Stability in systems of work:

The management of motivation, performance, risk and trust

by

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This thesis contains no material which has been accepted for the award of any degree or diploma in any tertiary institution and, to the best of my knowledge and belief, the thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

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Abstract

This thesis addresses the issue of the achievement of stability and order in work, given the conditions characterising modern, complex production systems. Four sources of instability are discussed: economic conditions; the employment relationship; managerial decision-making; and work motivations. The thesis draws the implication that the conditions that frame the organisation of work are the result of complex interactions between structures and processes at several analytically distinct levels, ranging from the meaning work has for people to the economic structure of the capitalist mode of production. In response to this, 'work' is conceptualised as a system of action connecting the microsocial structures and processes of individuals' lifeworlds to the global structures of the modern world economy.

The institutionalisation of the practices by which order and stability are achieved can be seen as the outcome of the capacity of the system of production to respond to uncertainty. The thesis identifies two levels at which such responses can be analysed: the integration of elements in a system of production; and the relationship between the system and the activities of actors. These two levels are developed from Lockwood's (1964) distinction between system integration and social integration. The thesis argues that generic forms of organising work are the outcome of institutionalised responses to system and social integration problems.

The problem of 'social integration' focuses on the relationship of workers to the system of production. It links motivation to production in a context of increasingly diverse motivations and differentiating sites of production. Social integration is achieved largely through the channelling of individual motives into institutionalised orientations to work: and through four key structural features of work settings: work roles; routines and procedures; social groups; and the workflow.

'System integration' refers to the degree of stability and order, given continuous change at the level of the mode of production (exemplified by technological innovation, organisational differentiation, commodification and the globalisation of production). The thesis proposes that changes at the system level generate new conditions to which organisations are forced to adjust and it is through these adjustments that system

integration can be achieved. Two general types of adjustment, centring on the management of uncertainty, are proposed: the way firms organise themselves to respond to external conditions (through the use of information to manage risk); and the co-ordination and control of the intra-organisational division of labour (through the reproduction of trust).

The thesis concludes with a review of the implications of the theory and empirical findings for future research; an assessment of future possibilities for the organisation of work; and implications for improving the principles of job design.

Contents

Introduction

A major feature of the system of industrial production in the late twentieth century is the emergence of new internal strains. Older, more 'obvious' strains such as class conflict and worker alienation are fading in significance by comparison with questions of managing diverse work styles, developing flexible work practises, linking pluralistic work sub-cultures and mobilising varied ideological bases of commitment to work. These constitute challenges to maintain marginal gains in labour productivity in the context of declining capacity of organisational and technological change and the failure of Taylorism adequately to mobilise labour power.

These strains are not confined within organisational boundaries. Industrial production in the late twentieth century is characterised by series of crises in the markets for the factors of production and in consumption markets. The oil crises of the 1970s have been particularly visible examples, but other manifestations include problems of skill shortages, structural unemployment, the over-production of food products and the shifting of industries with high pollution costs to less developed countries.

Consequently, many developed economies have undergone, or are undergoing, attempts to re-structure, both at the levels of the industrial infrastructure and organisation. Britain, under Thatcher, has been a prominent example of radical industrial re-structuring as has the USSR. Australia, too, is currently in the midst of attempts to re-structure the labour market, the wage-fixing system, key industries and the unions. Many major companies and public sector organisations are now continuously involved in various forms of work reform programs geared to improving labour productivity.

Not surprisingly, the last decade has witnessed a series of claims which assert that work is undergoing a set of radical changes (e.g. Harvey 1989; Mathews 1989; Offe 1985; Piore and Sabel 1984). Commentators generally focus on three sorts of changes within an unfolding logic of the development of capitalism. Firstly, a combination of market saturation and a general decline in the capacity of organisational and technological innovation to produce gains in labour productivity have produced a

renewed interest in alternative ways of organising work. Secondly, an unprecedented increase in the rate of change in the conditions affecting organisations has shifted attention to strategies oriented to improving organisational capacities to adapt to, rather than control, environmental change. Last, cultural differentiation and changes in the social composition of the labour force are producing workforces with qualitatively different expectations, skills, perceptions of their careers and aspirations.

This poses two general questions. The first concerns the description and explanation of changes in work, asking about the extensiveness, profundity, magnitude and speed of change. The second takes the premise that change is pervasive, profound, multi-dimensional and rapid, and asks how stability and order can be achieved. What both questions have in common is the need for concepts that are adequate for both description and analysis. It is the second question that is the concern of this thesis. The focus is on the development of a model comprising a system of interrelated concepts that provide the framework for empirical observation. The purpose of such a conceptual system is to answer the question of how stability and order are achieved within modern systems of work, given the pervasiveness and multi-dimensional nature of change. The conceptual framework is developed from the theoretical paradigm developed by Talcott Parsons, particularly the concepts of the 'system of action', the 'pattern-variables' and the four functional imperatives (the AGIL scheme). The relevant concepts are re-formulated and applied to three sets of data: a case study of planned organisational change within a pulp and paper mill; a national sample survey of the Australian population; and a national sample survey of Australian workplaces.

Parsons' theory lends itself to this problem because: his approach to concept formation is consistent with the thesis problem; he is primarily a theorist of stability and order; and he offers a highly developed framework for the analysis of the relationships between actors and systems.

Parsons concentrates more on the specification and refinement of concepts as a means to achieving the goals of adequate description and analysis than on the development of substantive theories[1]. Theory construction largely takes the form of a

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[1]However, Parsons' contribution to substantive theory is discussed in Rocher (1974)

particular type of description of systems in terms of concepts intended as *a priori* categories. The two uses of this conceptual scheme (description and analysis) are linked in that the description of structure allows the possibility for dynamic analysis (i.e. the analysis of the functioning of the system). For Parsons, analysis means the causal explanation of past phenomena or processes and the prediction of future events. This provides the basis for an elaboration of laws — generalised analytical knowledge that can be applied to an indefinite number of specific cases. For Parsons, 'the essential feature of dynamic analysis ... is the treatment of a body of interdependent phenomena simultaneously, in the mathematical sense' (1954: 215). Analysis also provides a framework for translating concepts from one context into reconstructed forms which reveal aspects of social structure and process in another.

Parsons' framework

Parsons' concern is with systems of action. A system of action comprises the organisation of a plurality of actors' orientations to objects, where "...action has a meaning when it is guided by the meaning which the actor attaches to it in its relationship to his goals and interests..." (Parsons and Shils 1951: 4). Objects may be either non-social (e.g. physical objects or cultural resources) or social (i.e. other actors). Consequently, Parsons attempts to explain action by reference to its context (i.e. a situation composed of objects) rather than individual free-will or material conditions alone (Alexander 1978). Parsons sees action as contingent upon the organisation of the relations between actors and objects in a system, and upon the organisation of actors as a system.

Action comprises component acts that can be described, analytically, in terms of a scheme called the 'unit-act', that defines action in terms of the minimum components of a relationship between an actor and a situation composed of objects (Parsons 1937: 43-51). These minimum components define the basic unit of a system of action and involve: an actor oriented to a future state of affairs toward which action is directed (an end or goal); a situation comprising means available to the actor and conditions over which it has no control, and a 'normative orientation' which regulates the selection of means and ends. So, for Parsons, action occurs not as the outcome

agency alone nor purely as a consequence of material conditions, but as an outcome of evaluation by reference to normative standards.

Parsons' theoretical scheme can be seen as pursuing the implications of the unit-act (e.g. see Gerstein 1975; Turner and Beeghley 1974) for an analysis of systems of action. Actions are not discrete, but occur as a complexity of interactions which constitute systems that can be described in terms of structural categories. Two such sets of structural categories are relevant here: the pattern-variables (concerning the structure of interaction) and the AGIL scheme (concerning the structure of the situation in which interaction occurs). It is the relationship between these two schemes that provides the link between Parsons' voluntaristic theory and the theory of social systems[2].

The unit-act comprises a set of axioms that Parsons attempts to develop into a set of theorems within an integrated theory. Two developments of the theory derived from the unit-act are the pattern-variables and the functional imperatives. Acts occur in a social context comprising systems of interaction and so unit-acts must be viewed as basic elements in systems of interaction. For example, acts occur in the context of statuses where actor enacts the normatively prescribed role behaviours associated with the occupation of the status; status-roles are connected to each other to form systems of interaction.

Parsons retains voluntarism in his thinking in that the unit-act implies choice, but where choices are conditioned by the actor's internalisation of normative standards of judgement (Alexander 1978) or "...normatively ordered decisions..." (Habermas 1981: 178). Parsons identifies three aspects of choice. For choice to be possible, (1) some objects need to be distinguished from other objects; (2) they need to be experienced as having positive or negative values relative to the actor's goals or interests; (3) they need to be compared with other objects by reference to standards of relevance for the actor's goals or interests. These aspects structure the process of orientation with respect to three modes of orientation corresponding to, respectively, the

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[2] It has been claimed that Parsons abandoned voluntarism (Martindale, 1959; Scott, 1963; Tiryakin, 1965). Subsequent 're-readings' of Parsons argue for a continuity in the unit-act, the pattern-variables, and the four functional imperatives paradigm which demonstrates a commitment to voluntarism as choice constrained by norms and conditions (see Adriaansens, 1974; Alexander, 1978; Holmwood, 1981; Proctor, 1981; Turner and Beeghley, 1974)

cognitive, cathectic and evaluative modes of orientation. They comprise fundamental categories for classifying the orientations of action (Parsons and Shils 1951).

The cognitive mode applies to the actor's organization of the object world and its meaning for the actor: the modality of objects. Appearances of objects therefore provoke discriminations between them. The cathectic mode of orientation concerns the types of motivational interest in, or attitudes to, objects: orientations to objects. The evaluative mode concerns the meaning for an actor of an object given its modality and the actor's orientation to (form of interest in) the object. Orientations and modalities are further defined by the pattern-variables: two sets of dichotomies '...one side of which must be chosen by an actor if the meaning of a situation is determinate for him, and thus before he can act with respect to that situation' (Parsons and Shils 1951: 77). One set defines the actor's orientation to objects and the other defines the modality. The two pattern-variables which describe the modality of objects are universalism/particularism and quality/performance. Universalism refers to the treatment of objects in terms of qualities they share with other objects independently of their relationship with the actor. This entails seeing objects as examples of a class or category of objects: their commonality defines an object's meaning for the actor. By contrast, particularism entails defining objects not in terms of membership of a category, but in terms of the particular relationship they have to the actor. The object is not seen as a representative of a type, but rather as having significance independently of any category to which it might belong.

