. As 1979 turned to 1980 they sent two letters to Borders<sup>146</sup>. In the middle of January 1980 the Region replied to the Departmental Officers stressing that Westshire were completing "an innovative computer based manpower planning study" to provide a staffing structure and a recruitment programme<sup>147</sup>. There had been claims by Westshire medical staff that Newtown would present consultant recruitment problems and Borders and Westshire took pains to reassure the Department on this point. Seeking to de-fuse the Bartley Down opposition the Borders Assistant Planning Secretary (and administrator for the Newtown Project Team) concluded:

"...prior to the opening in 1977 of Phase 3 ...of the Bartley Down development, anxiety was expressed as to whether this phase could be adequately staffed, particularly from a nursing staff point of view. This anxiety arose from the fact that the population in the Bartley district amounts to only some

80,000. Accordingly it has to be borne in mind that any further development at Bartley could well pose a substantially more difficult problem with nursing, paramedical and ancillary staff than would be the case in respect of the proposed Phase 2 development at Newtown"<sup>148</sup>.

The DHSS Grants Approval for Stage 1:

On 11 January 1980 the DHSS telexed Borders approving the Stage 1 submission. This move was discussed by the Area Management Team on 16 January. This meeting learned that the Minister's reply had stated that he would:

"...be most unhappy about any expansion of the Bartley Down hospital...and that the Department did not regard itself as committed to subsequent phases at Newtown"<sup>149</sup>.

This governmental position meant that the AMT were saddled with the problems of funding Newtown and the cottage hospitals. The Minister's policy was, in effect, in accordance with that established by Nucleus under the Labour administration. The concept of the large DGH was ruled out.

On 24 January the DHSS wrote to the Region setting out its terms for Stage 1 approval. Costs were specified in detail and assumptions regarding running costs set out. Certain detailed planning arrangements were criticised.

"Minor alterations in content may be necessary at a later stage where Nucleus designs are adopted. The Authority's attention is drawn to two aspects on which concern has been expressed by the Minister.

- Heating and ventilation, in view of current and future energy costs.
- Staffing implications of rooms within wards.



The Minister has been assured that these specific issues will be monitored by the Department and borne in mind by the Authority in the further detailed planning. A re-examination of the principles involved may be required by the Department"<sup>150</sup>.

On 24 January 1980 Westshire considered this reply. In their report the AMT told the authority that:

"The period of clearance was without doubt extended as a result of the General Election and the wish of the Incoming Secretary of State to apply the new government's policies for the NHS"<sup>151</sup>.

The Minister's refusal to sanction closure of cottage hospitals had created a funding gap. The Westshire Authority agreed to look for economies throughout the Area to meet the future Newtown running costs. The minutes record that:

"In other parts of the country, and indeed within the Borders Region large scale hospitals were not favoured as they were considered to be too big. It was suggested...that in receiving the Secretary of States approval to Newtown DGH, the Authority had been singularly fortunate"<sup>152</sup>.

The Labour ex-chairman saw the Ministerial approval as lukewarm;

"The political and financial climate could well change before 1983, the expected start on site date"<sup>153</sup>.

A consultant member suggested that the DHSS should be challenged on the issue of revenue savings within Westshire to pay for Newtown<sup>154</sup>. The continuing antipathy of certain lay members to the new hospital was evident. One objected to the Minister's veto on a larger Bartley Down, and another saw Newtown as a cause of lower medical standards. He warned:

"...members against confusing the provision of bricks and mortar with a medical service...unless the authority were realistic in assessing the problems, they could, under the Minister's terms and conditions, be left with two inferior hospitals, 15 miles apart. The options must be assessed, including the seeking of further funding. He suggested that the main problem was one of communication. With better communications Westshire ought...to provide one high standard hospital at Bartley Down. Because of communications problems, he suggested there was a danger of lowering the standard of medical service"<sup>155</sup>.

A debate followed about the possibility of attracting good medical staff to Newtown.

What lay behind this discussion was not only the objection from Bartley doctors to a rival hospital, but also the unfavourable image of Newtown. Few doctors would wish to live in the new city, or be compelled to commute from the cultivated pleasures of Bartley.

#### The Medical Interest Asserts Itself

During this period the medical lobby at Bartley was advancing its criticisms. In October 1979 a consultant physician at Bartley Down had written to the Minister of Health objecting to the Newtown scheme<sup>156</sup>. The head of a unit with a growing international reputation, he could fairly be described as an important representative of Bartley opinion. Although not a member of key Authority committees, his viewpoint did crystallise the consultant anti-Newtown case. He was described to the researcher as a trouble maker and one of the enemies of the Newtown hospital, and was regarded with animosity by some medical, nursing, and administrative staff. However, organizational rivalries apart he stated clearly the arguments for the development of Bartley Down and the dangers many perceived in the Newtown venture. The DHSS passed his letter to Borders, who dispatched it to the Westshire Administrator.



Replying to the Department on 22 January 1980 the Administrator sought to answer Dr. B's criticisms. Arguing that the new DGH was a central plank in the Area's policy he maintained that rationalisation of county wide services was necessary. He claimed that the Ministerial instruction to retain cottage hospitals changed the scenario outlined in the consultant's letter. Describing the hospitals slated for closure in unflattering environmental terms, he based the case for Newtown upon the population distribution within the Area. He said:

"It is incorrect to say that Bartley has only half a district hospital at the moment, and to describe the other half as being housed in an 'old pre-fabricated army hospital across the road'. The existing Bartley Down Hospital is one campus, containing in excess of 700 beds. The accommodation at Bartley Down West, whilst not ideal, is considered to be sound at the present...The provision of Newtown DGH will allow rationalisation of accommodation throughout the whole of the county, removing much of the poorest accommodation. This is a far higher priority than the rebuilding of the Bartley Down West hospital"<sup>157</sup>.

Dr. B, the consultant, had raised the Newtown medical staffing "problem". This view is countered by a repetition of the Bartley Down staffing difficulties. The Administrator went on to quote Ministerial objections to a larger Bartley Hospital<sup>158</sup>.

It is worthwhile quoting the relevant correspondence at length on this "challenge" to Area policy, as the course of the argument tells us much about how high level "dissent" is handled within the NHS.

Given the internal to-ings and fro-ings involved in framing replies it was 5 February 1980 before the Joint Parliamentary Under Secretary of State

replied. Readers will note that this was after the crucial granting of the Stage 1 approval with its Ministerial rejection of a bigger Bartley Down. The Under Secretary replied to Dr. B. in terms that closely followed Westshire's statement to the Department. Maintaining that the retention of the cottage hospitals changed the position, he says that a senior DHSS medical planner; Dr. Q.,

"...accepted the need for a hospital to serve Newtown. But he has serious reservations about large developments and has therefore given approval only to the first phase of this project, a scheme of some 300 beds"<sup>159</sup>.

Notice the familiarity of the following argument:

"You mentioned the Bartley Down hospital and suggested that this hospital should be extended in preference to a new hospital being built at Newtown. The Westshire Health Authority do not agree that this is only "half" a district general hospital since it is one campus containing in excess of 700 beds. In any case because of Dr. Q's reservations about hospital size he would be most reluctant indeed to see any expansion of the Bartley Down site"<sup>160</sup>.

The Under Secretary repeats the Westshire position on population distribution, highlights Westshire's recruitment planning and points out the shortage of staff in the Bartley area.

On 17 March 1980, Dr. B. the consultant replied at length to the Under Secretary:

"Thank you for...your letter dated 5 February 1980. Curiously, many of the phrases used seem to be identical to those expressed by some members of this Area's Administration...

The Bartley Down Hospital, despite the utterances of those in authority, who, from the start, have been committed to the building of Newtown District Hospital, is considered by those doctors and nurses who work in it, effectively to be two separate hospitals. The larger and older unit still performs



most of the workload. There is little mixing of nursing staff, junior medical staff, consultants or ancillary staff and there is a duplication of these in many instances. The hospitals are separated by a significant distance and there are gross differences in the standard of facilities between the two hospitals.

We do, indeed, only have half a new District General Hospital.

My views, which reflect the majority of consultants, pressed for the completion of the new District General Hospital to the extent that would amalgamate all acute beds, at present on the West Site, into one cohesive and rational unit much in excess of 800 beds in Bartley.

The philosophy of the single 300 bed unit as the District General Hospital will prove untenable as it will not provide sufficient beds for the modern range of specialties or serve the needs of the standard district population, which the Minister states should be in the vicinity of 450,000. Can the Minister please tell us how an effective service, across the basic specialties, can be obtained with this number of beds?

The anxiety expressed regarding nursing staffing of Phase III of the Bartley Down Hospital came from one particular source and it is the same source who is confident that Newtown will impose no problems in this regard! This view, I believe, is contrary to that held by Nursing Personnel. To quote the Bartley population of 80,000 as being a barrier to the provision of further nurses in Bartley, of course, is erroneous. Nurses are attracted to a good unified hospital with modern facilities and Bartley is supported by nurses from all areas...

I, and many others take strong exception to the view that with careful husbandry of our resources it would be possible to open Newtown Hospital and significantly improve the health care of the people of Westshire at a justifiable cost. That cost is currently estimated at two million pounds revenue deficit per annum and I am sad that the Minister seems to feel that savings of this amount can be met and the health care of the people of Westshire improved at the same time. Certainly, the general public of Westshire are totally unaware of the financial implications...

The current plan, I stress again, would leave us with three partial hospitals, several scattered satellites...and a deficit of two million pounds per annum to run them and the other health services in Westshire.

Can anyone tell me how that can be done?"<sup>161</sup>

The consultant's letter again passed from DHSS to Region and to Westshire. The Borders Assistant secretary (Planning) and Newtown Project Team co-ordinator wrote to the Department on 27th March 1980:

"Dr B's latest letter appears to consist ...of a restatement of points made in his letter of 18th October 1979..." 162

Commenting upon the extensive inter-Authority consultation, the Stage I approval, the Minister's limiting of Newtown to the first phase, and the specific Departmental objection to a larger Bartley Down he continues:

"Dr B is of course entitled to adhere to his opinions. In the light, however, of the comments made above the Region's reaction to Dr B's latest letter is that since a policy decision has been taken to build Phase I of the Newtown DGH the Health Authority's efforts must now be directed towards implementing the agreed policy, and not towards the conducting of further correspondence into a re-examination of the issues. When all is said and done, Dr B (in the third paragraph on Page 2) supports the district general hospital development at both Bartley and Newtown. By implication he would prefer completion of Bartley before a start on Newtown. Both the DHSS and the RHA see the need for Newtown district general hospital alongside (rather than following additions to) the existing Bartley district general hospital and DHSS decisions have been made accordingly." 163

As a result of this statement of Regional views a senior Departmental medical officer replied to the consultant physician on the Minister's headed notepaper on 25th May 1980.

"It is understandable that there should be differing opinions locally over priorities for hospital developments. Over the years the future pattern of hospital services in Westshire have been considered and discussed locally in public and with this Department.

We have now accepted the need for the development of a hospital in Newtown and have approved its first phase. Planning is well advanced and the site has been purchased.

On the question of financing the running costs of the new DGH it will of course be open to the Area to negotiate with Region an increased allocation to cope with the development, taking account of the savings they have made." 164

The nub of the DHSS case for refusal of a larger Bartley Down lay in the



Nucleus concept of the small first phase DGH. This final Departmental letter to Dr B. formally ruled the debate over a Phase IV Bartley out of court, although the interested parties were to continue to use the division of resources arguments locally. Dr B's stance was based upon the working efficiency of existing hospital units. A wider interpretation, however, was that his assertions acted to preserve area resource inequalities within Westshire and to concentrate medical power at one major centre.