The second modality pattern-variable is 'quality/performance'. Quality involves treating the object's meaning in terms of what it is like, what attributes and characteristics are intrinsic to it so that the actor's possible interest in the object is independent of the immediate situation. Performance involves seeing the object in terms of its probable performances for the actor.

The cathectic mode of orientation is organised around the variables of affectivity/neutrality and specificity/diffuseness and defines the types of motivational interest in, or attitudes to, objects. The 'specificity/diffuseness' distinction refers to whether the actor's orientation to the object is in terms of a direct relationship to the

situation, that is, the object is seen as relevant to the actor contingently in a situation, or in terms of the internal properties and equilibrium of the actor, i.e. the object is seen as relevant regardless of the situation.

The second distinction, 'affectivity/neutrality', refers to whether the actor relates to the object in terms of it constituting a source of immediate gratification or whether the object is seen as providing the means to later gratification.

The relationship of the unit-act to the four functional imperatives.

The four functional imperatives can be seen as a conceptual development of the situation of action implied by the components of the unit-act. Gerstein (1975) claims that Parsons treats the four elements of the unit-act as ordered along two dimensions. The first is the relationship between norms and conditions, which Parsons characterises as involving a state of tension, and being of a 'teleological character' (Parsons 1937: 732; see also Holmwood 1981). The second is a temporal sequencing of ends and means, '...The end must in the mind of the actor be contemporaneous with the situation and precede the employment of means' (Parsons 1937: 732-3).

The 'teleological character' of the norms/conditions relationship is a reference to two different types of constraint on action. Conditions, the elements in a situation over which the actor has no control, are the relevant aspects of the external environment. By contrast, norms are internal to the actor, in the same sense that the actor 'internalises' norms. Thus the teleological tension is between constraints on action located in different spheres.

The temporal dimension to the relationship between means and ends is relatively clear. Gerstein (1975) characterises this as '...a dimension of process in time...with two independent variable components, means to be controlled and employed, and ends to be defined and sought' (Gerstein 1975: 12). Gerstein cross-classifies the two dimensions of the unit-act to produce a four-fold table that formally defines the analytical elements of the unit-act (Figure 0.1 below).

Temporal dimension

	Control and employment of means	Definition and attainment of ends
External conditions		
Normative patterns		

Teleological dimension
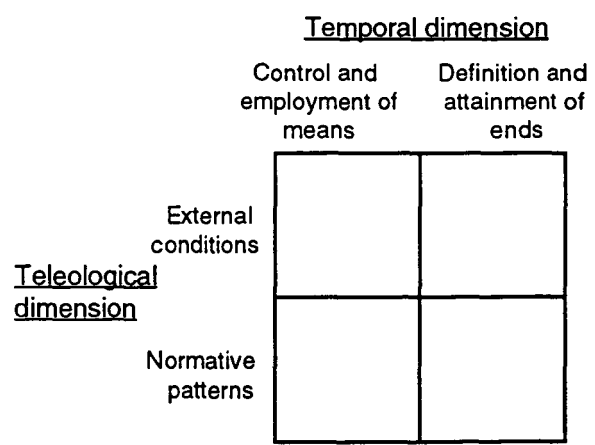
Fig. 0.1 Gerstein's cross-classification of the elements of the unit-act (1975).

This framework applies not only at the level of the unit-act. It can be generalised to systems of action. Gerstein shows that the two axes from which the AGIL scheme is derived parallel the dimensions of the unit-act. The two relevant axes are the internal-external dimension (corresponding to the teleological dimension), and the instrumental-consummatory dimension (corresponding to the temporal dimension). These two axes generate the four functional imperatives, shown in Figure 0.2 below.

	Instrumental	Consummatory
External	Adaptation	Goal attainment
Internal	Latent pattern maintenance	Integration
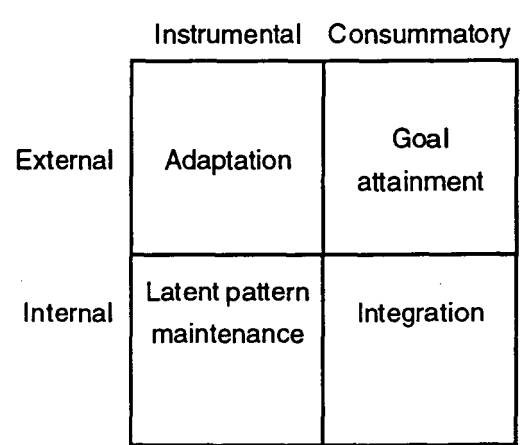
Fig. 0.2 The four functional imperatives (the AGIL scheme).

Adaptation combines the instrumental and external poles. It refers to the problem of responding to conditions imposed on the system by the environment. It includes activities through which the system adapts to its environment and the constraints and exigencies it imposes. It also includes the activities of modification, transformation and control through which the system adapts the environment to its needs. As the environment is conceived as a system external to the system under scrutiny, adaptation consists of the exchange of resources originating within the system

for resources needed by the system that originate in the external system (Parsons and Smelser 1956).

Integration combines the consummatory and internal poles. It refers to the necessity of maintaining solidarity and coping with mutual antagonisms and conflicts between units in the system. It also includes activities undertaken to establish control and order, inhibit deviance, maintain co-ordination between elements in the system and reduce instability (Parsons and Smelser 1956).

Goal-attainment combines the consummatory and external poles. It refers to the selection of elements of the environment or situation as a source of 'consummatory goal gratification'. It comprises the activities which define the system goals, and the mobilisation and management of resources to attain those goals, and their attainment (Parsons and Smelser 1956).

Latent pattern-maintenance combines the instrumental and internal poles. It refers to activities that motivate actors in the system through the institutionalisation and maintenance of the integrity of its value-system. Parsons gives priority to the pattern-maintenance exigency because every social system requires an institutionalised value system. The social system's '... first functional imperative is to maintain the integrity of that value system and its institutionalisation' (Parsons and Smelser 1956: 16). There are two sources of pressure for change in the value system: cultural and motivational. Cultural sources of change occur at the level of the cultural system (for example, changes in the belief system), a different level from the social system, and therefore external it. Maintenance of stability, with respect to these cultural pressures, is one function of the pattern-maintenance sub-system.

Motivational sources of change are conflicts or tensions affecting the individual's motivation to conform to institutionalised role expectations. Motivational sources of change are pressures towards deviance. Parsons refers to this aspect as 'tension management'.

The pattern-variables and the functional imperatives provide the basis of the conceptual framework for this thesis. These are developed with respect to the problem of systems of 'work' and based on Parsons' formal treatment of the link between the

pattern-variables and the AGIL scheme (Parsons 1960a). This is discussed extensively in subsequent chapters. However, two important refinements to Parsons framework are introduced. The first concerns the conceptualisation of the relevant system. The second concerns the implication this has for the distinction between 'system' integration and 'social' integration as it applies to work.

Parsons provides little guidance on the question of the relevant system, because his own work develops from patterns relating actors of similar ontological status — populations of 'egos' and 'alters'. Hence, Parsons typically elaborates systems as 'nested' subsystems following the same basic logic of the AGIL at the level of the subsystem. For example, the adaptive subsystem of the economy (itself the adaptive subsystem of society) is the capitalization subsystem The logic of this elaboration is applicable where interacting actors (be they individuals, collectivities or subsystems) are defined by a common level of analysis. By contrast, this thesis argues that the core of the system of work is a relation between two types of actor of different ontological status exemplified in the relationship between the *worker* and employing *organisation*. This has important implications for the integration function.

The thesis analyses integration with respect to two aspects: system integration concerned with tensions in the relationship between the component sub-systems of the system[3]; and social integration, referring to the degree of orderliness between members of the system or normative consensus and dissensus between actors in the system (Lockwood 1964)[4]. Lockwood's distinction was proposed originally in order to highlight the failure of sociological theory to consider the bases of disruption to social order and to underlying contradictions in the social system. Such threats to order are considered here in terms of how contradictions and conflict generate uncertainty within the system at four levels: in the relation between the production system and

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[3] For example, the forces of production and property institutions (reference to the adaptive and integrative sub-systems in Parsonian terms), while Habermas refers to the "invisible hand of the market" (Habermas, 1981: 175)

[4] Lockwood elaborates the distinction between system integration and social integration in the context of a claim that normative functionalism (by which he seems to be referring to Parsonian sociology) involves a commitment to the study of system stability (the concern of this thesis) and ignores the complementary and equally important issues of power, conflict and contradictions.

market dynamics; in organisational decision-making processes; in the potential conflict inherent in the employment relationship, whereby workers seek to maximise gratification while the employer seeks to exploit their labour; and the tensions associated with the problem of competing motivations, wants and desires within each individual.

Within Lockwood's distinction, social integration (as a relationship between actors) connotes the degree of social solidarity or of group cohesiveness. Such a conceptualisation has limited applicability to a problem where relations are between different types of entity (such as individuals and organisations) as is the case in the employment relationship. The thesis is concerned with the mechanisms through which integration is accomplished in a system which is simultaneously a system of production and a system of work, and which thus connects the mode of production to individuals' lifeworlds. In the case of employment relationship, conceptualising social integration as relationship between actors at the same level of analysis reduces the concept to a relationship between the individual worker and agents of the organisation such as managers and supervisors.

However, Habermas (1981) distinguishes between system and social integration in a way which offers a resolution to this within Parsons' framework. For Habermas, system integration denotes the state of functional relationships between sub-systems, while social integration refers to the degree of consensus or consistency among actors' normative orientations. In Parsonian terms, the referent of 'orientation' here can be understood as the evaluative mode of orientation rather than the orientational set defining the cathectic mode. This allows social integration to be conceptualised as deriving from actors' evaluations of the contingencies in the relationship between their orientation to the situation and the capacity of the objects in the situation to provide gratification. This is developed in the thesis as the relationship between workers' orientations (the latent pattern-maintenance sub-system) and the work setting (the goal attainment sub-system).

System integration processes are conceptualised as the internal responses to system-level adaptation. In the thesis model, this concerns the relationship between the

need to respond to the exigencies of capitalism (the adaptation sub-system) and the need to reproduce systems of trust (the integration sub-system). Thus, system integration and social integration are seen in terms of the conditional and teleological tensions described above (Gerstein 1975).

The first part of the thesis (Chapters 1, 2 and 3) is an examination of threats to system stability and the mechanisms which allow for the accomplishment of integration. The second part develops a formal model of the system of work, providing a detailed elaboration of the relevant concepts and the relationship between them. The first chapter examines the consequences of processes of structural differentiation and differentiation of interests as potential threats to stability; and the activities and systems which contribute to the maintenance of system stability

Chapter 2 draws on empirical material to concretise the processes of social integration and system integration within a single organisation. This chapter presents the results of a case-study of an attempt to establish a self-directed work team in a newsprint mill. The chapter illustrates the role of managerial decisions in relation to integrative activity exemplified in constructing definitions of external (environmental) threat and in formulating strategies of response; and in the reproduction of systems of trust framing labour management relations.

The thesis then generalises the processes identified the case study to a wider population and attempts to these to an analysis of the role of ecological processes in system integration. Chapter 3 uses data from a national sample of Australian workplaces to examine how the effects of managerial activity are mediated by the relationship between types of organisational environment and different organisational forms. The analysis uses an ecological analogy to show how populations of organisations tend to colonise distinct niches to establish ecological communities, and how the effects of organisational strategy and managerial style are contingent on the characteristics of the community.

Chapter 4 introduces Parsons' general frame of reference, describes the relevant substantive concepts and applies these to the problem of conceptualising work activity as a system. The chapter identifies, describes and theorises the relationship

between two of the four key structural categories on the which the model is built —
'work orientations' and 'modalities of work settings'. The relationship of these
elements to the social integration of work is then analysed.

Chapter 5 elaborates the social integration of work as a set of potential
'work values' underlying the relationship between the work orientations and modalities
of the work setting; and analyses the role of life situation, organisational context, the
content of work and occupational characteristics on work values. The chapter uses data
from a national survey to explain how these values are sustained. The four values
examined are:

- money, hypothesised to be shaped by life situation
- career advancement, shaped by organisational context
- respect for skills, shaped by the content of work
- recognition of excellence, shaped by professional socialisation

The analysis is based on operationalising the four types of work values as
ratings of the importance of four facets of work:

- high pay
- job security
- opportunities to use skills
- a sense of accomplishment

Chapter 6 chapter describes the remaining two structural categories of the
model: managerial orientations and the exigencies of capitalism. These represent a re-
conceptualisation of the management function in terms of the normative assumptions
underlying decision-making; and the economic environment as collective definitions of
external conditions

This chapter proposes that structural change in organisations be understood
as the institutionalisation of successful responses to perceived environmental threats.
Such perceptions are proposed to derive from the normative assumptions underlying
managerial orientations.

Chapter 1: Industrial change and work situations

A critical feature of the emergence of modern societies is the separation of work activity from the household and family and its institutionalisation in the performance of occupational roles. Not all work activity is so differentiated — domestic labour, for example, is largely incorporated into familial roles. Similarly, much of what might be called work activity is independent of occupational roles — for example, whether 'sport' constitutes work or leisure depends on the context. This tendency for work activity to be channelled into occupational roles is central to early analyses of social change — for example, Marx's analysis of the problem of alienation (Marx 1964; 1970; 1976); Durkheim's analysis of integration in modern societies (Durkheim 1960); and Weber's argument concerning the long run tendency of bureaucratic forms of organisation to predominate under modern conditions (Weber 1968). The centrality of work lies in the fact that occupational roles become one of the main ways of articulating individuals and the society. They define positions in the social structure which determine access to scarce social resources and they link individual motivations and wants to economic functions in society. In this way, work constitutes one of the main mechanisms through which individuals are integrated into society, implicating them in the processes and structures of organisations, labour markets and stratification systems. A corollary of this is that the individual's experience of work has come to constitute a major aspect of the experience of society. Consequently, analysing the impact of the structures and institutionalised practices on the experience of work offers the possibility of an increased understanding of the relationship between fundamental social structural change and aspects of the way society is experienced by its members.

In this thesis, the 'experience of work' is treated as a composite of two aspects of work activity: the purposes, or ends, which orient the actions of the worker (described in later chapters as 'work orientations'); and the social settings that provide opportunities and constraints for the worker to achieve these purposes. This chapter is concerned with the second aspect — specifically, the conditions that give rise to different configurations of the work setting.

The aim of the chapter is to clarify the processes that shape work settings, seeking to understand variations associated with different periods and localities. For example, work in modern shoe factories is quite different from the medieval cobbler's workshop; or the work setting in which the Australian rice grower can be found is different from that experienced by the Laotian peasant. The issue is how such differences develop. Two general processes are examined here: evolutionary processes manifested through firms' responses to changing technological and market conditions; and the political processes through which particular social groups within the system of production seek to realise their own interests. Themes identified within the literature suggest that such processes are fundamental to the development of an increasingly global social division of labour. These processes, it will be argued, foster geographical variation in the forms of work (associated with functional differentiation within regional economies), while generating and reproducing the need for the co-ordination and control of a complex technical division of labour (associated with occupational role differentiation within organisations). The chapter then introduces the question of how this co-ordination and control is achieved, focussing on the role of management activity.

Two dimensions of management activity are discussed: a structural dimension concerning management strategies aimed at modifying organisations in response to environmental change; and a normative dimension embodied in the ideologies managers mobilise to legitimise and provide rationales for their actions. The structural dimension is posited as resulting from the efficiencies (and hence improved chances of survival) accruing to firms able to mobilise rational decision-making as the basis of executing co-ordination and control functions. This, in turn, raises the question of the extent to which firms are capable of adapting to environmental change.

The normative dimension is posited as having two important sources: the first derives from the fact that the management function is executed by actors who, themselves, are oriented to collective and individual purposes which are distinct from those of the firm; and, secondly, that decisions occur in the context of imperfect information and results in a reliance on prescriptions and blueprints for business success.

A key issue here is the impact such normative frameworks have on job design and social relations within the firm.

Work situations in modern societies

A central theme in analyses of work is the effect that technological change has on the content of work and on how it is organised. One approach centres on the question of how the development of the capitalist mode of production generates the characteristic work settings that determine the experience of work. However, two distinct traditions within this approach have produced different, even contradictory, prognoses: post-industrial theorists identify a trend towards increasing professionalisation; while labour-process theorists tend to claim 'de-skilling' as the typical outcome of the logic of capitalism.

Labour-process, or Marxist, theories describe change in terms of an increasing subjection of the worker to technology as work becomes more routinised and disaggregated into simple work tasks requiring little skill (Braverman 1974; Wood 1982; Thompson 1983; Zimbalist 1979). Labour-process theory identifies a trend towards the degradation of work because of the power differentials between employers and employees. The relationship between these two groups are characterised by fundamentally conflicting interests, with work as a major arena in which this conflict is enacted.

The contrasting view is that technology tends to replace the most routinizable tasks so that work becomes increasingly more 'human' as work tends to involve a larger proportion of activity that is less amenable to replacement by technology, particularly judgement and decision-making. Post-industrialisation theory highlights changes within the social division of labour, arguing that employment growth is greatest within the service sector and increasingly involves knowledge-based rather than manual work. This, it is claimed, results in a higher proportion of jobs which occur in pleasant working conditions, that have more variety, require higher levels of skill and are more 'human' Bell 1973).

This apparent contradiction is examined in the first part of this chapter, where it is argued that the differing perspectives of labour-process theory and the industrialisation theory entail a focus on different aspects of the evolution of work. The

aim of this section is firstly to draw out these different aspects and, secondly, to identify various positions on the issue of the role management (or managers) play in shaping both the context of work activity and of work activity itself.

Post-industrial society

Industrialisation theory posits continuous technological innovation as a major feature of industrialisation. Technological innovation fosters an increasingly differentiated technical division of labour with a greater emphasis on work that requires complex knowledge and human judgement (e.g. design, planning and maintenance). Consequently, the content of work tends to change over time, becoming both more specialised and more complex. This requires the availability of better educated and trained workers — a requirement met by the growth and extension of the educational and training system. The result is a workforce with higher skill levels performing specialised and complex work (see, for example, Kerr et al 1964).

The most extensive argument along these lines is developed by Bell (1973). He argues that the direction of social change is towards a 'post-industrial' society characterised by, among other things, the increasing substitution of human mental labour by computers. As a consequence, work activity becomes focused more on face-to-face interactions in service-oriented economic activity, with services oriented more to non-material needs (cf. Fuchs 1968). This shift is associated with increasing levels of education as a response to the demands of work, with a consequent increase in skill and education and a growth in the number, size and importance of professional groups (Zagorski 1984).

Bell claims to identify a logic of industrial development that leads to a radically new society. This society is characterised by a major sectoral shift in the social division of labour — a shift from goods to services production as the dominant element within the economy. The occupational structure comprises a higher ratio of non-manual to manual employment and, of particular importance, a growth in professional, technical and scientific occupations. He sees the growth in these occupations as associated with the major technological trend characterising the move towards post-industrial society — the tendency for intellectual technology to supersede machine technology. By this he means

the application of codified and systematic abstract knowledge to the production process in forms that allow for rational-planning, prediction, monitoring and self-sustaining technical growth. Such forms are exemplified in the application of information theory, game theory and operations research to develop management and problem-solving systems with respect to issues of inventory management, quality control, logistics and marketing research.

For Bell, technology is the prime determinant of changes in employment claiming that '...technology is the foundation of industrial society. Economic innovation and change are directly dependent on new technology.' (1973: 189). He argues that the development of capitalism has been sustained by an increasing rate and scale of technological change, and that this has had a substantial impact on labour productivity in manufacturing and agriculture. He notes that there are two facets of technological change associated with this: change due directly to improved machinery; and technological change which is essentially organisational, that is, consists of methods and techniques that improve the efficiency of capital.

However, Bell sees technological development in the second half of the twentieth century as much more systematic, identifying two important changes. The first is an increased link between science and invention, especially in the management of research and development functions. For example, '...new industries of the 1970s—the polymers and plastics, electronics and optics, chemicals and synthetics, aerospace and communications— are all integrally science-based' (1973: 198). The second major change is a claimed development of forecasting techniques that create the possibility of the systematic planning and organisation of technological change and innovation.

So, according to Bell, post-industrial society is essentially a 'knowledge society', in terms of both the sources of change being increasingly tied to the link between science and production; and in the shape of the social division of labour , with employment increasingly in the "knowledge field" (1973: 212). The outcome of these changes is a demand for highly-educated (increasingly university-educated) and/or technically skilled labour while improved machinery (particularly automation) leads to the decline of the numerical importance of the industrial worker: '...as one goes along the

trajectory of industrialization—the increasing replacement of man by machines—one

comes logically to the erosion of the industrial worker himself.' (1973: 125).

This leads Bell to conclude that work is fundamentally different in the post-

industrial society. People are increasingly engaged in work that occurs in the more

pleasant surroundings of offices rather than factories; occurs in more autonomous work

settings; involving more judgement and creativity. In general, post-industrial society can

be contrasted with industrial society in terms of the humanising effects on work of the

new order:

> ...what is central to the new [work] relationship is encounter or communication,
> and the response of ego to alter and back—from the irritation of a customer at an
> airline-ticket office to the sympathetic or harassed response of teacher to
> student. But the fact that individuals now talk to other individuals, rather
> than interact with a machine, is the fundamental fact about work in the post-
> industrial society (1973: 163).