There had been some attempts by Newtown proponents to forstall the continuance of Bartley dominance. A local newspaper of 21st March 1980 reported the local District Council's call for a separate health authority for eastern Westshire. Sending their conclusions to the Secretary of State the council asked for better representation of East Westshire on the Area Health Authority<sup>165</sup>.

#### Negotiating Newtown's Detailed Design.

On 1st February 1980 the Project Team heard that the site for Newtown Hospital would be formally handed over at a meeting between RHA, AHA, and Newtown Development Corporation officials on the 18th February. The challenges set out by the DHSS in their Stage I approval letter were to be answered. By now the programme of meetings on X-Ray and Dental departments were nearing completion. The Department was insisting that the RHA and DHA consider the use of private contractors for laundry services - a result of government privatisation policies. The Area took on the task of preparing a break down of the work load of an existing Westshire laundry to frame a reply to the DHSS

The preparation for Stage 2 submission was by now a month behind and awaiting inputs by the Regional Quantity Surveyors. Significantly many Project Team meetings were now taking place at Bartley Down. This was to enable Bartley Medical staff to contribute design information and comment and to assist in matching the layout to practice in Westshire's existing hospital services. During the research a Westshire officer said:

"You have to go to them for this, they will say they [the consultants] can't leave their departments"<sup>167</sup>. (Fieldwork Notebook)

The Project Team was now preparing "Outline Whole Hospital Operational Policies" and approaching the preparation of departmental operational policies. These documents were to define, in general terms, the overall working relationships between and within hospital sub-units. Under consideration at a meeting of 15th February, these policies were required for the Stage 2 submission to the DHSS. The Region's consulting engineers had prepared notes on the external movement of traffic. The layout of the Pathology department was causing difficulties<sup>168</sup>.

Regional and Area representatives met at Bartley Down East on 12th February 1980 to discuss departmental sketch layouts and operational policies. Work was by now confined to minor alterations in internal layout and most departments were approved. Operations Research personnel from Borders were active in the laundry design, and its positioning was in doubt due to Departmental comments on its viability<sup>169</sup>.

The involvement of Operational Research staff in determining the hospital "hotel" -functions is indicative of the different statuses awarded to different kinds of work within the NHS. Detailed evaluation and



calculation of work and traffic flows is carried out in "hotel service" departments employing wage labour, and in the design of overall hospital circulation patterns. These are "proletarian" territories. In contrast detailed clinical department design receives little of this kind of attention. Medical staff are left with a largely free hand to form layouts with little imposition of work measurement techniques.

Further DHSS policy changes were soon to affect the Newtown project. Trent RHA had used a ramp in Rotherham DGH and an evaluation paper had been issued. The Borders Architect said that Newtown's nine Nucleus clusters warranted a ramp provision at the 22 April Project Team meeting. This would be used with a system of tugs and trolleys to move supplies around the hospital. He demonstrated possible layouts. The tug system's justification lay in the limited storage provisions of the Nucleus layout. Ward supplies needed regular "topping up" and regular clearing out as large quantities of dirty linen and dressings could not be held. The tug and ramp system sought to solve the problem by expediting deliveries and collections. The use of an automatic system also gave the possibility of savings on portering costs. The meeting approved the AHA's Whole Hospital Operation Policies<sup>170</sup>.

The Westshire position is summed up by draft notes made by their nurse planner in April. He writes:

"The first stage of the planning process requiring DHSS approval was belatedly received in January 1980. Variations were indicated by DHSS on our closure proposals involving X,Y and Z cottage hospitals. Whilst in general terms we have indicated we can accept such arrangements AHA has still to consider details. Not be easy. Study it as part of national research.

During Stage continued design work not too much delay. But didn't help.

The next submission stage 2, is due in September this year. This involves

- Final functional content
- Budget cost
- Contract method
- Building shape
- Planning policies
- MCP

To maintain present programme - hoping for early approval 4-6 months.

#### Work now underway

Sketch plans of departments now all complete except two areas. Room data sheets - equipment down to ashtrays completed in respect of majority of departments. Overall layout plan developing. Informally agreed with DHSS (problems of Nucleus design philosophies). Business end of hospital i.e. receipts distribution, laundry disposal etc. causing problems. New philosophy of ramp construction recently issued in guidance from DHSS.

#### Programme:

Next landmark is 2 September 1980. Construction date between mid to end of 1983. 3 year period. Never give a firm date.

Very tight, could easily vary from that course.

#### Contract

Would be done in stages with smaller contracts for remote buildings, site works, roads etc. AHA also seeking phased handover of main block to facilitate commissioning and get some services working early to test the building.

#### Cost

The present cost in the RHA programme is £17 million (March 1980).

#### Planning Approvals

Understand the RHA design parties will be making some initial approaches on Newtown DGH in July all being well.

#### Other

Key issue at present is housing for staff. Newtown D.C. will be constructing some housing for hospital on adjacent Crownhill. This is part of complement that would normally be provided on site. Awaiting proposals and becoming anxious.

#### Commissioning



Already commenced. See a phased commissioning. Once a hospital is handed it is a complex and sometimes lengthy process to bring it into action"<sup>171</sup>.

This candid statement by a working manager is underlain by several tensions. There is the unpredictability of Departmental delays and intervention. There are the problems of justifying provisions by acceptable statistical rationales. The dependency on the Development Corporation adds complications as do the difficulties of dealing with professional staffs during commissioning. Not only do political processes affect hospital layout, but also planning timescales and the grounds for sustaining a hospital development at all. A striking feature is the £17 million price tag, almost three times the £6 million limit set by the DHSS when "Nucleus" was devised.

On 13 June 1980 the Westshire General Administrator (Planning) prepared a Newtown progress report for the AHA. He comments:

"Members will recall the concern for the programme arising from the delay in receiving the Minister's approval. This was, to some extent, lessened by the decision of the Project Team to maintain progress on detailed planning and design matters in anticipation of the Minister's approval to the Phase 1 functional content.

The intensive programme of detailed planning has been maintained during the past fifteen months. The outline operational policies have just been finalised. Work is underway to complete detailed departmental operational policies; room data sheets have been prepared for most departments and the search for an overall planning solution is nearing a conclusion. The main outstanding problem in determining the overall planning solution is the resolution of the "service zone" area of the hospital. The DHSS have recently issued revised guidance on the use of ramps, as opposed to lifts, in hospitals and this has forced a reconsideration of a number of issues"<sup>172</sup>.

He continued by saying that initial moves had been made in recruitment

and training as a result of the completion of the DGH Manpower Plan. The Area Health Authority considered this report on 26 June 1980. A Newtown area lay member (and chairman of the Hospital Action Group) criticised the six months slippage on the project and called for the time to be made up<sup>173</sup>.

In August 1980 the Borders consulting engineers submitted their "Traffic Studies Report on Internal Movement". Using Bartley Down East as a model they followed Departmental recommendations and used O & M methods. The report included a section on the ramp and tug transport system being recommended by the DHSS<sup>174</sup>.

#### The Newtown Opposition Fights on:

It has been established that the Ministry had by now put a ban on the expansion of Bartley Down, but the public argument raged on. Medical influence was still extremely active. A newspaper report of 20 September 1980 notes:

"Members of Westshire Community Health Council will be told on Monday that it is not too late to reverse the decision to provide a new district hospital in Newtown.

In a report to the CHC...Mr. Jones, Chairman of the Family Practitioner Committee says he is concerned over the financing of the new hospital.

He says that 60 new beds at Bartley Down East would give the county a four star hospital and there would also be money available to improve cottage hospitals.

But instead, if the new Newtown District Hospital goes ahead, Bartley would remain a three star hospital...

He added that the decision to provide a hospital at Newtown had been taken against the recommendation of almost half of the GPs and half of the Consultants"<sup>175</sup>.



In the following issue of the newspaper, Dr. B. of Bartley Down, having been rebuffed by the Ministry, put his point of view into print (27 August 1980).

"Most members of the Bartley Down Consultant staff have repeatedly expressed concern about the financial implications of building Newtown Hospital. The estimated annual revenue deficit of £2 million is alarming and unless this deficit is made up by an increased allocation from the RHA, there can only be further severe stringencies in the health services in the rest of the county.

I know of no one who does not wish to see the people of Newtown have the best possible medical services available to them. In an ideal world the Bartley Down Hospital would be completed and the new hospital built at Newtown. This is unlikely to happen in the present economic climate....The old Bartley Down West hospital still has the greater number of beds and the greater throughput of patients, and can therefore in fairness be called the main hospital. We do not have a DGH but only half of one! The two hospitals in Bartley Down function practically as independent units with resultant duplication of staff and services...

...what makes economic and functional sense is the provision of sufficient beds at Bartley Down East for the transfer of the major acute services from Bartley down West to the East site, the number of beds being that required should Newtown eventually be built...

Anything less than this would be meddlesome and compromise further development on that site. This could be achieved at a fraction of the cost of building Newtown Hospital, without seriously interfering with the county's cottage hospitals"<sup>176</sup>.

At this time the sting was drawn from the consultant physician's argument. Borders RHA had agreed to meet most of the outstanding monies. Westshire would still have to "rationalise" existing hospitals but Borders would help fund Newtown's running costs<sup>177</sup>.

Staffing Newtown DGH: Images of Newtowners:

In line with early recruitment policies for Newtown staff, Westshire personnel were initiating contacts in the community. A Westshire newspaper of 21 November 1980 carried a report of the Bartley-based Director of Nurse Education addressing a local school prize-giving. She announced the 1,000 new jobs to be created at Newtown DGH<sup>178</sup>. She later spoke to the researcher about the issues of staffing Newtown on 1 July 1982. Her reactions illustrate the low regard with which the Newtown population was held at Bartley. She was sceptical about the possibility of recruiting nurses from the new city:

"I know the schools and the children in Newtown, the DMT do not. I know what I want when I visit the schools. There isn't the quality or type of person I'm looking for. I'm keeping my position on staffing quiet, and waiting to see what happens"<sup>179</sup>  
(Westshire Director of Nurse Education: Fieldwork Notebook).

She had misgivings about the availability of manpower and the way manpower planning was being handled in the Newtown project.

The researcher's field notes record the strong impression of her rejection of Newtown youngsters on the grounds of social class characteristics. Nurse training looks for qualities of obedience and co-operativeness. This head of nurse education did not see these in the "quality or type of person" living in the new city. Her perception of the absence of the right "type" could be seen as part of the Bartley typification of Newtowners as urban intruders in rural Westshire<sup>180</sup>.



### The Stage Two Submission

In the autumn of 1980 work on a revised Stage 2 submission document was completed and it was dispatched to the DHSS in November 1980<sup>181</sup>. An examination of this book shows the outcomes of the initial "challenges" made by the Department during the Stage 1 approval. There were several changes of scheme content between the two stages. General Acute Wards were increased from 196 to 224 beds. This resulted from the excess accommodation generated by the necessity to provide floor space in template chunks. Children's Wards increased from 50 to 56 beds. Anaesthetic services reduced from 150m<sup>2</sup> to 122m<sup>2</sup>. Medical Management reduced from 10 to 9 offices. X-Ray had added on an ultra sound and radio isotope room at the insistence of the consultant radiologist at Bartley. Pharmacy had been reduced in size as had the Rehabilitation Department. The OPD consulting suite was cut down, as were Dental Outpatient facilities. OPD day provision had increased from 16 to 20 day beds. A Child Assessment Unit (omitted "inadvertantly" from Stage 1) was now included. Kitchen and dining room facilities were increased in size, but the laundry capacity had been reduced from 120,000 to 55,000 articles per week at Departmental insistence. Residential accommodation was reduced, but an addition was a purpose-built hospital chapel<sup>182</sup>.