Criticisms of Bell's thesis centre on the extent to which the empirical evidence he uses

actually reflect changes in the content of work; and on the extent to which the change

takes the form described — in the sense of industrialisation representing a growth in

manufacturing and a decline in agriculture, while post-industrialisation represents a

growth in service occupations and a decline in manufacturing (Kumar, 1978). It is this

first criticism that is most relevant to the question of the experience of work.

Most seriously questioned is the notion that service work entails an

improvement in the quality of the experience of work, '...characterised by trim

surroundings, neat dress or prestigious uniform, constant exposure to a "clientele",

coffee breaks, telephone calls...' (Heilbroner and Ford 1971: 235). A basic problem with

the post-industrial thesis is that it infers changes in the quality of work experience from

changes in a society's occupational structure without regard to changes in the occupations

themselves or the working conditions characterising industrial sectors. As Braverman

says,

> ...the white-collar category tends to get its occupational flavour from the
> engineers, managers and professors at the top of the hierarchy, while its
> impressive numerical masses are supplied by the millions of clerical workers, in
> much the same way as the stars of an opera company occupy the front of the
> stage while the spear carriers provide the massive chorus (1974: 350).

Braverman's work is representative of an alternative approach to the study of changes in

work which focus on the labour process. It highlights the experience of work as the

outcome of social, rather than technological, processes within which capitalism's drive towards capital accumulation confronts the worker's desire for autonomy and expressiveness.

Labour-process theory

The main theme of labour-process theory is that the way work is organised is the outcome of fundamental class conflict. The conflict arises because capital accumulation depends on being able to harness labour-power to the 'needs' of production. The alienation of labour implicates the worker in an 'effort bargain' (Baldamus 1967) that establishes work for money as the primary institutionalised work motivation; and that ties workers and capitalists to a relationship in which gains by one class are achieved at a cost to the other.

Within this tradition, study of the experience of work centres on the extent to which the conditions of work improve opportunities for creative or self-expressive activity. A major focus is on the link between the historical development of capitalism and work conditions. The most influential analysis is that by Braverman (1974) focusing on management strategy as the articulation between the logic of capitalism and the organisation of work. Braverman's work is framed in response to claims that work is improving. He argues that capital accumulation depends on the capacity of employers to control labour and so sees managerial strategies which simplify and routinise work as being most effective for achieving this end. His analysis focuses on the degradation of work (the tendency for work to become simple, routinised and controlled) as the outcome of the capacity of employers to realise the goal of capital accumulation.

Braverman's initial concern is with the apparent contradiction between claims that modern work '...requires ever higher levels of education, training, the greater exercise of intelligence and mental effort...' (1974: 3). and evidence of increasing work dissatisfaction suggesting the degradation of the experience of work. His response is the claim that an understanding of the changing nature of work requires a detailed examination of the actual content and forms of work. He argues that reliance on evidence like changes in the relative size of occupational categories obscures the fact that work in modern society is becoming de-skilled. While it may be that technical, professional and managerial occupations are growing, the work that people do within these occupations is

being degraded. Work is increasingly routine and monotonous, and involves a narrower range of simpler tasks.

However, Braverman's disagreement with the claim about the form of work changes is not simply an argument about the outcome of the processes of industrial change. Braverman's account hinges on a radically different theory of the process of change itself. In particular, Braverman argues that organisations or work settings cannot be understood outside a wider social context. The 'wider social context', for Braverman is the relationship between two fundamental classes in society — capitalists and wage labourers.

Braverman argues that capital's interest in the maximisation of profit exerts pressure towards the routinisation of work and towards increasing control by management of the workforce. Managers, as the 'agents' of capital, are motivated to disaggregate the technical components of work, thus simplifying jobs and making them more amenable to routinisation and more subject to 'objective' measures of output. Jobs are redesigned in order to separate planning and conception from the technical aspects (execution) of jobs. Such strategies as scientific management, numerical control and automation increasingly create work which can be performed after little or no training. This tends to 'degrade' work by decreasing the proportion of work involving craftsmanship and increasing the proportion which is simple, boring and repetitive.

Thus, the key elements in Braverman's characterisation of the relationship between technological change and the experience of work is the conflictual relationship between management and labour that is manifested in concrete work relationships. Technology is viewed by Braverman as a means available to capital for the exploitation and control of labour. Braverman elaborates Marx's claim that 'It would be possible to write a whole history of the inventions made since 1830, for the sole purpose of providing capital with weapons against working-class revolts' (1976: 563). His focus is on the domination of labour by capital, claiming that there has been a general routinisation and deskilling of work during this century which applies not only to those involved in production work (the focus of Blauner 1964; and Mallet 1975) but to clerical and sales work as well.

For Braverman, the most basic fact of work is that it is geared to the creation of profit rather than the satisfaction of needs. This establishes a primary function of management as the control of labour and its subordination to the production process. Braverman is not explicit about the purposes of work for workers, but this can be inferred from the way he describes work systems that dehumanise by transforming the worker into machine-like, objective elements in the production process. He discusses systems of management with reference to '...the reduction of the worker to an instrument in the production process...' (1974: 172). The implication is that the issue of control at work centres on the conflict between workers' intrinsic needs (manifested as a desire for autonomy) while managers' motivations are actualisations of the interests of the capital they represent. These are antagonistic because capital accumulation within the conditions of capitalism depends on the discovery of increasingly efficient means of exploiting factors of production. Labour is the factor of production least amenable to efficient exploitation because its effective use is ultimately conditional on the autonomy of the worker: 'Labour, like all life processes and bodily functions, is an inalienable property of the human individual' (Braverman, 1974: 54). Workers retain control of the capacity to work because they sell their labour power rather than their labour — the economic relationship between capitalist and worker is '...*not an agreed amount of labour, but the power to labour for an agreed amount of time*' (1974: 58) — and workers have interests that are independent of the interests of capital. Thus, according to Braverman, fundamental class antagonism is actualised in the work setting as a specific problem facing managers — that workers cannot be relied on to work in the best interests of capital. Therefore, control is necessary if capital is to realise the full potential of labour.

Under these conditions, realisation of the interests of capital become dependent on being able to shift control of the labour process from the worker to the capitalist. Workers controlled only by general orders, discipline and agreement are not adequately controlled because the worker retains control of their own work. In particular, where effectiveness of production is dependent on the skills of the worker, skill itself constitutes a major source of worker control. Consequently, Braverman claims, managers are motivated to develop practices that reduce skill in the production process as a means

of enabling them to exercise greater control over the labour process, to intensify work and to lower the cost of labour.

Braverman stresses Taylor's work on 'scientific management' as the most successful managerial strategy for the control of the labour process (Braverman 1974). He provides an extensive and detailed analysis of scientific management as the translation of an ideology into a continuously developing management practice. Braverman claims that these ideas have become part of the taken-for-granted assumptions of those controlling the design and organisation of work. The application of these principles have resulted in the destruction of craftsmanship and led to the progressive degrading of the work of most industrial workers. In addition, however, the fragmentation of the labour process has brought into existence '...a variety of new occupations, the hallmark of which is that they are found not in the flow of things but in the flow of paper...' (Braverman 1974: 126). This growth of 'unproductive' workers inside the enterprise has been accompanied by growth in the numbers employed outside, engaged in the realisation of surplus value rather than its production — employees in banking, marketing, finance and so on (changes that are central to the post-industrial thesis). Braverman's analysis attempts to show how these occupations, too, become degraded as the methods of scientific management are applied to the office as well as the factory floor.

The Debate

Like Bell, Braverman sees technological change as part of the continuous unfolding of the logic of capitalistic development. However, unlike Bell, he argues that the relationship between technological change and work outcomes is mediated by, and dependent upon, the capacities of managers to identify with the interests of capital and to articulate this into designed systems of work. Where Bell sees an increasing requirement for intellectual and mental skill within the production process, Braverman argues that this is part of a transition towards increasing subjugation of wage labour to the needs of capital.

An important point in Braverman's work is the argument that the development of the mode of production has consequences for the immediate situations in which individuals carry out work activity. Thus he identifies a structural level intermediate to the mode of production and the individual — that of the work setting or work situation —

such that the long-run trend of societal level economic activity results in management practises that shape how work is organised and result in typical forms of work experience.

Both Braverman and Bell posit a relation between long-run societal processes ('the logic of capitalism') and the specific situations of categories of individuals. This relationship can be characterised as a process whereby technology replaces elements of human labour and therefore transforms work on the basis of the residual (but increasingly important) elements. In the case of deskilling, it is the capacity to undertake a range of complex tasks that is replaced. Deskilling occurs as a consequence because tasks can be organised into simple aggregates that make up narrowly defined jobs. By contrast, 'enskilling' occurs because those elements of human labour most susceptible to replacement by technology are the most rudimentary relative to the totality of the activities that make up work. So technology first replaces brute strength, then the simplest routine work and so on, until even complex mental operations are performed by machines.

These contrasting views about what technology replaces really refer to the possibilities of what technology could replace. Braverman's argument highlights the potential for technological innovation to transform complex work into a series of mechanical tasks. In this view, technology has the capacity to replace peculiarly human capabilities. The enskilling argument focuses on the susceptibility of the least human tasks to replacement. So in this view the quality of life at work improves because it is the lowest quality tasks that are most easily performed by machines.

Clearly, the different perspectives of the labour-process and post-industrialisation theories provide different evidence about changes in the experience of work. This is partly because the post-industrialisation theorists focus on qualitative changes in the labour market. This apparent contradiction can be explained by positing two types of change: firstly, that work is becoming degraded for some types of occupations and members of these occupations tend to be concentrated in particular industries and organisations; secondly, that professional and technical occupations are growing and so people in these occupations experience better working conditions. However, there is some evidence of yet another level of complexity resulting from the

capacity of capital to create and exploit variation in regional and national labour markets. For example, Bluestone and Harrison (1982) present evidence that deskilling occurs as a consequence of the effects of technological innovation to the extent that it results in de-industrialisation. De-industrialisation occurs as capital moves geographically (within a country and overseas), thereby de-stabilising local labour markets. It also increases the effect of technologically induced unemployment and disrupts the careers of workers. Bluestone and Harrison argue that affected workers commonly move into other work at a lower level of skill.

Similarly, Batten (1985) argues that the mobility deriving from micro-technology makes it possible for companies to take advantage of lower capital investment and labour costs in foreign countries. He claims that in new high-technology areas of the United States, there is evidence of weakened social contracts as local governments allow corporations to pay less for workers' compensation, insurance, unemployment and similar benefits because of the threat of relocation to countries where labour costs are lower.

This evidence suggests that the industrialisation argument needs to be qualified as a more general model where changes in societal level economic activity affect the supply of and demand for work skills and capacities. This leads to changes in employment conditions but these changes are contingent on the extent to which expensive labour can be substituted by either cheaper labour elsewhere or by technology.

The link between the two general positions lies in the way aspects of organisations both establish the structural conditions of work settings and translate the processes of capitalistic competition into forms of organising work. This can be seen by contrasting work from the perspective of the individual with work from the perspective of the system of production. Considered from the individual's perspective, the experience of work derives from engagement with tasks, social relationships, participation in social practices, the use of time and other elements of relevant social situations. In the work context, specific patterns and configurations of such elements are established by the features of the organisations in which they are embedded. As Braverman shows, the variations in work situations resulting from changes in the system of production are

mediated through organisational arrangements defining the way work is carried out. From the point of view of the system of production, dynamic features of capitalistic development — technological change, capital flows, processes of commodification and so on — generate continuous tension and disturbance that is stabilised through organisations' capacities to link combinations of the factors of production to consumption. Studies within the industrialisation and post-industrialisation perspectives see the labour market and occupations as the main integrative mechanisms linking production system change to work. By contrast, labour-process theorists tend to focus on the way organisational settings and the activities of management structure work in response to the dynamics of change in the mode of production.

Technical complexity and the work setting

The positions presented by Bell and Braverman treat technological change as though it were a sequential development from simple machines to automation. This reflects a focus on the long-run, broad-scale changes characterising the development of modern society. It is important to note, though, that modern systems of production are characterised by the co-existence of production technologies of varying levels of complexity. This is to say that new technologies do not automatically displace earlier technologies. This co-existence of different technologies tends to increase the diversity of work settings because the core technology shapes the work flow and thus establishes a variety of problems for the management of the production process. The work flow, too, defines how work is to be organised to the extent that it establishes the pace of work, schedules, production priorities and the physical layout of the work setting. Two influential studies exemplify this: the work of Blauner (1964) relating industrial development to alienation as a subjective experience; and Woodward's study (1958) relating the technical complexity of the various types of production technology to characteristics of the management process[1].

Blauner's focus is on the effect of production technology on the structure of the workplace and the consequence this has for the subjective experience of work. His

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[1]The work by both Woodward and Blauner has been extended substantially (see especially Pugh and Hickson, 1976; Pugh and Hinings, 1976; and Hickson and Macmillan, 1981). However, Woodward and Blauner share a similar classificatory scheme for production technology and provide useful illustrations of the effects of work flow systems of various aspects of work.

study rests on a notion of technology shaping the work flow, determining the pace and physical configuration of production systems. Blauner presents an analysis that attempts to show how the objective working conditions resulting from variations in workflow systems (or technological configurations) shape the social character of the workplace and thus provide distinctively different bases for the subjective experience of work. Blauner examines the experience of work by attempting to disaggregate the concept of 'alienation' as incorporating subjective aspects of experience and relating this to specific aspects of the historical development of the labour process. For Blauner, alienation is:

> a general syndrome made up of a number of different objective conditions and subjective feelings and states which emerge from certain relationships between workers and the socio-technical settings of employment. Alienation exists when workers are unable to control their immediate work processes, to develop a sense of purpose and function which connects their job to the overall organization of production, to belong to integrated industrial communities and when they fail to become involved in the activity of work as a mode of personal self-expression. In modern, industrial employment, control, purpose, social integration and self-involvement are all problematic. (1964: 15).

Blauner elaborates these four problematic elements in industrial employment as four aspects of alienation — powerlessness, meaninglessness, isolation and self-estrangement — all of which fragment the experience of work and imply a disengagement of the worker from the work itself. He then tests the idea that the experience of work is determined by historically emergent forms of work organisation by comparing workers in four industries characterised by technologies that have become established at different phases in the industrialisation process. He compares the printing industry which, at the time he examined it, still had many of the characteristics of craft work; the textile industry, with work mostly comprising machine tending; automobile manufacturing based on assembly-line work; and process work in the chemical industry, characterised by a high degree of judgement and autonomy.

Blauner combines survey data measuring perceptions of various facets of work with aggregate measures of characteristics of the industries. On the basis of his analysis he claims that the experience of work has been shaped by the demands of technology through different phases of industrialisation. The early phase, represented by craft work, is based on technologies that require high levels of skill, depend on workers controlling much of the work process and provide bases for the maintenance of relatively

powerful occupational communities buttressed by a strong sense of individual identification with work. For example, Blauner claims that: 'Work for craft printers is a source of involvement and commitment. It is not chiefly a means to life, but an expression of their selfhood and identity' (Blauner, 1964).

The work of the machine operatives in the textile industry was very different from craft printers. Here, the content and organisation of work were subjugated to the requirements of the machinery resulting in highly routinised and fragmented tasks determined by the production sequences making up the work flow. Among these low-skilled workers Blauner found work experience to be characterised by high levels of meaninglessness and powerlessness. He also anticipated higher levels of social isolation than he found among these workers given a system of work that inhibited social interaction within the work site. His explanation for this anomaly was that workers in the textile factory were members of a common residential community and that the bonds and solidarity of this community attenuated isolation within the factory.

The levels of all aspects of alienation were highest among assembly line workers. Assembly workers performed a very small range of tasks, had no discretion in the performance of these tasks because the pace and layout of the line entirely determined work roles and precluded social interaction. For these workers, the dominant meaning lies in work as a source of income.

Blauner found lower levels of alienation among process workers in the chemical industry. The work of these workers involves monitoring production processes and maintenance work. It typically required higher levels of discretion and judgement, more technical skills and more flexibility with respect to the use of time and freedom to move around the plant. This increases opportunities for social interaction as does the nature of the work itself which requires more communication and consultation. For Blauner, process technology represents the basis of a form of work organisation that results in an experience of work that is closer to that experienced by the craft workers than to the 'intermediate' phases represented by textile machinery and the assembly line.

Blauner's thesis is that the development of capitalism generates new forms of production technology and it is this 'machine system' (Blauner 1964: 170) that largely

determines how work is organised. The way work is organised sets limits to the degree of control workers have over their work environments and, particularly, the amount of freedom within the work setting. The logic of Blauner's argument implies a view of the experience of work as contingent upon the capacity of the work setting to enable workers to satisfy their own motivations within the context of work. His research does not address the question of motivation per se but rather compares workers in different industries in terms of differences in aspects of the job and the workplace. However, he does distinguish two generic types of work motivation — labourers and craftsmen — two orientations to work roughly analogous to Marx's conception of alienated and non-alienated labour. They are analogous, though, rather than identical because Marx's perspective is at a macro-structural level, whereas Blauner focuses on individual motivation contextualised by specific aspects of the development of the labour process.

The value of Blauner's work lies more in what it contributes to theorising the relationship between two ontologically distinct entities — the mode of production and the individual — than the empirical findings themselves[2]. He provides a basis for theorising this relationship by establishing intermediate levels of analysis and positing links between them. The critical idea is the notion that the logic of capitalism unfolds through developments in production technology and that specific technological configurations generate a technical division of labour and specific types of work situation that inhibit or encourage the attainment of individual goals. However, like Braverman, he treats both the adoption and the effect of technology as mechanically determined (although determined primarily by the nature of the product in Blauner's argument), ignoring the possibility that the uptake and mode of use of technology involves selections and decisions by managers and professional engineers. Secondly, for Blauner the quality of the experience of work is a function of the extent to which the work setting provides workers with the freedom to *do what they want* thus begging the question of the degree of heterogeneity of wants.

Blauner, then, can be interpreted as providing an account of the interaction between the individual and their work, where 'their work' is the outcome of a long causal

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[2]There is some question about the validity of his findings — for example, he uses data on 'industries' to make inferences about production technologies.

chain relating the nature of the product to the social configuration of the work setting via technology and the work flow, but holding motivational variability constant. The general evolutionary framework, which interprets technological change as a move through various stages of technical complexity, is consistent with earlier work by Woodward (1958) who also relates technology to the organisation of work. However, Woodward's concern is primarily with how the technical complexity of the production process creates demands that are '...met through an appropriate form of organization' (1958: 60).

Woodward characterises technical complexity in terms of '...the extent to which the production process is controllable and its results predictable' (1958: 58). She classifies the production processes of a sample of 92 manufacturing firms into ten categories that she argues constitutes a scale of technical complexity. These range from the production of simple units in response to customers' orders (low technical complexity) to continuous flow production of liquids, gases and solid shapes (high technical complexity). She subsumes these ten categories into three general groups: small batch and unit production; large batch and mass production; and process production.

Woodward found two types of relationship between technical complexity and organisation: one type associated with increasing complexity; and a second set associated with the difference between mass production and the other two production systems. She found that a number of factors increased as technical complexity increased: the number of levels of management; the ratio of managerial and administrative staff; the ratio of indirect labour to production workers; the proportion of graduates; and the span of control of the chief executive. Labour costs decreased as technical complexity increased. On other organisational characteristics production systems at the extremes of the scale were more similar to each other than those in the middle. At the extremes: duties and responsibilities were less clearly defined; communication was predominantly verbal rather than written; there was less managerial specialisation; and production planning was less widely separated from actual production operations.

The evidence provided by these two studies needs to be understood in the context of the labour-process and post-industrialisation theses. The latter attempts provide accounts of the fundamental trends in the development of industrial production. By

contrast, Blauner's and Woodward's work provides a picture of the range of production systems in operation at any point in time and so suggests quite a high degree of diversity rather than the more convergent images of work provided by labour-process theory and the post-industrialisation thesis. The emerging picture is one of complexity: technology simultaneously degrading work and creating the demand for more 'human' work; but the underlying technological developments add to existing types of production systems rather than involving a process of continuous replacement of old systems by new. While Bell identifies demands for more complex skills, Braverman reminds us of how technology continually provides management with opportunities for increasing control over labour. For both Woodward and Blauner, technological change determines the work flow, creating demands for distinct ways of structuring work and thus (according to Blauner) establishes the conditions for generic types of work experience.

While these approaches may posit different phases in industrial development (monopoly capitalism and post-industrial society; craft production, mass production and automation) they share the view that change is more or less continuous and evolutionary. This notion of continuous change has itself been questioned, and the work of Piore and Sabel (1984) adds two additional levels of complexity: the claim that change in the dominant mode of production has historically been associated with crisis rather then evolutionary development; and the idea that an older system of production is re-emerging as a viable form under new conditions.

From Fordism to Flexible specialisation

The labour-process and post-industrialisation theorists developed their accounts of the relationship between industrial production and work over a period in which the developed capitalist economies experienced a relatively high degree of economic stability. By contrast, Table 1.1, below, shows that the period since the early 1970s has been less stable and characterised by higher levels of inflation and unemployment.