The document continues by responding to DHSS Stage 1 objections. It was explained that the Development Control Plan anticipated an immediate Phase 2 expansion. The HSDU costs were justified on the grounds that the unit would service other Area hospitals. Pathology would receive support from Bartley Down. The Child Assessment Unit entry gives an idea of the flavour of the design rationale:

"...The Child Assessment unit whilst included in the Project at Stage 1 was omitted in error from the Stage 1 scheme. DHSS suggested an area of 305m<sup>2</sup> instead of 504m<sup>2</sup> proposed in the Project and asked that the 504m<sup>2</sup> be justified or reduced. The Stage 2 entry is 485m<sup>2</sup> and is held to be justified on the grounds that:

- a) The number of families with young children in the New Town situation is higher than in conventional urban type communities.
- b) The schedule of accommodation proposed has been drawn up by the Westshire Consultant Paediatricians in the light of their considerable experience of the Child Assessment unit at the Bartley Down Hospital and
- c) It is considered that a department based on a smaller area would be unable to fulfill the objective of providing a comprehensive assessment service for children.

A letter from Dr. H at the RHA dated 4 August 1980 to Dr. C at DHSS supporting the Stage 2 entry refers"<sup>183</sup>.

Note the hallmarks of NHS designing - the key bargaining roles of medical professionals, the reference to existing practice, and the claim to variation based on local conditions.

The submission continues giving detailed justifications for changes in other facilities and validates its proposals for horizontal and vertical circulation by reference to the RHA's consulting engineers report. It will be remembered that the Department had insisted upon a consideration of private laundry contracts. The reply is as follows:

"DHSS commented that 'the provision of a new laundry is agreed subject to the Authority being satisfied that a commercially beneficial arrangement cannot be made with the private sector'.

Quotations were invited from three commercial laundries and a comparison of cost with the proposed Newtown DGH laundry was carried out by the Regional Treasurer and the Westshire



Treasurer. The outcome...indicated that a saving in the order of £140,000 per annum would accrue from the provision of an on-site laundry.

The AHA have emphasized the critical importance of the service which is demanded from the laundry by the hospital. There is concern that commercial laundries might not be willing to deal with heavily contaminated laundry. In this connection concern, including that of medical staff, is voiced about cross infection in a situation where the laundering process cannot be monitored by NHS staff. The need for a 24 hour linen service which includes week-ends and Bank holidays is stressed and attention is drawn to the substantial difficulties which could arise where the running of such a critical service... is not under the direct control of local NHS managers.

In the light of the above comment an appropriate entry is maintained in the Newtown DGH Stage 2 submission for the provision of an on-site laundry"184.

Finally, the submission calls for a larger boiler house than suggested by the Department.

Most of the remainder of the document deals in detail with hospital policies and provisions, constituting an exhaustive catalogue of need.

#### Detailed Design Negotiations with the DHSS

Early in 1981 there were pressures to modify the submission which was now with the Department. It was discovered that the Newtown Pharmacy would have to support 725 beds instead of a figure of 300-550. The Area Pharmaceutical Official wanted an increase, particularly in storage space. On 5 February 1981 the General Administrator (Planning) an officer new to Westshire AHA, and who replaced the previous incumbent, wrote a file note:

"This problem discussed with P [The Nurse Planner], who advises that whilst the Stage 2 document is at the DHSS, it would be unwise to challenge the RHA on this or any other minor issues. However a copy of this file note is to be sent to S [RHA Project Team Administrator] for information, as it may be that between now and 1987 (opening date) a great deal of flexibility will occur"185.

The following day the new Westshire administrator attended his first Newtown Project Team meeting. At this time the RHA was keeping up pressure for a reply on Stage 2 but had heard nothing from the Department. The development programme was now envisaged as

" Site works:	Commence April 1982 Complete March 1983
Main Contract:	Commence April 1983 Complete September 1986
Residential:	Commence July 1984 Complete March 1986"186.

The Team also considered seeking RTO approval to start work on Stage 3 in advance of Stage 2 approval.

Towards the end of February Westshire was compelled to rejig the case for the Newtown provision. On 25 February 1981 the Area Management Team considered the implications of the latest DHSS policy on planning objectives. How could the new DGH be justified?

"The cost of the A and E and outpatient services at Newtown was one and a quarter million pounds and it was very difficult to see how even a proportion of this amount, say a quarter of a million pounds could be switched in terms of funding from Bartley Down to the Newtown site. Where in terms of priorities in the strategy had the Authority decided to spend an additional£1 million on acute and outpatient services?"187.

The bed allocation for Newtown would have to be changed. It was hard to



argue for extra paediatric beds at Newtown when those at Bartley were underused. It was agreed to approach the consultant paediatricians<sup>188</sup>.

In April 1981 Westshire issued a public relations bulletin on the Newtown DGH. It talked of the new job opportunities to come and publicised Westshire's Manpower Commissioning Team which had been set up to handle the commissioning of the new hospital<sup>189</sup>.

When the Project Team met on 3 April the Regional Team of Officers decision to let Stage 3 work begin was announced. The DHSS had not replied on the Newtown Scheme, but had commented on another Border's Nucleus scheme which shared design features with Newtown. It was decided to use the rationale developed on another project to reply to any Departmental objections<sup>190</sup>.

The July 3 Project Team meeting learned that the DHSS had queried the provision of isolation bed facilities for children in Newtown. Westshire would have to answer the criticism. The meeting thought that if they tried to change the hospital content now substantial delays would occur. The RHA architect reported that preparations for the building contract were on target. A display model of the hospital was now being shown in the Newtown area<sup>191</sup>. Problems over the detailed design of the Pathology department were continuing<sup>192</sup>.

On 13 July 1981 DHSS sent a DEX message to Region<sup>193</sup>. The AHA's figures on laundry costs were questioned. The bagging system for waste disposal was set out. The arrangements for Newtown linen collection were questioned and the planned output of the laundry was said to be too low. In addition the laundry area was 80m<sup>2</sup> over Building Note limits.

Another DEX arrived at Region on 14 July 1981. This message criticised the mixing of sterilized equipment and soiled goods in the HSDU. The checking and folding of linen had been omitted in policy notes. The Newtown OPD was queried on the grounds of minor planning errors. The number of canopies and setting down points in the A & E department was questioned. It was suggested that two treatment rooms be substituted for two theatres shown on the RHA plans. The Fracture Clinic layout was regarded as an improvement on Standard Nucleus. The Department officers noted that in the A & E recovery area many beds were remote from the staff base and that supervision was difficult. The number of doors to the resuscitation room was incorrect, and there was no reception area in the fracture clinic. There were difficulties in the Region's theatre design. Patients going in and out of Theatre would be mixed together. The delivery of supplies via the staff base would cause congestion. There was no porter's base in the operating complex. A discrepancy existed in the number of recovery beds - eight were shown on plans but only six mentioned in the policies. The overall theatre area was 188m<sup>2</sup> over Nucleus size - how would this be afforded? Within the Rehabilitation Department staff changing provision was unsatisfactory. Furthermore the positioning of workshops was incorrect<sup>194</sup>.

Borders and Westshire officers were summoned to the DHSS offices at Euston tower on 16 July to discuss the project. Items considered were costs, the Development Control Plan, Departmental Relationships, Acute Geriatric Assessment, HSDU, Intensive Therapy, Operating Department, children's Isolation, Non-Residential Staff change, the Rehabilitation Department, Distribution Centre and the Day Ward<sup>195</sup>.



The DHSS minutes of this encounter record that the Department broadly approved the cost levels, with the exception of the HSDU and the operating theatres. The Region explained how the design solution could be expanded in later phases. They claimed they had made assumptions that provision of the maternity department was to commence 6 months to 1 year after Phase 1. The Department's officers told Borders representatives that they must look at the service and financial implications of future expansion.

The meeting then went into detailed DHSS criticisms with Borders personnel making point by point replies. The DHSS officers did not like the length of hospital street used for single-sided access. Objections were raised to the number of lifts. Borders designers argued that their medical staff recommended a maximum of 50m travel distance to lifts, and this meant that four lifts were required whereas other calculations only justified three. The Departmental Officers offered to look at this problem. Region was instructed to base geriatric assessment arrangements on the adult acute ward design and not on the recommendations of the Department's new Building Note. The Department stressed the need for an exclusive seminar/teaching room on adult acute wards. The Region said they had argued this point strongly with the medical staff on the design team. However, the Region agreed to relocate the assisted bathrooms on wards. Intensive therapy layouts were criticised by the DHSS staff. In reply to further comments on the Operating Theatre arrangements the provision of six reception beds was justified by existing clinical practice at Bartley Down. The RHA was asked to improve the internal planning of the rehabilitation centre, but Borders replied that criticisms could be met by locating staff within each area of their existing plan. The DHSS

representatives said that the Day Ward should be reduced and more sitting space provided for patients. The DHSS officers emphasized the need for an energy saving design. When challenged on staffing issues Borders personnel assured the Departmental officers that there would be no problems<sup>196</sup>.

Fortunately another account exists of this meeting, and further details can be reconstructed. Notes were made by the RHA Nursing representative which record in particular the points raised by the nurse member of the DHSS Nucleus Team<sup>197</sup>. A Westshire nursing informant told the researcher that this member of the DHSS staff was the most insistent of the Departmental critics.

The DHSS Nurse Planners' comments were trenchant. She regarded the Newtown proposals as a "doctor dominated document". Where were nurses cloaks to be hung on the ward? The small domestic bath on the ward should be replaced by a proper assisted bathroom. In ITU dividers should be provided instead of curtains, with one socket outlet for X-ray at each bedhead. In the operating theatre there were eight recovery beds on the plan but only six in the operational policy - was there any need for recovery at all with the theatres so near the wards? In the transfer area for theatres there were several snags. There was no reception control point and incoming supplies would cause congestion. There were no disposal rooms for waste. The distinction between clean and dirty corridors was unclear. Porters would have to enter the theatre to collect linen. Was the reception/recovery area a clean zone or not? The theatre nursing officers office would be better out of the clean zone. In HSDU there should be two entrances to the medical equipment processing room. Why was the sterile goods store over twice the Nucleus provision? The HSDU was 740m<sup>2</sup> over provided.



The Regional Nurse's notes also record the Region's initial reactions<sup>198</sup>. Some items could be solved by changes in operational policies but others had to be conceded such as the inclusion of a disposal collection point in HSDU. On the notes HSDU over provision is justified by a scribbled note reading "Peripheral Hospital - Area Policy on C. Sterile Supply" - the familiar greenfields site argument.

After this meeting Borders received comments on the combined education centre - a facility ruled out in basic Nucleus. The DHSS assessment notes complain of lack of details of work throughput. The appraisal states:

"The proposed building is quite inappropriate for the intended purpose"<sup>199</sup>.

The reasons outlined were the number and size of classrooms, the oversized demonstration room, and the level of staff accommodation. The general nature of rooms provided did not match the courses likely to be provided. The RHA planner's scribbled comments on the Department's communication note the intention to get around most of these criticisms by re-casting operational policies in the light of Westshire proposals<sup>200</sup>.

Judging the overall negotiations over Newtown one might say that Borders and Westshire had had a relatively smooth ride. The main Departmental objections were over Operating Theatres, HSDU, Rehabilitation Department, and the Combined Education Centre. Indeed many of the problems were related to minor planning matters. The presentation of their scheme as a Nucleus derivative had helped speed approval. The DHSS had agreed overall costs, but the general acceptance of the Newtown

proposals did not mean that the future of the project was assured. The Department, should it wish to hold up the scheme, had the opportunity to generate a series of queries on the design solution and to slow up the whole approvals process.

The agreed meeting over the Combined Education Centre took place at Borders H.Q. on 10 August 1981<sup>201</sup>. The DHSS nursing officer pointed out that the Department was currently working up a new Building Note on the subject. Borders replied that the old (1961) notes were the only ones available when they had planned the development in mid 1979. The availability or non availability of current Building Notes often formed the basis of design bargaining in the NHS. The lack of up to date recommendations had given the Region and Westshire a chance to put forward their own interpretations, as there was no provision of this kind in the Nucleus scheme. Between the meeting at Euston Tower and the 10 August session the Area had assembled a case to sustain the proposals thought to be so odd by the Department. The Westshire nurse planner explained the Centre's format thus:

"The NTS [Nurse Training School] at Newtown would...act as a satellite to the Area NTS at Bartley Down and students from Newtown would undertake part of their studies at the Bartley Down NTS"<sup>202</sup>.

The DHSS officer said that this changed his initial evaluation. The ways of expanding the centre in later phases were then discussed. The Departmental planner repeated his objections on the number and size of rooms. Regional representatives said that changes at this stage would delay the project and maintained that the provision asked for would give flexibility for the future. Lack of certain facilities in the centre was



compensated by the seminar rooms available on the hospital wards. Once more the Bartley Down back-up facilities were mentioned<sup>203</sup>.

This meeting proved a success for RHA and AHA representatives, after further negotiation the Education Centre was to get approval largely unchanged.

The DHSS nurse planner wrote to Borders on 30 September setting out more questions. Region wrote to Westshire asking for more material to build up a case to reply. Westshire's nurse planner replied to the Project Team Chairman admitting the lack of clarity in policies for the centre on 6 October 1981<sup>204</sup>. He reiterated Newtown's satellite status and that Danesworthy Hospital would provide certain types of medical training. He said that the proposals for medical education were based on experience gained at Bartley Down. After answering the DHSS questions in detail he concluded:

"We are mindful of and grateful for the views expressed by Miss H. [an RHA nursing officer], but because we are fortunate in encouraging, and indeed experiencing corporate flexible and sensitive approaches to many of the problems which mainly stem from the constraints and parameters in which we must work, we do not feel that the reservations expressed by our DHSS colleagues will pose a real threat to the provision of health educational services in the foreseeable future.

In conclusion and if you feel it necessary I should be pleased to completely rewrite the outline operational policy to reflect all the above mentioned issues, which I can assure you will be incorporated into the detailed operational policy during the commissioning stage. I am however disturbed that the DHSS expect such detail at this stage.

In writing these notes...I have consulted the Director of Nurse Education, the Post Graduate Medical Education Tutor, the Professor at Danesworthy Hospital and the Area Personnel Officer"<sup>205</sup>.

The degree of persistence of Departmental criticism was plainly disturbing Westshire. The offer to reformulate the design's use rationale, and the gathering of prestigious medical support was aimed at forestalling a DHSS veto which could disrupt the whole scheme.

On 20 October 1981 a meeting took place with a top DHSS medical planner. Apart from the Project Team administrator, all of the representatives were Regional and Westshire medical and nursing personnel. On 12 November 1981 Borders Region sent a copy of their "minutes" of the event to the Department. These record the Region's replies to some of the Departmental "challenges". A & E Emergency rooms, Nurse Base locations, X-ray, OPD day beds and Paediatric provisions are discussed. Some sections make interesting reading. The Project Team administrator writes:

"Accident and Emergency Rooms (2)

You commented upon the two rooms on the plan as "Minor Theatres" (since the meeting I am reminded that this terminology was followed from the Department's own DCA heading; and that Nucleus refers to these as major treatment rooms). In particular you expressed concern that rooms designated as "minor theatres" in A & E Departments tended nowadays to be underused. We explained that this was not the experience at Bartley, although in respect of the two rooms in question at Bartley Down the room used as a "clean theatre" had a somewhat lesser degree of use than the second room i.e. "dirty theatre". (In this connection a survey of the use of these rooms, carried out since our meeting, has revealed the opposite to be the case...). We were happy to rename the two rooms in the Newtown DGH as Accident and Emergency Treatment rooms"206.

Notice here the detailed negotiation of definitions and meanings and the exploitation of inconsistencies in DHSS terminology. Repeated references to existing and recognized local template solutions are employed to support the case in hand.



The section on OPD day beds has significance. The Bartley Down consultant antipathy to day surgery has already been mentioned. At this point in the design process the Westshire Authority's intention to make Newtown a day treatment centre is first voiced:

"OPD Day Beds:

You felt that the number of day beds might prove to be somewhat overgenerous and that the planning of this department generally would have benefitted from being "tightened up". Whilst the plan is not perfect and criticism is accepted it must be borne in mind that there were other considerations which affected the decision, (i.e. engineering and planning restraints of the cruciform shape). With regard to the question of bed numbers we emphasized that Westshire's surgical waiting lists were the longest in the Borders Region. The further point was made that, whilst not indicated in the outline departmental policies (and this would be underlined in the subsequent detailed departmental operational policy), medical day care cases, cases for programmed investigations and certain dental day care cases would be dealt with in the day ward in addition to surgical day cases"<sup>207</sup>.

In this context note the deployment of technical architectural and engineering implications of the Department's own cruciform shape as determining factors, and the use of slanted preservations of "need" as legitimating frameworks. Through revisions of verbal accounts (the "operational policies") the design parties were bargaining towards mutually acceptable intentionality projections.

The Project Team administrator replied to another Departmental Officers' reservations on 24 November 1981. In making certain concessions to DHSS demands he sought to clear the way for the submission of Newtown Hospital to the Treasury for the Stage 2 approval. The Department's views on lift provision were accepted. The role of the HSDU was changed to fit

the DHSS outlook. The Borders Catering Officer had reached agreement with his Departmental counterpart over kitchen equipment. A compromise had been made over the laundry:

"It has been agreed between Casework (DHSS) and RHA technical officers that the item in contention, namely the additional cost of the equipment, should be omitted at this stage; but that when tenders for equipment are received, any difference between equipment costs allowed in the DCA, and tender costs, should be made good by an uplift in the DCA"208.

During these protracted negotiations the difficulties of carrying on Stage 3 work at Borders were becoming pressing. The Region hoped to end uncertainty and prevent abortive work by giving in on these points. The Administrator concludes his communication with the following plea:

"In the light of the above information I should be grateful if the Department would now, as a matter of urgency, take all possible steps to expedite formal approval of the Stage 2 Newtown submission"209.

#### Re-organization and Financial Difficulties

The drawn-out discussions with the Department were taking place against a background of preparation for the 1982 NHS reorganization. In Westshire "shadow" members of the new lay authority were being appointed ready for a takeover in the following year. One member of the new "shadow" authority who had been a staunch supporter of the Newtown scheme commented on the loyalties of the new body. In a newspaper article of 24 July 1981 he stated:

"...of the 17 members appointed to the new authority...only three were from the new town...



...the new health authority...would be heavily oriented towards Bartley by having members who might not readily understand the new town and its problems...  
...He said he would continue to press for Westshire to be split into two health districts when the new hospital was built, with a new district based upon Newtown"<sup>210</sup>.

A further press article of 27 November 1981 reports the gathering financial problems of sustaining the Newtown development. A report considered by the Westshire authority claimed that pressing on with the DGH would leave a financial shortfall of £4 million. The report maintained that Newtown distorted the whole Area programme. Westshire decided to ask Borders to treat its capital development programme as a special case<sup>211</sup>.

In December 1981 the Area published its "Area Profile" planning statement. This document laid out the projected health provision in Westshire and the changes necessary to integrate Newtown into the Area's system. In the section on "General and Acute Hospital Services" the likely fate of smaller hospitals is laid out. Some are regarded as suitable for re-designation as community hospitals. An important commitment is made to provide new operating theatres at the Danesworthy Specialist Hospital<sup>212</sup>. The protection of these proposals would become a serious issue as the Newtown DGH ran into funding problems.

#### The Department grants Stage 2 Approval:

DHSS Stage 2 approval arrived on 23rd February 1982. On that date Borders were told that a budget cost of £22,522,000 had been fixed for building and engineering services. The Department waived a Stage 3 submission requirement on the condition that the pre-tender estimate fell

within the cost limit. Permission for the preliminary site works was confirmed in a DEX message of 20th January. But approval did not indicate that design issues had been resolved:

"...the Department's reservations about the proposals for the Education Centre set out in Mr C's letter of 30th September last have in our view not been satisfactorily resolved. We hope therefore that further modification will still be possible to meet the Department's position but we do not consider that it would be appropriate on this ground further to hold up formal approval to proceed beyond Stage 2"<sup>213</sup>

#### The Region Postpones Newtown

The slowness of Departmental response over approval was to be compounded in its effects upon Newtown DGH by the financial problems arising within Borders Region. In late February the Region's budgetary policy was under attack. Shortages of money led to Regional pressures to put back the development. The Area was still keen to build. A press article of 26th February quotes the Westshire Health Authority Chairman as wanting to retain the Newtown development on time and to accept the postponement of other projects. A Westshire Authority lay member, Mr T. said:

"the authority (Borders RHA) had put up a smokescreen to hide the date when the Newtown decision was to be taken and had been given misleading information by its officers."<sup>214</sup>

A further press article of 1st March 1982 reports the resolve of the Westshire County Council to press Borders over delays. Councillors were asserting that the Region was trying to escape from its commitment to the new hospital. The Westshire lay member cited above was also a County Council member:



"Councillor T accused the authority of deliberately engineering a situation which meant that the delay was fait accompli by the time any consultation had taken place.

"I think this is a really deplorable way of doing business" he said...He added, "This is not a parochial matter. With 7,000 people on the waiting list it affects everyone in Westshire."

Another Newtown member, councillor K said the authority had totally ignored the waiting list and warned there was still vigorous opposition there to the idea of a Newtown Hospital at all."215

On 2nd March a joint Westshire AHA/Westshire CHC and Newtown Hospital Action Committee delegation had met the Regional Chairman. The deputation's document laid out the development dates for Newtown and the Danesworthy projects. The RHA had proposed a six months delay for Newtown and a two year postponement of Danesworthy. The deputation sought to obtain a Newtown "no delay" agreement on the basis of several arguments. These included high transport costs from East Westshire to existing hospitals, the Newtowners' own demands for a hospital (the town now had the highest unemployment rate in the Borders Region standing at 20%), the pressure of work in Bartley Down, Westshire's long waiting lists, and the shortage of geriatric facilities. The document conceded likely delays at Danesworthy and said:

"We acknowledge the Regions budget problems but feel an injustice is being done...Westshire is being cut more than any other Authority. This cut cannot be justified by saying that we were lucky to have the largest allocation. That allocation is, itself a clear recognition of the great deprivation endured by East Westshire. Even when the DGH is open, Westshire will still lack DGH beds in most specialties, particularly geriatrics and mental illness"216

The joint deputation defined their goals thus:

"It is not too late to build the DGH by April 1987. An early decision should mean -  
- a start on site for DGH site works in July 1982 (it would not be sensible to start these in the Autumn, if account is taken of this year's winter).