Table 1.1 Average annual growth rates of inflation (p) and unemployment (u)
for selected countries (Ormerod 1993: 118).

Country		Period	
		1951-73	1974-92
Germany	p	2.7	3.8
	u	2.3	5.6
UK	p	4.1	9.3
	u	1.8	8.0
US	p	2.7	5.9
	u	4.6	6.9
Australia	p	4.4	8.4
	u	1.9	7.0

This provoked a re-examination of the development of industrial production. A recent body of work presents the view that the continuous change on which labour-process and post-industrialisation theorists have built their analyses actually represents an historically specific phase in the process of industrial development (Offe 1985; Lash and Urry 1987). Further, it claims that a radically new form of industrial organization is emerging, or has the potential to emerge, as the capacities of mass production reaches a limit in the face of saturated mass markets and competitive advantages accruing to small-scale, flexible systems of production. The seminal work is Piore and Sabel's book *The Second Industrial Divide* (1984) in which they describe and analyse the 'general crisis of the industrial system'.

Piore and Sabel start with the classic distinction between mass production and craft production (which they term 'flexible specialisation') based on different combinations of the form of technology and skill levels. Mass production is characterised by the use of machinery designed to produce a single product line and the use of semi-skilled or unskilled labour. Mass production is geared to the manufacture of standardised products by separating out the production of component parts and assembly. The production of specialised components tends to encourage finer gradations of the division of labour lending itself to the application of Taylorism. 'Fordism' is the system of production based the combination of Taylorism as the means of organising work, assembly line technology to control the flow of production and high wages to elicit commitment to work.

Craft production, or flexible specialisation, is based on the use of multi-purpose technology and the use of skilled workers. Craft based systems of production manufacture customised goods and aim to meet the unique requirements of the consumer. In Piore and Sabel's terms:

> Flexible specialization is a strategy of permanent innovation: accommodation to ceaseless change rather than effort to control it. This strategy is based on flexible — multi-use — equipment; skilled workers; and the creation, through politics, of an industrial community that restricts the form of competition to those favouring innovation. For these reasons the spread of flexible specialization amounts to a revival of craft forms of production... (1984: 17).

Piore and Sabel also offer an account of industrial change that to some extent locates and integrates the labour-process theorists 'logic of capitalism' and the de-industrialists' description of labour market shifts. Piore and Sabel reject the view that mass production succeeds as a consequence of technological advantages in the market. In this view, mass production would succeed to the extent that it realises efficiencies in the production of large volumes of standardised products with lower productions costs deriving from product-specific technology thus maximising economies of scale. However, Piore and Sabel argue that both forms of technological development co-existed and that the dominance of mass production was the result of the exercise of political power linked to control of financial resource, arguing that 'those who control the resources and returns from investment choose from among the available technologies the one most favourable to *their* interests...' (Piore and Sabel 1984: 38, emphasis in original).

They also reject the notion of the unilinear development of industrial development, arguing instead that technology frames a set of possible developments. The resulting choices are constructed as an orthodoxy as the dominant production system is buttressed through the emergence of a technological paradigm — a 'vision of efficient production' — that provides the basis for evaluating techniques and confirming some and rejecting others. The result is a *dominant* form of production resulting from social choices made in response to economic conditions. Piore and Sabel see the changes in the form of production resulting from the resolution of crises in earlier systems as a radical break from earlier forms. Piore and Sabel call these points of change 'regulation crises', claiming the dominance of mass production resulted from two sets of adjustments. The first was the development of large corporations which enabled producers to stabilise, and

thus increase the predictability of, markets for the factors of production. This stability was achieved through a combination of incorporation of the production of the various components into single, large organisations and domination of market relationships with small suppliers who acted as buffers between the corporation and market fluctuations. This general process has been analysed in some detail by Williamson (1975, see below).

Market stability at the micro level was achieved through adjustments resulting in new organisational forms. At the macro level, Piore and Sabel claim that a second wave of adjustments, in the period following the second world war, resulted from the expansion of the welfare system, increased expenditure on armaments and the military and wage bargaining processes which linked wages to inflation and productivity increases.

The current crisis is seen as resulting from a combination of external shocks and internal, structural crisis within the system of production. External shocks include the oil price rises of the 1970s and the collapse of the system of fixed exchange rates. The internal crisis is the result of saturation of the markets for consumer durables, the products on which mass production has developed; declining rates of productivity improvement; and the disintegration of mass markets for standardized goods resulting from increasing product differentiation (on the supply side) and increasing differentiation of consumption and diversity of tastes on the demand side.

For Piore and Sabel, the crisis for mass production provides the opportunities for flexible specialization. The need for predictability and stability driving the development of mass production systems arises because of the high fixed costs associated with strategies oriented to minimising unit costs for long production runs. In contrast, the advantages accruing to flexible specialization derive from its capacity to take profit from a wider range of small batches of products aimed at exploiting market niches. Profitability results from the so-called economies of scope, in contrast to the economies of scale on which mass production was built.

The concepts of Fordism and flexible specialisation can be best understood relative to each other. They refer to a range of facets of production that include the relationships of the organisation to their markets, customers, suppliers and competitors;

the structure and activities of management; and the way work is organised. Table 1.2

summarises the main differences between Fordism and flexible specialisation.

Table 1.2 Differences between Fordism and flexible specialisation

Facet:	Fordism	Flexible specialisation
Production concept	Mass production of homogeneous goods	Small batch production of customised goods
Competitive strategy	Economies of scale, cost cutting, market control	Economies of scope, innovation, diversification, flexible labour
Product	Limited range of standardised products	Specialisation, product variety
Quality control	Ex-post facto quality control	Quality control built into process
Technology	Purpose built, capital intensive machinery geared to long runs. Separate R&D	General purpose & adaptable machinery; R&D incorporated into the process
Labour process & work design	Fragmented & standardised tasks; strict division between mental & manual labour; semi-skilled workers	Open-ended tasks, closer integration of manual & mental tasks; mix of skilled & sub-contract labour
Payment	Rate for the job; formalised pay bargaining	Payment for person; informal wage settlement
Organisation & management	Managerial hierarchies; centralisation; multi-divisional corporation	Flatter hierarchies; centralised planning & information systems with decentralised production, networks, franchising, sub-contracting
Inventory	Large inventory	No stocks
Market relations	Resource driven, mass markets; mass advertising; domination of retailer by manufacturer	Demand driven, niche markets; firm rather than product advertising; domination by retailer, or two-way relations
Competitor relations	Vertical integration	Strategic alliances & partnerships

(adapted from Phillimore, 1989)

This contrast between Fordist production and flexible specialisation should

not be taken to imply a claim that there is a simple leap from one to the other. Sabel

(1982) has identified a set of managerial responses to economic and market crises aimed

at extending the limits of Fordism. For example, by diversifying into adjacent markets,

either through product innovation or by merging with companies in adjacent markets

companies are able to maintain or improve sales volumes; economies of scale can be

maintained by moving into global markets; while low-cost strategies can be pursued by

shifting production into low labour cost areas and by increasing automation of

production. Specialisation and innovation can be fostered within the Fordist system —

for example, the development of mini-mills within the steel industry which, with their

smaller scale of operations and faster change times, can respond to changing demand for

speciality steels and alloys while maintaining Taylorist forms of work organisation.

The development of such strategies, which Sabel refers to as 'neo-Fordism', implies the empirical co-existence of at least three generic forms of production — Fordist, neo-Fordist and flexible specialisation. This has two important implications: firstly, it implies that the capitalist mode of production in the late twentieth century needs to be characterised in terms of increasing differentiation of organisational forms derived from multiple, co-existing systems of production. In the context of Bell's claims about sectoral and occupational shifts, and evidence of the effects derived from different levels of technical complexity presented by Blauner and Woodward, there is a clear implication that it is increasingly difficult to describe any system of production as typical or characteristic of modern society.

A second important point is the question of the specific conditions that give rise to particular systems of production. Implicit in Piore and Sabel's account are the ideas that: flexible specialisation is an outcome of crisis; that organisations built on this system of production have a higher degree of viability in unpredictable markets[3]; and a new spatial dimension to production as the globalisation of factor and product markets increases pressures to exploit regional sources of competitive advantage. In many ways, this last point is not new — the particular conditions that gave rise to the industrial revolution in England is a case in point, as is the exploitation of low-wage labour and low cost raw materials in Third World countries. However, Piore and Sabel's work has drawn attention to the implications of the complex interaction between the globalisation of capitalism and the particular conditions of geographical regions that give rise to the emergence, or re-emergence, of new forms of organising work. One important example is the so-called 'Third Italy', the Emilio-Romagna district of north-east Italy. Analyses of the re-structuring of the regional economic and industrial system of the this region highlight the complex interplay of a global economic crisis and a regional socio-economic system characterised by a set of specific traditions and arrangements for organising production (Brusco 1982; Murray 1987; Piore and Sabel 1984; Solinas 1982).

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[3] Because under these conditions there is a premium for production that is responsive to rapidly changing demand for highly specified products.

Emilio-Romagna

The Emilio-Romagna district captured the attention of Italian economists and sociologists because of its superior economic performance compared to other regions even though its industrial structure is similar to the rest of Italy. Brusco (1981) claims it is more resilient to crisis with recessions arriving later in Emilio-Romagna and having less effect. Further, its local government institutions are controlled by the Communist Party. Improving economic performance in some regions can be explained in terms of a concentration on particular growth industries, with the microelectronics industry in Silicon Valley being a case in point. However, Brusco argues that this is not the basis of Emilio-Romagna's growth because data show that the employment profile of Emilio is similar to Italy as a whole. The region has a slightly larger proportion of people employed in agriculture and 'industry' (presumably manufacturing) and, consequently, a smaller proportion employed in services.

For Piore and Sabel (1984), the development of Emilio-Romagna represents a leading case of the shift from Fordist forms of production to flexible specialisation. It exemplifies the emergence of the 'regional conglomeration' based on a network of small enterprises operating collaboratively on the basis of short-term contracts.

The transformation of Emilio-Romagna results from a response to economic change that reverses the trends of increasingly large-scale enterprises and vertical integration. According to Brusco, the Emilio-Romagna district underwent a major industrial renewal in the face of deteriorating economic conditions. He supports his claim of the region's renewal with data demonstrating its superior levels of employment, per capita income and share of exports.