- a start on site for DGH main contract in April 1983.
- at worst an 18 month delay in Danesworthy Specialist Hospital, as sacrifice towards balancing the Region's budget"<sup>217</sup>

Region's initial aim had been to put back Newtown for a year. The result of the deputation's protest emerged on 17th March 1982 when Borders RHA decided upon a reduction to five months delay at a meeting picketed by pro-hospital groups. The Danesworthy scheme was postponed by two years<sup>218</sup>.

The latter decision provoked reactions from senior medical staff. A newspaper report of 23rd March 1982 records a Westshire CHC discussion:

"An element of the top medical profession in the Borders Region is still trying to stop the Newtown hospital being built, it has been claimed at a Westshire Community Health Council.

Members were yesterday discussing the aftermath of the Region's decision to approve Newtown's £28 million first phase - but at the same time delay an operating theatre plan at the Danesworthy Specialist Hospital by two years...Mr F said he did not wish to be against Danesworthy, but he was concerned over Newtown and the feelings for the hospital at regional health authority level..."There are people in the region still trying to prevent the hospital being built...Not so much the members but the medical profession - the professors - who are saying, we do not really need this hospital, it's need hasn't been established"<sup>219</sup>

These political reverberations are not indicated in the Newtown Project Team Meeting of 2nd April 1982 where the approval of the five month delay by Region is recorded briefly. Room Study and Room Data Sheets were still being worked upon and the main building contract was under preparation<sup>220</sup>.



Westshire promotes the Newtown DGH

Westshire was starting to increase the amount of publicity on the new hospital. The Authority had by now established a Manpower and Commissioning Team and this group organized the publication of a news bulletin in May 1982 in which they summarised the outcome of NHS Newtown dealings for local consumption;

"Members of the Newtown Hospital Action Committee failed to prevent a five month delay to the new Newtown Hospital, despite protests at the March meeting of the Regional Health Authority...

Newtown Hospital is one of a number of projects subject to delay in the new Regional Operational Capital Programme, which covers the five years from 1983 to 1987.

Instead of preliminary site works such as laying of roads and drainage systems going ahead in April of this year, they have been postponed until September. This will also delay the main contract for the hospital - which was due to start in April 1983 - by five months.

These delays are the direct result of financial shortages within the health service in the region, as savings of up to £50 million on capital spending have to be made over the next five years"<sup>221</sup>

During May tenders for site works were invited and the contract was to be awarded in July. The main contract was to begin in 1983.

The Entry of the Aston Researchers:

The May 1982 bulletin also reports the entry of the Aston Work Organization Research Centre into the Newtown project:

"As the process of building and commissioning a new hospital is a complex one requiring many managerial and operational decisions to be taken the Manpower Commissioning Team for

Newtown invited several university departments to consider studying the process as part of an academic collaboration scheme, which has now resulted in an agreement with staff at the Management Centre at Aston University"<sup>222</sup>

The officers of the authority wanted certain practical help from Aston, especially feedback on the introduction of "new technology", then a fashionable phrase in management circles. But the involvement of a university research group could be seen in another light. This was the enhancement of status for the work of non-medical administrative staff, and the provision of a counterbalance to local anti-Newtown interests. Being under surveillance meant that the scheme's "seriousness" was confirmed. It emerged during the early days of the Aston involvement that certain officers on the Manpower and Commissioning Team were seeking to limit the amount of medical control over the commissioning process. There was an intention to place the design of work within the hospital more directly in the hands of administrative personnel.

On 12th May a document emerged from Westshire's personnel department entitled "Medical Organization - A time for Job Redesign". Looking at the conclusions of the Short Report on Medical Education it summarised the likely effects of increasing the number of hospital consultant staff. This was a key "Short" proposal. It saw the implementation of increased consultant staffing as leading to decreasing job satisfaction and a reduction in the professional loyalties created during medical training. These were "political vacuums" which could lead to the redesign of medical work and organization<sup>223</sup>.

The Aston involvement was thus perceived as an opportunity to gain advice in this process of job redesign and part of an intention to avoid the creation



of another Bartley Down situation at Newtown - a situation in which senior medical personnel were perceived as running the authority's health services in their own interests.

### Manpower and Service Planning Issues

Westshire had already prepared a Manpower Plan outlining its staffing proposals for Newtown. On 20th May 1982 the Westshire Manpower and Commissioning Team met to learn that their manpower plans were threatened by Borders action. In May 1981 they had placed a bid for £2,000 for early recruitment of staff. In April 1982 the Region had only allocated a Revenue Costs of Capital Scheme (RCCS) allowance of £23,000. The MCT thought that there was little chance of recruiting certain staff if appointments were left until the hospital opening date. The minutes of the meeting pose the question.

"What is the purpose of Westshire carrying out what is reputedly the most rational and painstaking manpower planning in the NHS if its conclusions are to be ignored?"<sup>224</sup>

Deciding to go through the District Management Team to Region to seek more funding the group aimed to obtain a revised allocation for their bid by March/April 1983.

The MCT met again on June 3rd 1983. The Westshire Acute Bed Strategy was under review. With the anticipated opening of Newtown, the pattern of specialty distribution would need to be examined as the final pattern of hospital closures and service reallocation was firmed up<sup>225</sup>.

Preparations were going ahead for the site works contract. On 24th June 1982 a RHA and Newtown Development Corporation group visited the site to iron out final problems before the contractors moved onto site<sup>226</sup>.

#### Freezing the Physical Design:

It could be said that viewed from the viewpoint of political process the total design of a hospital is never frozen. Even when the physical shell is erected on site the pattern of use intentions that are bonded to it are in a constant state of change. However, by the summer of 1982 the Borders Region regarded the physical layout as fixed<sup>227</sup>. Attempts were to be made later to change the hospital content, and detailed planning was still changing the final format, but all the chief actors regarded the process of design as complete. Thus within their own conceptions they drew a distinction between the bargaining that was conducted over the sketch layouts and the mundane tasks of producing detailed constructional drawings and specifications.

Therefore in the Newtown Project Team meetings one find a sense of tying up loose ends. Friday, 2nd July saw the group completing details of the site services. Consultation was still going on with the Department over minor details. Work on Room Study and Room Data Sheets was virtually complete and had received Westshire's approval. The site works were to begin that month and the contract had been let. The main contract was to commence in September 1983. Much of the work at this meeting revolved around matters such as hospital signs, refuse disposal, telephones, front doorbells and car park lighting. Many of these questions were dealt with routinely in the light of existing Regional design practice. The DHSS had



issued a revised Building Note for non-resident staff changing facilities and the Design Team had revised this department in concert with the commercial firm who were supplying the equipment<sup>228</sup>.

#### Newtown DGH Starts on Site:

The first sod was cut on the Newtown site on Thursday, 29th July. The future of the project seemed assured. A report in a Newtown paper quoted the history of protest over delays to the starting date. Answering criticisms a Borders officer said:

"The regional health authority try to be responsive to local demands and representations. But sometimes, for reasons beyond our control, we are unable to do so. In this particular case we are happy to say that we have been able to go some way towards meeting local views"<sup>229</sup>

Watched by members of the District Council, the RHA, Westshire CHC, Newtown Development Corporation, and his own authority, the Westshire Chairman sat at the controls of the mechanical digger. With the assistance of the digger driver he drove the excavator's teeth into the soil.

#### The Rayner letter: The Newtown Financial Crisis Begins:

On 23rd September the DHSS wrote to Region placing restrictions upon the invitation of tenders and awarding of contracts. This communication was the result of central management initiatives by B.R. Rayner at DHSS. During the following period of NHS financial restrictions it became known as the "Rayner Letter." The letter stated:

"Authorities may continue to invite tenders and to let contracts where they are satisfied.

- a that the scheme will reduce revenue spending or can be commissioned in full without any additional recurring revenue commitment, or
- b the extra revenue requirements for a scheme that will call for additional resources can be met from closures already endorsed by CHC's, informal consultation, or agreed by Ministers<sup>230</sup>.

Advising District chairmen that these conditions could place severe limits on authorities the Regional Administrator said that informal contacts with the Department suggested the real position might not be so serious<sup>231</sup>.

Whatever the immediate position was development work continued on Newtown. A team from Westshire visited the Chester Nucleus Hospital on a fault finding exercise. The Area Building Officer reported his findings on 8th October 1982<sup>232</sup>. These chiefly consisted of criticisms of constructional and finishing materials, which were to be fed into the working drawings for Newtown. These matters were reviewed at the Westshire MCT meeting of 12th October and passed on to the Project Team. Site works were by now progressing well. Revisions were being considered to one of the operating theatres, but changes were to be made as a post contract item. The Area's officers had been investigating the use of a chilled "blastfreeze" meal system but were informed by the Region that it was now too late to install it. The intention had been to cut the numbers and cost of catering staff. New designs were being examined for on-site hospital housing and comparisons made with RHA standard designs. It was decided to coordinate the building of off-site housing with Newtown Development Corporations<sup>233</sup>.



At Departmental level important moves in the cost control of new hospital developments were taking place. New management policies aimed at bringing tighter controls over new schemes had been introduced. The "Rayner letter" dispatched to RHA's required detailed information on the functional content of new hospitals and their relationship to service planning. Also required were details of changes in service provision and distribution and details of the minimum levels of RCCS required for new and existing hospital provision<sup>234</sup>.

The Region sent a supply of Rayner forms to Westshire on 19th November 1982. Borders asked the Westshire Treasurer for their prompt return so that the Regional capital budget could be calculated. Borders concluded their letter by saying:

"In reviewing the revenue consequences of capital schemes, Treasurer's are reminded that national average costs (as given in the sample of 45 standard data) are to be regarded as a ceiling rather than the norm and submissions significantly lower than this level are expected"<sup>235</sup>

Another financial squeeze was on Westshire and Borders would have to convince the Department that the costs of running Newtown were reasonable.

On the day following the dispatch of this letter, 18th November, a Westshire paper carried the headline "New Threat to Hospital". In this article an RHA officer said:

"We are required by the Department of Health to undertake this exercise and to that extent it poses a question mark over all schemes, although it certainly doesn't mean all schemes, or any particular scheme, will necessarily be delayed or axed...it may end that some schemes will not be delayed at all and start

as planned, it may mean a month or two delay or a delay up to a year or longer; it may mean some are put aside indefinitely"236

He brought out the implications of the Department's moves:

"...we would not be permitted to go ahead and invite tenders for any hospital unless we and the district health authority can demonstrate in advance there are sufficient savings to enable the scheme to open and not remain a white elephant"237

RHA staff were aiming at savings of £8 - £15 million. The article quoted a Westshire spokesman:

"No-one has been told to stop work on Newtown. We have a firm assumption it is still there"238

The Friday, 3rd December meeting of the Project Team resolved several detailed site matters. The RHA had agreed to part of the land to the north of the site being used for industrial purposes. This was viewed with disquiet by Westshire officers in the light of experience on the first project. Agreement had at last been reached over the size of the EBME department.

"The Stage 2 submission entry for the EBME Department was for an entry of 216m<sup>2</sup> at a cost of £ 73,000 which the Department had considered to be excessively large. After visiting the EBME at Bartley Down Dr Y. of the DHSS had recommended an area of 163m<sup>2</sup> costing £ 64,000. The Department had since formally confirmed the later-mentioned figure and had uplifted the overall approved sum accordingly"239

Work had also begun on Phase 2 of the Newtown design, with the assumption that the Project Team could be briefed by May 1983.

By now there was a call for all final information so that the Design Team could meet the September 1983 start date. Several areas were still incomplete - the dental department, staff changing, the kitchen and the Operating Theatres. The Westshire consultant surgeons at Danesworthy were insisting upon the use of a Charnley-Howarth unit to be incorporated



into the latter facility. To these matters of concern was added the potential difficulties of the Rayner letter originally dispatched by the DHSS on 23rd September 1982.

"The significance of the...letter for the Newtown Project was the Departmental requirement that where a scheme would generate extra revenue requirements tenders could only be invited when the RHA was satisfied that the additional requirement could be met from within the DHA's existing revenue allocation having taken closures into account. It was known that after taking into account the closures agreed to-date...there would still be a shortfall of at least £3.5 million per year (November 1978 price level) against the revenue costs of Phase I of the Newtown DGH...the District Management Team were committed to opening Newtown DGH on time and were urgently considering options for saving the substantial additional revenue required with a view to putting forward proposals at the meeting with the RHA's Planning Advisory Group on 21st December 1982. It was noted...that if tenders were to be invited on programme, agreement on the RCCS (including completion of consultation with the CHC of any additional closures involved) would need to have been obtained by February 1983"<sup>240</sup>

#### Region Delays Newtown Again

In January 1983 Borders Region decided to put back the Newtown hospital for a further six months. There were immediate protests from Newtowners. The Chairman of the Hospital Action Group wrote to a local newspaper on 3rd February 1983 calling upon members of the public to make representations<sup>241</sup>. With another General Election approaching parliamentary candidates were quick to intervene. A Newtown newspaper carried the following report on 4th February 1983:

"The Newtown Hospital Action Group is to be reactivated to fight the latest delay to work on the urgently needed £27 million Newtown Hospital.

The news from Borders RHA that the major contract had been frozen for six months after being caught in a cash crisis was described as "a further quite intolerable delay" by the prospective Labour Party candidate for East Westshire.

The health authority has suspended the letting of all contracts until the autumn...The Newtown main contract was due to have started on April 1st.

The secretary of the action committee Councillor T said this week that the fresh delay was "disgraceful"...He said the campaign would be reactivated...it was not just a question of money being available. The government had money available. "For less people than are unemployed in South Newtown the government can find money for the Falkland Islands. Why is the welfare of the people in the Falkland Islands suddenly so important?"

Within a week the Minister had been involved<sup>242</sup>. A February 10th newspaper article reads:

"Hopes of reducing the delay to Newtown District Hospital were fading today after Health Minister Kenneth Clark refused to intervene.

The Minister told East Westshire MP...yesterday that the problem was one for Westshire and the regional authority to sort out between themselves"<sup>243</sup>

The East Westshire MP said that staffing ratios in the new hospital should be examined for possible savings and consideration given to putting hospital hotel services out to tender<sup>244</sup>.

#### The District Authority Rethink their Service Planning

The Region's decision to delay Newtown once more forced Westshire to reconsider the service planning rationale underpinning Newtown. Westshire's Treasurer had returned the "Rayner Forms" on 23rd December 1982<sup>245</sup>. In January 1983 the Westshire and Borders Chairman had discussed the closure of three Westshire hospitals to raise funding for the Newtown development. These proposals were put to the District Authority. The initial package had sought to save £3 million. At the



District Management Team Meeting at the start of February the Westshire Treasurer said that if the Rayner moves were taken to a conclusion the Authority would have to find £ 8.9 million. Thought was given to abandoning the Newtown DGH and the addition of a Phase 4 to Bartley Down. Westshire's General Administrator for the DGH scheme said:

"It was not a very happy few weeks." (Fieldwork Notebook)<sup>246</sup>

The District Officers drew up a series of five options setting out ways of making savings. Using a computer based "in-house" Financial Information Project to generate data they sought to convince the Region that they were considering the matter deeply<sup>247</sup>. The Rayner letter and its consequences had forced them to think in fundamental service terms. There were several constraints. Closure of the costly Danesworthy Specialist Hospital was politically unacceptable. Bartley Down could not be cut back and the facilities there would become overloaded if the patient services slated for Newtown were not available. The problems seemed unsurmountable:

"There were moments where we were ga-ga, we just couldn't handle it" (Westshire General Administrator: Fieldwork Notebook)<sup>248</sup>

Westshire's options were sent to Borders Region on 11th February 1983.

The District Administrator wrote:

"As you know this hospital is my Authority's highest priority and the Authority are...concerned to minimise any delay in starting the scheme...the DMT have put in hand an intensive exercise in option appraisal. This will continue over the next few weeks but we believe it will be helpful to send some information now...by nature of a progress report. We have in mind...the forthcoming meeting between the RTO and RL Division of the DHSS and the earlier meeting of the Acute Services Planning group on Monday next, 14th February...

The District Treasurer's letter of 23rd December 1982 referred to the currently accepted position of closing the X and Y hospitals and also to earlier proposals rejected by the then Minister of Health which included the cottage hospitals for closure. Details are attached of the service and financial implications of both these options (Current Service plan and Option A). The DMT's conclusion in regard to Option A is that closure of these four cottage hospitals is likely to cause very great local resistance whilst the contribution which closure could make for the funding of Newtown is in each case relatively small.

We have also considered the sort of changes which would need to be made if the District were to provide the total revenue funding for Newtown. Since the revenue for Newtown represents about 1/6th of the Authority's total budget it could be expected that changes on such a scale would have a far reaching effect on the totality of health services in Westshire. We give details in Options D and E of two ways in which the money might in theory be found. I say in theory because it will be evident that each of these would be totally unacceptable in terms of overall service provision...

We attach details of two other Options B and C. Option C involves the closure of the Z district hospital, and the transfer of its services into the Danesworthy Specialist Hospital. Our strong preference would be for Option B and although we are not yet in a position to make a firm recommendation, our DMT's consideration of this option so far suggest it could be a viable one"<sup>249</sup>

Option B proposed the complete closure of three hospitals and part of a fourth. It avoided interference with the powerful Danesworthy interests and Bartley Down, but gave them a heavier case load which would burden their theatre facilities. It would save £3.2 million. The DMT commented:

"Such a package, by avoiding closure of thee cottage hospitals in East Westshire, will be less unacceptable to local interests"<sup>250</sup>

A brief examination of options D and E reveals the great opposition that Westshire DMT were facing in trying to make large revenue savings. Option D involved the closure of Danesworthy and eight other small units and would save £8 million. The DMT's comments on this course of action were:



"Unwavering support would be required from RHA/DHSS for such a proposal, bearing in mind the clinical, political and social upheavals involved"<sup>251</sup>

Option E, which retained Danesworthy, Bartley Down, and three other hospitals involved the closure of all other Authority hospitals. Generating savings of £7,300,00 the DMT considered that:

"Such a sweeping change in the pattern of hospital provision would meet considerable resistance from the community, the medical profession and local and national politicians. The implications of running a service so far below norm on Geriatric provision are disturbing: bed blocking of General and Acute beds would be endemic, and the pressure on Community services would be unendurable. Furthermore this unattractive option does not release the total RCCS required"<sup>252</sup>

Whilst Westshire was disputing its case with the Region, the Director of Finance and Administration of the District Council for the Newtown area wrote to the Minister of Health on 18th March:

"Further to my letters of 15th and 18th February for which I do not seem to have had your reply, I write again concerning the seriousness of the delay in starting the Newtown hospital"<sup>253</sup>

Noting that the Region had told the Council that the whole hospital scheme might be in jeopardy he put his council's views to the Minister:

- "a) That this Council views with grave concern the fact that what was originally regarded as a six month delay in continuing the Newtown Hospital is in fact a decision to decide in six months whether to proceed at all.
- b) that we demand that the position be immediately resolved by the DHSS at national level, funding that part of the revenue consequences of the Newtown Hospital which cannot be identified locally.

- c) that the DHSS be informed that the hospital building can and must proceed immediately"<sup>254</sup>

On 24th March the Westshire Authority was looking at the cuts options. Most members were in the middle, not knowing how to vote. The old divisions seemed to have healed<sup>255</sup>. On the last day of March Westshire received a letter from the Border's chairman stating that the Region was unwilling to underwrite the £19,250,000 Newtown revenue costs when the District was only offering £4,250,000 in revenue savings. This was followed up by a phone call from the Borders Chairman to the Westshire Chairman reiterating the letter's contents. The Westshire chairman refused

"to bail the RHA out of trouble"<sup>254</sup> (Westshire Officer : Fieldwork Notebook)<sup>256</sup>

This was not the end of the political complexities. One of the hospitals advanced for closure was in the constituency of an important member of the Conservative government and a General Election was not far off.

A DHSS representative had been to Westshire to gauge the local situation and had been at the Authority meeting when closure options had been discussed. At the 14th February meeting between the Regional Team of Officers and the DHSS the Department had been supportive of the Newtown project.

The pattern of closures opted for by Westshire involved a deficit in geriatric beds. Although the DMT had tried to steer choices to options involving the least controversy, it was impossible to avoid the opposition of medical professionals. It was no longer possible:



"to buy off the acute sector by giving them fancy new toys to play with" (Westshire officer : Fieldwork Notebook)<sup>257</sup>

On 13th April 1983 Westshire DMT met the Regional Planning Advisory Group with the five District closure options on the agenda<sup>258</sup>. Option B was still Westshire's front runner. The Regional Acute Care Group had already examined the alternatives and thought that the implementation of any one of them would leave the District with an overprovision of beds. The Planning Advisory Group criticised the poor utilisation of beds at Danesworthy. They put forward options to meet the Newtown costs:

- "1) Ask DHSS for £ 4 million shortfall revenue (or contribution towards it)
- 2) Region top slices £ 4 million (or balance after DHSS contribution)
- 3) Newtown development does not proceed"<sup>259</sup>

At this stage of the project some District officers were beginning to think that the cancellation of Newtown was highly probable. On 3rd May 1983 an article appeared in a Westshire evening paper. According to the researcher's District informants it had been inserted on the initiative of several senior Westshire officers and was deliberately framed to put pressure on Border's Region and to portray their approach as muddled<sup>260</sup>. Headed "Hospitals to Pay for Newtown" it began by outlining Westshire's cuts options and continued:

"The slashing cutbacks are prompted by the growing cash crisis in the Borders NHS and particularly the deadlock over funding Newtown Hospital's enormous annual running costs - £ 9.5 million.

All capital projects with substantial running costs have in the meantime been frozen by the Borders RHA while it reviews its troubled finances, a move which has already resulted in delaying Newtown from autumn this year until spring 1984"<sup>261</sup>

The article had an immediate effect. The following morning an RHA officer rang the Westshire headquarters and asked if anything about Newtown had appeared in the local press. Rita, the telephonist, read him the article over the phone. On the same day in the office across the corridor a Westshire officer told the researcher he would not be surprised if the Newtown Hospital Action Group made representations to Region, a factor which he had obviously calculated<sup>262</sup>.

On Thursday, 5th May 1983 a Westshire officer attended a meeting of consultant and other staff at Bartley Down. They were still assuming that Newtown would not be built and were hostile to it. A consultant anaesthetist made scathing remarks about:

"The quality of life in East Westshire" (Fieldwork Notebook)<sup>263</sup>

The public debate over closures was hotting up. A report in a Westshire evening paper on 6th May quoted the views of a county councillor representing the area containing the Danesworthy Hospital. Describing the closure of three hospitals and two wards at Danesworthy as a "scalpel in the back" the former vice-chairman of the Westshire Health Authority said:

"No one would deny Newtown's need for reasonable hospital provision but this plundering of existing services verges on piracy.