The antecedents of the region's industrial re-structuring were a series of developments in the 1960s — a period of boom for Italian industry with its concentration in the production of high value consumer goods. During this period, Italian industry began to face competition from other countries (particularly the industrialising countries of south-east Asia) which, through a combination of low labour costs and government policy could mass-produce at lower cost. At the same time, consumption patterns in the more industrially-developed societies were changing as a result of growing demand for

more varied and customised products, and decreasing product life-cycles. The garment industry is a prime example of an industry operating in these conditions where demand is tied to the unpredictable and rapidly-changing realm of fashion.

Industrial production in the region comprised a core of large-scale enterprises often owned by established families and a sector of self-employed artisans dependent on the large firms. The power and organisation of unions grew steadily in the Italian post-war period enabling them to establish a strong presence in the large firms by the 1960s. However, although this gave unions a great deal of influence within the large firms, relations between unions and employers tended to be amicable. The focus of activity for unions was mainly on the enforcement of favourable labour regulations. Their negotiating positions concentrated more on job security than high wages, with wage claims being incremental and predictable. As a consequence, labour costs were stable, but firms were very inflexible with respect to the problem of adjusting the costs of labour to the state of external markets.

Another feature that reduced the capacity of large firms to adjust to competition from new producers was their inability to improve production through new technology or strategies oriented to maximising economies of scale. Family-owned businesses were typically unable to raise the capital required to pursue this strategy. Many of these large firms went bankrupt as a consequence of this combination of market change and capital shortfalls.

However, unlike stories of economic decline in other regions, conditions in Emilio-Romagna led to a different outcome. A common course of action for a firm in difficulty was to sell the machinery to employees and then to sub-contract the components of the production process to the now self-employed workers. The owners of the firms concentrated on the business of coordinating production through a system of short-term contracts, on marketing and on the establishment of brands.

Brusco's data indicate that this strategy succeeded. The basis of this success seems to lie in the capacity of Emilio-Romagna's system of production to respond quickly to rapidly changing market conditions. This responsiveness appears to result from enterprises having timely and extensive information about the market; production

technology that can be easily adapted to the production of new goods; the capacity to adjust labour costs by shedding and hiring workers in response to work orders; and a highly decentralised production process. The comparative advantage accruing to enterprises in this region appears to lie largely in the capacity to exploit economies of scope rather than the economies of scale gained by large-scale, vertically-integrated firms.

The effectiveness of technology and labour in exploiting economies of scope depends on their capacity to be applied to a range of products with low costs involved in shifting between the different products. Economies of scope accrue only where markets are differentiated in a way that allows some producers to collect a premium on the basis of attributes of their *particular* products and where demand for the product is relatively short-lived. The capacity to exploit economies of scope depends on technologies that can be adapted quickly to the production of a variety of goods — assembly line production is antithetical to this.

However, the production system in Emilio-Romagna developed into networks of small-scale producers able to exploit multi-purpose, low-cost technologies. For example, in the case of garment production, the varieties of product that can be produced by the machinery for spinning, weaving, dyeing, cutting and sewing is limited only by the skill of the worker. The same machine is used for sewing silk blouses and wool jackets — the worker's skill determines the capabilities of the technology. The system of production in Emilio-Romagna suggests that the extent to which technology creates rigidities (which both decreases the enterprise's capacity to respond to change and constrains work) is at least partially a function of the way it is integrated into the work flow process. By contrast, systems of production in which production can be rapidly shifted to follow demand increases responsiveness, creates opportunities for the autonomous application of skill and, nominally, allows the artisan more discretion about what and how goods are to be produced (with this discretion being *nominal* to the extent that the constraints imposed by hierarchy are replaced by constraints imposed by the market).

The goods produced in the area are well suited to decentralised forms of manufacture. One example described by Brusco is the Morini motorcycle plant where

most employees are engaged in assembly, with relatively integrated tasks — ie. workers substantially follow the assembly of a total product. Most of the components are manufactured off-site by subcontractors using precisely the same technology and techniques that Morini would have used under Fordist production. But in this case, *capital* is dispersed throughout a network of small producers rather than concentrated in the hands of a large enterprise.

The dispersion of 'line' functions is often parallelled by similar arrangements of 'staff' functions. In many cases, where the machinery has been bought by employees, production still takes place in the original factory. In these cases, the administrative and financial operations of small enterprises are handled collectively though co-operative producer associations that emerge from the older structures of the unions and municipal organisations. Book-keeping, payroll management, purchasing, negotiating the cost of credit, taxation, insurance and office-based services can all be provided (with the advantages of economies of scale) as a service of membership of co-operatives.

An additional factor contributing to Emilio-Romagna's resilience is the existence of a strongly entrenched dual labour market. The large unionised firms support a core workforce of full-time, permanent employees and the networks of small, sub-contracting firms shed and hire labour in response to market conditions. The large unionised firms provide relatively good wages, job security and guaranteed adherence to labour regulations while work in smaller firms tends to be less pleasant, less well-paid and less secure. This secondary labour market is itself relatively heterogeneous, including self-employed artisans trading job security for high wages and immigrants (from overseas and rural areas) employed at low wages under poor working conditions.

Conditions in the secondary labour market are heavily dependent on economic conditions. Wage differentials between the two segments can disappear during periods of high demand, and opportunities increase to the point that financial considerations in the choice between core and secondary markets become less salient. Brusco exemplifies the nature of this choice by comparing the situations of men and women, proposing that for women the choice is framed by the wish to integrate work and family settings, while for men choice revolves around work preferences.

Emilio-Romagna has generated interest because it appears to exemplify a production system that is well-suited to the turbulent conditions often cited as characterising production more generally in the late twentieth century. However, it also highlights increasing diversity at three levels: the intra-regional; the inter-regional; and the global level.

At the intra-regional level, Emilio-Romagna's transformation resulted in a system characterised by a wider variety of work situations compared to both its former system and to Piore and Sabel's image of craft-based production. Compared with Fordist production, the boundary between work and family is less rigid; young people are able to manage the conflict between the wish for income and leisure time because of the amount of part-time and casual work available; and entry into self-employment is relatively easy for skilled workers. Yet there is still opportunity for the development of traditional careers with secure jobs within the larger firms. In return for this diversity, of course, the workforce itself absorbs the ups and downs of market conditions as the labour market is used as a buffer between capital and the market. But, to a far greater degree than under Fordist forms of production, the system in Emilio-Romagna appears to increase the diversity of work settings.

The extent to which the system in Emilio-Romagna a new form of production is unclear. An alternative explanation is that it represents a form that has persisted through the twentieth century but that the market dominance by mass production has masked the existence of small firms based on craft production methods. There are two sources of evidence for this view. Firstly, Sabel and Zeitlin (1985) use case studies to highlight the capacity of small firms to utilise a combination of skill, specialised knowledge, flexible equipment and regional traditions to exploit niche markets, especially for luxury goods like lace and glassware. Sabel and Zeitlin claim that such niche markets emerged in 19th century Europe in the face of the growth of mass produced garments and household products. Secondly, Hirschhorn (1986) argues that assembly line production was never a dominant form of organising production within manufacturing, at least not in the USA. He argues that, at its peak, no more than about 10 per cent of the manufacturing labour force were employed in assembly line production.

Emilio-Romagna is a single example of change that must be understood in its own terms. It is the *particular* conditions of the region that characterise the specific form of transformation and the resulting production system. While Piore and Sabel use Emilio-Romagna as an exemplar of a new form of production, the important point is that it is a system that tends to facilitate the exploitation of the unique configuration of economic, social, political and geographic factors characterising a small-scale system linked to global markets. Hence, in contrast to the more general theories proposed by Bell and Braverman, the notion of post-Fordism entails explanation at the level of the specific differences between regions in an increasingly global system of production.

In general terms, the positions reviewed so far have dealt largely with the question of how long-term, macro-level processes shape the social contexts in which work activity occurs. Others, however, have concentrated more on processes internal to work settings, re-framing the problem in terms of the issue of work as activity occurring in a context comprising interdependent structural dimensions. So, for example, Kalleberg and Leicht, analysing the relationship between technological change and skill, suggest that '...most studies represent a sort of univariate structuralism [whereby] different writers investigate how only a single work structure (e.g. technology...; occupations...) produces differences in job skills...' (1986: 270).

The problem from this perspective is to identify the contingencies in the relationships between various aspects of work. One example is the work of Penn and Scattergood (1985) who posit a model of the relationship between technological innovation and work based on a type of social determinism. This model consists of theoretical propositions that have been used to guide empirical research in this area in Britain.

The model has three main elements. The first element is that 'skill' is of central significance in traditional British industry, and that a range of practices are oriented to the preservation of such skills. Therefore, industrial rules and regulations encode a complex of norms that maintain the centrality of skill. The second feature is that skill becomes a focus of work identity translated into various occupation-based associations. A significant number of trade unions, for example, are built on an

organisational identity centred on common skills. The third feature is the proposition that the operation and maintenance of machinery has tended historically to require skilled workers. This requirement has provided skilled workers with a resource to foster the salience of skill in work.

Their approach explicitly emphasises the need for systematic empirical inquiry into the relationship between skill and work based on analysis of the interrelationships between various factors that mediate the effects of technological innovation on skill levels. Penn (1982; 1983a; 1983b; 1984), for example, suggests that the relationship between employers and skill-centred unions is the critical factor, while others (e.g. Wilkinson 1983; Friedman 1977) highlight the importance of management orientations and practices. Penn and Scattergood (1985) themselves attempt to construct a theory of the relationship between technological innovation and skill that they call compensatory theory.

They argue that technological innovation both deskills and enskills. In particular, that technological innovation tends to deskill workers directly engaged in production, but may enskill workers associated with the maintenance tasks for the new technology. This is consistent with Mallet's claim (1975) and provides a link between skill and the subjective outcomes of the effects of the work setting measured by Blauner.

They also argue that occupational groups are differentially located with respect to the capacity to respond to technological innovation. By this they mean that technological change in the workplace provides a resource for some occupational groups by, for example, offering the opportunity to incorporate new skills. For other occupational groups, technology makes their skills redundant. Thus, changes in technology pose threats to, and provide opportunities for, organised labour. Penn and Scattergood would argue that this explains the discrepancy between the evidence mobilised by industrialisation and labour-process theorists.

For Penn and Scattergood changes in work result from the interplay of social resources deriving from the state of local labour markets; the capacities to respond to technological innovation that members of different occupational groups can bring to bear

by virtue of the scarcity and control over valued skills; and the capacities to respond to technological innovation that different occupational associations can mobilise.