The Danesworthy hospital deserves new investment, not to have its services cut. The suggested axing of two wards will be seen as an act of clinical vandalism and must be resisted"<sup>264</sup>

His view is a familiar repetition of the position taken by Danesworthy and



Bartley medical staff. He concludes:

"Even when the Newtown strategy was being evolved some of us warned that even if the hospital was built there would be difficulty in meeting the cost of running it - and that money should have been spent on completing the final stage of the Bartley Down Hospital"<sup>265</sup>

By Tuesday, 10th May 1983 a Westshire planner was examining the motivations behind Regional tactics. He speculated to the officer in charge of the Newtown Project that the Region probably wanted to spend the Newtown monies on the RHA's computer programme<sup>266</sup>.

On Thursday, May 12th there was a DMT meeting at which the service cuts were again examined. Afterwards a group of officers discussed the Team's approach. One remarked of the DMT:

"They are administrators, not politicians" (Westshire Officer : Fieldwork Notebook)<sup>267</sup>

The hostility to DHSS political activity was manifest.

Westshire heard from Borders Regional Team of officers on 17th May. The District was asked to consider all the closures listed under its options and to undertake extra cuts. The RTO claimed there was little possibility of further DHSS monies. At this stage of play a Westshire informant said that a Phase 4 added at Bartley now seemed likely. Any attempt to close Danesworthy would be severely resisted, despite the fact that this facility was so underused that there were a 100 empty beds at any given time. Such was the influence of the consultant staff that this situation was allowed to continue and the proposals to close two wards had already caused "heavy

flak". However, the surgeons at Bartley Down were the most likely to be the main group in favour of ditching Newtown. The options put forward by the DMT and approved by the authority were as far as Westshire could go in making savings, and they were unlikely to accept the RHA's demands for more cuts<sup>268</sup>.

The Newtown funding crisis reached the pages of the Guardian on the same day. The article reported that £3.75 million had already been spent on planning the Newtown project:

"Proposals that the health authority approach the Department of Health for extra cash or the Department of the Environment for "new town" money have been ruled out.

The District Management Team argue that apart from the money spent on architect's fees and site works which would be "wasted" cancellation of the new hospital would mean that Newtown will be left with inadequate accident and casualty facilities with poor equipment...

The Borders RHA will decide tomorrow whether they can make enough cuts to allow them to ask the Department of Health to go ahead with the hospital"<sup>269</sup>

May 17th also saw other developments. A letter from B.R. Rayner at DHSS, Euston Tower (DA (83) 26) arrived at Westshire instructing Health Authorities to be guarded in communicating information during the run-up to the General Election. Authorities were to give only factual information and not reveal policy intentions to political candidates. They were to refrain from getting involved in media coverage<sup>270</sup>. This effectively tied Westshire's hands in publicising their difficulties. On the bonus side, a likely effect of the campaign was an intensification of lobbying at Region, and the presence of a banner waving delegation from the "Newtown Hospital - Now!" group at the RHA meeting on the following day<sup>271</sup>. Thus



elements in the Election campaign might favour Newtown. The previous Sunday the Westshire Chairman had appeared on the ITV programme "Weekend World". His position as a prominent local Conservative Party activist could well be an important element in the decision. In the programme he was seen husbanding the Bartley Conservative cause. Any unwise decisions on Newtown could damage his party's vote<sup>272</sup>.

At this time a Westshire informant told the researcher of the danger of the Authority's lay membership splitting over the issue at the Authority meeting on 26th May. His evaluation was that the RHA had been naive. They had left Westshire no room for negotiation and the Region's terms were bound to be rejected. For the District the best course of action was to get the Minister and DHSS to impose a decision from above. One of the Westshire officers commented that:

"the RHA can be said to have delegated power through to Westshire. They have given the District a choice of hospitals that they can close to get Newtown. This democratic freedom means little when the main consideration is who holds the purse strings" (Fieldwork Notebook)<sup>273</sup>

Within Westshire the influential voice was that of the Bartley community and medical factions. Newtown only remained viable because of the Development Corporation and the injection of central funds. If this were withdrawn Newtown

"would become a ghost town within two years. The Bartley group wouldn't do anything about it" (Westshire Officer : Fieldwork Notebook)<sup>274</sup>

The Newtown planning group at Westshire saw two possible interpretations of the Borders position. Either the Region meant it or it was a political ploy:

"They have to be seen as screwing Westshire to satisfy the other Districts" (Westshire Officer : Fieldwork Notebook)<sup>275</sup>

Nevertheless abandoning Newtown meant costly aborted work. The RHA's own figures put current design costs at £ 1.72 million plus £ 1.2 million expended on the site contract costs<sup>276</sup>.

The District had gone "public" with its option appraisals and had consulted its staff. There were calls for an open meeting on Newtown DGH and Authority members were being approached by local MP's and councillors.

Resolving the "Funding Crisis": from "Rational Planning" to "Pure Politics and Horse Trading"

How was the funding problem to be resolved? The only rapid channel of communication between District, Region, and the Department was through the District and Regional chairmen (the Minister's political appointees). Several Westshire officers saw the impasse as due to bullying tactics by the Regional Chairman, and corresponding resistance by his District counterpart. They expected the Regional Chairman to get the District leader "into a smoke filled room and tell him not to rock the boat." They felt an oppressive increase in central control:

"We've never had this before. It means we spend all the time on the major political issues and the detailed planning suffers"<sup>277</sup> (Westshire Officer: Fieldwork Notebook)

As one of the Westshire staff worked on the District's reply to the Region he commented:



"its no use relying on emotion, we've got to have a rationally constructed case"<sup>278</sup>

Wednesday, 18th May came and the resultant paper was submitted to the DMT. It summarised the unacceptable nature of further closures and was backed by justificatory statistics. Looking at the paper that morning the Nurse Planner suggested the inclusion of extra figures showing Westshire's lower staffing levels. This being done the paper was sent upstairs to the meeting<sup>279</sup>.

Unusually, at this "crisis meeting", the authority chairman sat with the Team as they considered the position. The Westshire Administrator was in favour of monies allocated for geriatric services going to the Newtown scheme. Informants told the researcher that the chairman was unlikely to agree to this even if he were under pressure from Conservative Central Office. After considering their case the District Administrator and Treasurer went to the RHA in the afternoon<sup>280</sup>.

The Region had published additional proposals on Newtown without informing Westshire. The "premature" release of this document made it impossible for the District to make cuts at the Danesworthy Hospital. Having got wind of the Regions policy aims the Danesworthy staff had arranged a public protest meeting for the following day. During the afternoon of 18th May one of the Westshire planning staff phoned region. He complained angrily of the lack of contact with the District, and pointed out the embarrassment caused by the reading of this information by Westshire Unit Administrators before the District could prepare its case. Putting down the telephone he turned to a colleague and said:

"Perhaps we are in a bargaining game after all" (Westshire Officer : Fieldwork Notebook)<sup>281</sup>

Discussing the issue the impression dawned upon the two men that the Region wanted them:

"to shoot down its paper so it could go cap in hand to the DHSS" (Westshire Officer : Fieldwork Notebook)<sup>282</sup>

On Thursday, May 19th, officers at Westshire learned of the outcome of the RHA meeting attended by the Administrator and Treasurer. The decision had been that if Westshire wanted Newtown DGH they would have to pay for it. Ironically, but not surprisingly, the motion had been seconded by a Westshire lay member of the RHA. She was a Bartley resident, and cryptically described by a Westshire Officer as:

"Large hatted, well heeled, and not much between the ears" (Fieldwork Notebook)<sup>283</sup>

This news had reached the District planners through a press contact. Discussing their options in the planning office Westshire staff saw the District Administrator and Treasurer as willing to make concessions. Westshire could offer up to £6 million towards Newtown if it cut services hard. It looked as if the Region would stick to its position as it wanted to get itself out of financial problems elsewhere. The District Health Authority would find it hard to consider all of the implications at their 26th May meeting. The most likely course would be for them to hold a special private Newtown session in early June. Almost certainly the consultant staff would press for extra wards to be added at Bartley Down. They expected Newtown to be put back for another year. This would offer the



advantage of placing the resolution of the hospital's funding problems beyond the Election period. The Election itself was to take place in three weeks time<sup>284</sup>.

That evening the report of the RHA meeting was published in the local press:

"Battle lines were being drawn up today after the go-ahead for Newtown DGH and the price which will have to be paid for it. Newtown's gain could be someone else's loss...and the whole affair was likened to a game of Health Services roulette"<sup>285</sup>

The report stressed the anger at the Regional Meeting and quoted the Westshire District Administrator:

"The authority chairman is meeting with the regional chairman on Monday morning with officer teams from the two authorities to examine the proposals"<sup>286</sup>

The RHA voted special powers to its chairman to resolve the matter. It approved the closure of three Westshire hospitals, the partial closure of another and the shutting down of four wards at Danesworthy. This still left a shortfall of £3 million to fund Newtown. The RHA chairman explained the position regarding Departmental assistance:

"These approaches have been tried. Ministers, he said, had declared there would be no Department funds...there would be no "external crock of gold" to solve the problem..."<sup>287</sup>

The Regional Medical Officer supported the Newtown scheme and argued for the closures claiming that Westshire would end up with a better service. The Regional Treasurer said that Newtown was the most difficult problem facing the Region.

After the meeting NHS Union representatives threatened industrial action and a Westshire CHC spokesman declared that his council felt let down by the RHA<sup>288</sup>.

The position was now this. The region's endorsement of large scale cuts by Westshire could be interpreted as support for the District Authority. In fact all parties were well aware that this level of cuts would not be tolerated by the factions within Westshire itself. The District would not be able to sustain this kind of redesign of its health care provision. Therefore, the Regional move had the effect of delaying the scheme, or at worst giving Newtown's opponents another chance to veto it.

By Friday, 20th May the District Administrator and Treasurer had put together two papers to take to Region on Monday 23rd. The outcome of this meeting was reported back at the Westshire Authority meeting on the 26th May 1983. Before the meeting opened the Westshire Chairman and Administrator talked over their strategy for the funding of Newtown. They looked up as the planning officer overseeing the scheme walked into the committee room:

Chairman:	"I suppose you think you're not going to be lynched here?"
Officer:	"Is that a promise?" <sup>289</sup> (Fieldwork Notebook)

Opening the public part of the meeting the chairman said that he did not want a big debate. He described the two hours he had spent at the Region trying to get agreement. At the end of the discussion there was still a wide gap.



"We weren't prepared to accept willy nilly what they proposed"  
(Fieldwork Notebook)<sup>290</sup>

He said that Newtown would be built if the revenue gap could be bridged. Papers would be produced looking at all services and these would be discussed in June after consultation with medical and other staffs. The Authority would meet again on 30th June to consider the outcome. This would best be done in private session. The Chairman criticised the action of the RHA for releasing information to the press which had caused controversy within the District.

His predecessor as chairman spoke of the current situation, on the first hospital site. He said that if it hadn't have been for the incinerator and the refinery proposals the hospital would be completed.

"We wouldn't be in the same difficulties as we are now. Its sad to me that it's a barren site - the incinerator site is empty, and the other one. It's a sad state of affairs we're in now"<sup>291</sup>  
(Fieldwork Notebook)

His remarks were followed by those of another member who referred to the closure proposals being followed by "a great upset" at the Danesworthy hospital.

With the exclusion of the public the debate continued in the second part of the meeting. The Chairman referred to a letter received from the RHA chairman on 24th May 1980. The letter dealt with the Districts difficulties in re-examining closure options. It asked Westshire to use the RHA's procedure to calculate costs. If the District could find funding through closures:

"...the RHA would permit an early start on site without full consultation on the proposals"<sup>292</sup>

During the member's discussion it emerged that the proposed ward closures at Danesworthy announced by Region had caused much controversy. Some members said that in erecting Newtown they would be providing a second rate hospital. The Chairman said there was no possibility of extra DHSS money as the Minister was supporting Region. Subsequently:

"Members made it clear that unless funding could be found without decimating the existing hospital services they would be strongly opposed to the scheme"<sup>293</sup>

The Authority's decision reflected their perception of a state of impasse between Borders and Westshire. However, the resolution passed opened again once more the definite possibility of cancelling Newtown upon publicly acceptable grounds.

The Regional Chairman's suggestions to Westshire were that in their funding review they should reduce the estimated running costs of the new hospital by 10%, redesignate GP medical beds in cottage hospitals as geriatric beds and consider the closure of further wards at Danesworthy. The currently available "Strategy for Change" monies could be allocated to Newtown<sup>294</sup>.

The District began their financial review and met the Regional officers on 16th June 1983. At this meeting the Region began to change its stance.



These matters were raised at the private session of the Authority on June 30th. There had been some opposition to the District's proposals. Doctors had vetoed the "mothballing" of the proposed coronary care beds in the new DGH. Consequently, the DMT could only find a 5% saving on Newtown's costs, compared to the 10% demanded by Region. They were proposing the closure of only two Danesworthy wards rather than four. Closures in other hospitals and reductions in bed numbers would provide the remainder of savings. Taking the "Strategy for Change" money into account they could contribute £6.4 million for Newtown, leaving a balance of £2.1 million to be found<sup>295</sup>.

At this time the Regional and District Chairmen were negotiating directly. Explaining the nature of these bargaining sessions the Westshire Chairmen told the private session of

"...pure politics and horsetrading" (Fieldwork Notebook)<sup>296</sup>

Financial juggling had become the most important factor - service requirements were of secondary importance. The chairman's statement swayed the meeting. He said to the lay members:

"We're not talking about service planning, the problem is the money"<sup>297</sup> (Fieldwork Notebook)

He told them of the outcome of an important meeting two days before:

"...he had been summoned to a meeting on the evening of the 28th June with the Minister and RHA Chairman at the House of Commons. The meeting, which had been called at the request of the Minister was also attended by the Regional Medical Officer and Mr O. of the DHSS.

...The meeting with the Minister was to talk about the problems in Westshire and the difficulties being experienced in finding the full revenue required for the hospital. The

chairman had explained to the Minister that there had been a great deal of consultation between himself, the Vice-Chairman and the district team...He pointed out also that the majority of medical staff felt the proposals were going too far. At this stage the RHA chairman had made it clear that the hospital must be built. The Minister pointed out that there was no national money available to meet the revenue short fall. The proposals still left a shortfall of £2.1 million which the RHA chairman had suggested could be bridged by Westshire using its "Strategy for Change" money.

The discussion had ended with the Minister saying that the RHA had arrived at their figures without making allowance for growth. A Government paper would be produced within the next three or four weeks which would show that there was growth money available. Even if the Authority accepted the present proposals there would be no guarantee from the RHA that they would bridge the gap. The fact remained that the RHA chairman would be expecting the Authority to make a definite decision and that whatever the sacrifices the Newtown Hospital would be built"<sup>298</sup>

The Chairman told the Westshire members that they could not go any further in making cuts. The gap of £2.1 million remained. The meeting should vote for the package as an act of faith in government and forget the shortfall. Once the hospital was being built nobody could stop it being used and the District's hand would be strengthened. All the District had to do was to prove to the Region that they would not be depriving the rest of the county. The best course was to authorise him to deal with the Region.

"The members saw it was about bargaining"<sup>299</sup> (Westshire Officer : Fieldwork Notebook)

The members voted to accept the review proposals and empowered the chairman to conduct negotiations:

"The opposition was in a minority, a mixed bunch including one right-winger [pro-Bartley], and one socialist opposing the government. (Westshire Officer : Fieldwork Notebook)<sup>300</sup>



July was a month of compromise making between the Region and the District. During this time a new financial deal was hammered out.

"There was a lot of hard talking done"<sup>301</sup>. (Westshire Officer: Fieldwork Notebook).

On the 13th July the Regional Chairman set out the terms of a settlement:

"I think that Monday's review meeting between us helped to convince both of us that the Newtown DGH can be afforded. It now remains for you to convince your DHA of the justice of the case"<sup>302</sup>

He agreed that the RHA would contribute the missing £ 2.1 million. £ 1 million would be given to recognise Westshire's New Town problem and the remaining £1.1 million was to come from the "development addition" which the Region was expecting to receive from government. He set out the figures thus:

Proposed Funding for Newtown DGH <sup>303</sup>

	£000	£000
Savings on RCCS (at 5%)	500	
Closures agreed mutually	<u>4,900</u>	
Total	<u>5,400</u>	
Additional savings on RCCS (at 5%)	500	
RHA contributions	2,100	8,000
Strategy for change contribution		<u>1,500</u>
Target finance required		9,500

The formulation of these figures meant some diversion of funds from "special care" groups to the Newtown acute provision.

"It looked like a geriatrics versus acute punch up"<sup>304</sup>  
(Westshire Officer : Fieldwork Notebook)

The juggling of funds had left existing RCCS policies "in tatters" and the Districts Health Strategy compromised. In fact, £ 2.5 million had been allocated for special care groups - £ 1.6 million to be found through increased efficiency in the DHA and the balance being made up by the RHA:

"I still think its chicanery"<sup>305</sup> (Westshire Officer : Fieldwork Notebook)

The July 1983 meeting of the District Authority learned of an offer from Borders Region which involved the closure of a Westshire mental illness unit in return for a five year Regional loan to enable special care groups to be integrated into the local community. This would help the total funding situation. In addition the chairman outlined the complicated bargains struck over geriatric norms with the Region<sup>306</sup>.

During the funding episode both Region and District had moved their positions. Borders had been more flexible and shown a willingness to cobble together a rescue package for Newtown, whilst Westshire had become more prepared to grasp the professional nettles within its own area.

Medical opposition was mounting. All of the Westshire consultant staff, save two, signed a "round robin" protesting at the proposed changes in service provision. One was the consultant pathologist whose role in the Newtown design had been so influential. The other was the medical member of the District Management Team, the Bartley Down consultant radiologist. In Borders Newtown layout both pathology and radiology had gained generous provisions for their respective disciplines.



The DMT had failed to consult senior medical staff over the proposed changes. In signing the protest document each consultant specialism had different motives. These reasons related to the precise pattern of changes negotiated with Region.

Consultant surgeons at Bartley signed because they knew some of their resources would be transferred to Newtown and did not wish to practise there. In addition they were opposed to the placing of patients from closed units in their operating theatres and wards.

The physicians shared the surgeons' concerns, but were also worried about the impact of geriatric transfers upon their workload.

Psychiatrists had been expecting an increase in funding. They were opposed because the changed arrangements meant no extra money.

The Obstetricians and Gynaecologists found their specialties below service norms. The division of services between Newtown and Bartley would mean increased travel between sites.

The Paediatricians signed because they were worried that they were under pressure for efficiency and that managerial pressure on all specialties would increase.

Generally the District consultant staff thought that the new policies were unworkable. Their influence on the lay members was such that the unanimity of late June was broken. When the July 21st 1983 meeting voted

on the Newtown salvage package the authority split and the proposals were only carried by the Chairman's casting vote.

Sometime before the meeting it had looked as if the scheme would be lost because of the strength of the Bartley interest. The early splits had followed geographical lines - Bartley versus Newtown. However, the views of key individuals changed. One lay member and Bartley supporter with a mentally handicapped son supported Newtown when he found that his original stance would mean cuts in provision for the mentally handicapped. A Quaker GP and Newtown supporter changed his views when he found that the new hospital would lead to a reduction of facilities in his home town. Those of a socialist disposition on the authority backed Newtown when they saw a chance of breaking the existing distribution of resources. In the event the July vote had been far from predictable.

"These were knife edge decisions. People didn't know how to vote before the meeting"<sup>307</sup> (Westshire Officer : Fieldwork Notebook)

At this point the pressures on the Ministry were considerable. The government was pledged to provide additional monies by the earlier House of Commons meeting. This meeting on 28th June (and already described above) would seem to have included a Ministerial promise to make Newtown achievable. However, the likelihood was that the government would have to make further NHS cuts before the next election. The ability of the Westshire officers to out-manoeuvre their own professional staffs and to sustain their cuts proposals had called the Region's financial bluff. In obtaining Ministerial support for the funding deal the Westshire team thought they:



"had the RHA and DHSS over a barrel"<sup>308</sup> (Westshire Officer : Fieldwork Notebook)

In mid-October 1983 the District released a consultation booklet. This brought about a period of intense activity. Local general practitioners resisted the proposals. Consultant staff in a neighbouring district were putting up considerable opposition. The Westshire cuts would have "knock on" implications for their hospitals. Local consultants contacted MP's, the Minister, the Prime Minister and the Queen. The DMT were meeting local councils and other Westshire officers liaising with other bodies.

Within Westshire managerial circles little importance was being placed upon pressures from outside the authority:

"Only our own professionals and people with solutions will be listened to -the people who can do us damage"<sup>309</sup> (Westshire Officer : Fieldwork Notebook)

The Westshire consultation booklet outlined the price to be paid for Newtown. These measures included the complete closure of four hospitals (including two cottage hospitals), the removal of 70 beds from Danesworthy Hospital, and the elimination of beds from two other hospitals. Over 100 beds counted as General Practitioner beds were to be redesignated as geriatric places. "Will it be worthwhile?" asked the consultation paper. It gave the following reply:

"The commitment of the Westshire Health Authority...to a Newtown Hospital has been long standing...but the change in the Regional Health Authority's funding policy has substantially raised the "price" which Westshire now has to pay for the hospital in terms of changes in the country's existing health services. Reviewing these, in putting together the present proposals, has caused Westshire...much heartsearching, and has made the Authority all the more conscious of the

excellent service provided in all Westshire's hospitals, large and small, and of the efficiency and dedication of the staff, to whom this is due. In the course of the review,...Westshire has kept in mind...the claims of over half the population for a District General Hospital..."<sup>310</sup>

Thus did the resource-distribution argument resurface as a major plank in the Authority's case.

At this point in the development the researcher left the field. The completed Newtown DGH site works lay gathering weeds. The feasibility of the scheme was still subject to further debate.

After further delays the hospital project survived and at the date of writing (June 1986) is under construction.

#### Review of the Second Hospital Project

Given the tortuous course of events determining the outcome of the Newtown design, the overall pattern of outcomes is not always clear. It is therefore necessary to summarise the main points.

In terms of resources the Area obtained a designed level of provision well above that set out in the DHSS Nucleus format. The detailed process of bargaining for these resources involved considerable dexterity on the part of the lower tier authorities. Wherever possible Region and Area/District constructed their case upon local circumstances and experience. Professional opposition to Newtown Hospital continued to be strong during the whole development period. Sustaining it involved considerable strain



within the Westshire Authority. The latter stages of the process were crucially affected by changes in central government funding policy and by attempts to reform revenue spending within the DHSS. Throughout the action of organizational politics was the chief motor affecting the nature and levels of provision. As the financial corset tightened around Newtown DGH its importance increased.