Kalleberg and Leicht (1986), focusing on the determinants of de-skilling and enskilling, extend these contingencies by locating social actors within the structural conditions that contextualise work. They argue that differences in the skill levels of workers are a consequence of the structural conditions that define individual work situations. The structural conditions ('work structures') apply at different levels or, in Kalleberg and Leicht's terms, they constitute '...several conceptually distinct kinds of work structure'. The work structures they examine are organisations — 'which are the sites wherein work is actually performed...'; occupations — 'which are aggregates of jobs which perform similar technical activities'; technology 'which refers to the machinery and work flow processes which transform raw materials ... into finished goods'; and unions 'which organise workers and represent them in their relations with employers and managers' (1986: 271). The concept of 'level' is presented as a set of operational assumptions. The basic level is the individual defined by attributes which locate them in jobs. Jobs are microscopic level institutional structures that link individuals to the technical division of labour. Jobs themselves occur as a set of conditions defined by '...organizational structures; technology; and inter-organizational structures such as occupations and unions' (1986: 272).

This general approach must be seen as complementary to theories of changes in work that focus on the relationship between macro-level social change and changes in work settings. In a sense, the goal of researchers examining the contingent nature of situational change is precisely to identify the relevant aspects of work settings for specific, concrete instances of change. These conceptions of 'structural conditions' tend to take the logic of capitalism as constant, providing a predictable framework within which changes to labour can be analysed. Change at the level of the mode of production is assumed to be a backdrop — long-run, basically unidimensional, and having the fairly clearly defined characteristics laid out by Baran and Sweezy (1966), Braverman (1974), Friedman (1977) and others in the concept of 'monopoly' capitalism.

The literature reviewed so far highlights a number of processes relating industrial change to the conditions that produce different configurations of the work setting. The development of capitalism generates a multitude of the skill/technology combinations that underlie the work flow, fostering an increasingly complex and differentiated technical division of labour. This influences variation in the scope and composition of work tasks; the extent to which work activity is routinised; and the degree of autonomy available to workers. In addition, the concurrent processes of the globalisation and the regionalisation of production intensifies the spatial dimension to the division of labour — functional differentiation across regional economies lead to geographical variations in systems of production.

More generally, it can be seen that developments in the mode of production generate new conditions to which firms are forced to adjust. These adjustments contribute to the integration of systems of production, at the aggregate level, through the survival and failure of various forms of organisation. There appear to be two basic sets of mechanisms that achieve this: the activities of firms in organising themselves to respond to market conditions (product innovation, price mechanisms, inter-firm networks and relationships, technological upgrading and so on); and through the co-ordination and control of the internal division of labour. In this interpretation, system integration at the societal level is achieved through the aggregation of organisational adjustments carried out by managers and the ecological processes whereby external conditions select out certain organisational forms.

Braverman assumes that managers simply translate the 'exigencies' of capitalism into those systems of work which maximise control over labour while Bell and Woodward view managerial activity as a consequence of the system of production. The effect of managerial strategies on the organisation of work is a central question within the debate about flexible specialisation. For example, Kern and Schumann (1987) present evidence of a change in managerial strategy within core industries in West Germany based on a comparison between industries they studied in the 1960s with studies they undertook in the 1980s. The new strategies, which they refer to as 'new production concepts', amount to a reversal of the principles of Taylorism and promote the enskilling

of labour, expansion of the range and complexity of tasks associated with work roles and increased application of discretion and judgement. Similarly, Lane (1988), on the basis of an analysis of a series of case studies describing industrial production in the UK and West Germany, argues that German industry has undergone change at both the level of the technology-skill combination and in terms of managerial strategy (Lane 1988: 159).

This suggests two dimensions of management activity. The first, a structural dimension, concerns the processes that give rise to firms' survival and failure in the face of external change. Many argue that the conditions of contemporary production are increasingly unstable[4] and that this generates constant internal strain (Harvey 1986; Lash and Urry 1987; Piore and Sabel 1984). The major elements of change affecting systems of production are claimed to be the increasing participation of industrial sectors in the world market and the increasing scale of industrial enterprises. As a consequence, local markets are dominated by world market activity and contain a more diverse range of players. The effectiveness of cartels has declined and tariff protection for local industries has become difficult to sustain. International trade has been dominated by competition between the US and Japan and by the growth of export-oriented production in underdeveloped countries. Competition is greatest in the most 'Taylorised' industries (e.g. heavy industry, car manufacturing and the steel industry), maintaining incentives to develop efficient forms of work organisation (Offe 1985). At a structural level, the capacity of firms to survive depends on the development of systems of exchange with the environment. Two approaches to how this occurs are examined: the first, transaction cost theory, models managers as rational decision-makers calculating the costs of transactions with the environment and making decisions aimed at maximising efficiencies (Williamson 1975; 1981). The second, a model of organisational change derived from population ecology, sees adjustments as resulting from the fit between clusters of resources available within environmental niches and the capacity of different organisational forms to exploit those resources (Beard and Dess 1988; Freeman and Hannan 1983; Hannan and Freeman 1977; Hannan and Freeman 1989; Romanelli 1991).

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[4] The term 'turbulent environment' is commonly used. This was originally proposed by Emery and Trist (1965) as one of four types of organisational environment

The significance of the normative dimension relates to the assumption of managerial activity as comprising: the *rational* selection of courses of action; the orientation to organisational, rather than personal, ends; and the adequacy of information about the environment. The normative dimension concerns the extent to which beliefs and ideology permeate management activity — for example, with how organisational environments are constituted through hegemonic discourse. Ultimately, the importance of this issue derives from the impact such normative frameworks have on job design and social relations within the firm.

The structural dimension

Williamson (1975; 1981) has presented an influential argument based on the premises that competition in market economies fosters 'efficiency' and that, in the long run, the chances of economic survival are higher among efficient organisations. Consequently, organisations that build corporate strategies which maximise efficiency are likely to be more successful. He posits two general corporate strategies: 'hierarchy' where costs of transactions are reduced by incorporating previously external operations into the enterprise; and 'market' where enterprises seek to exploit the efficiencies derived from the competitive pressures that act on suppliers.

Williamson argues that organisations calculate the costs involved in the transactions that bring inputs into the organisation. These costs include the costs of accounting, despatching, monitoring delivery and other administrative activity. They also include the costs of uncertainty and of supply involved in market-based transactions. Where these costs exceed the equivalent costs of internal production the discrepancy provides an incentive for organisations to incorporate the production of supplied components into their own production process. This calculation of relative efficiencies produces the form of hierarchical organisation of production known as 'vertical integration'.

The use of hierarchies represents a strategy for managing the environment by incorporating it into the production process. From the point of view of the organisation, vertical integration extends control over inputs by incorporating their supply into the production process underpinning the organisation. Monopolies increase the

organisation's control of its environment by moving supply decisions from the market into the organisation itself. From the point of view of units (divisions) within the organisation, the external environment is constructed through corporate policy.

The advantage of hierarchy is the reduction of uncertainty in the organisation's relationship to its environment. Stability is achieved as vertical integration increases the predictability of supply; and the creation of monopolies increases the predictability of demand. The disadvantage is that it reduces the organisation's capacity to respond to environmental change, limiting the capacity to exploit new opportunities in the market. The antithesis to hierarchy is the 'market' strategy where organisations manage their environments through contractual relations (seller/buyer relations) that enable them to exploit the opportunities in short-term market fluctuations.

Transaction costs theory is based on two critical components: a market system that provides information through the medium of price mechanisms; and decision-makers calculating the relative efficiencies of the purchase or production of required inputs. Underlying this model is the notion that for each enterprise, at any given point in time, there is an optimum mix of market and hierarchy elements. Enterprises that come close to their optimum mix are more likely to flourish than others and the 'invisible hand' of the market eventually weeds out sub-optimal enterprises. This notion of organisational form as the outcome of survival is developed more fully in the population ecology model where organisational change is posited to occur as the aggregation of random 'mutations'. The survival of such mutations is said to depend on the highly specific character of the particular market conditions.

The population-ecology model (Hannan and Freeman 1977) suggests that organisational change cannot be understood as purposive because the 'organisation' is unable to obtain accurate information about its environment and is also unable to act on this information in any effective way. From this perspective, 'types' of organisation are derived from those clusters of transformational rules or procedures that determine the organisation's response to the environment. Organisational change occurs as the accumulation of a mass of small incremental changes that slowly re-configure these rules and procedures. Configurations survive as the result of a fortuitous match between the

resulting productive capacities and environmental conditions. The population-ecology model builds on two lines of theoretical development: an approach to analysing organisational change in terms of differential capacities to control and mobilise resources in interactions between organisations, known as 'resource dependency theory' (e.g. Aldrich 1979); and an application of Darwinian evolutionary theory to describe and categorise variation in organisational forms. The most extensive presentation of the theory is the work done by Hannan and Freeman (1977, 1984, 1987; Freeman and Hannan 1983) and the following discussion is based on their work.

Hannan and Freeman argue that the processes of organisational change are analogous to change in biological species that do not *adapt* to their environment but rather change over generations as a consequence of selection processes. They posit a series of internal structural constraints ('structural inertia') and external pressures that reduce an organisation's propensity to change. They identify a number of factors that foster structural inertia:

- investment in plant, equipment and specialised personnel; where an organisation's competitiveness is largely a function of its stores of financial, material and human capital such investment constitutes a disincentive to change;

- decision-makers have limited information about activities within the organisation and the environmental conditions faced by sub-units of the organisation; such information is contingent upon the effectiveness of communication channels within the organisation;

- political interests and coalitions within the organisation create resistance to change, where change threatens re-allocation of resources; and

- the organisation's history provides a legacy that institutionalises current practice; organisations depend on a substantial investment in procedures, task definitions, systems of co-ordination and control and organisational culture for the organisation to operate.

For Hannan and Freeman such factors mean that managers are heavily constrained with respect to their capacity to make internal adjustments so that the ability to

devise and implement strategic changes in response to external conditions is severely limited. In addition, they claim that external conditions also limit the responses available to organisations.

- organisations face legal and financial barriers to entry and exit from markets, for example, market domination by established firms and licensing requirements;

- decision-makers receive limited information about their environment; the capacity to change depends on the extent to which the need to change is perceived and this depends on decision-makers inside the organisation having accurate and timely information about the dynamics of their environment;

- organisations are more or less dependent on external legitimacy claims established through a 'corporate image' so that a major change in the firm's activities risks the loss of legitimacy; and

- the 'collective rationality' problem — organisations constitute elements in the environment of other organisations. Activity by one organisation provokes 'unpredictable' activity by others, therefore conservative strategies reduce the risk of disastrous change.

The analysis of change proposed by the population-ecology model relies on an analogy between the processes through which populations interact with their environments and differentiate (evolve into species) and the processes through which populations of organisations change through reactions to their environments. In this analogy 'populations' are aggregates of organisations that share a common fate with respect to environmental variations. That is, they are classes of organisations that are relatively homogeneous in terms of environmental vulnerability.

The organisational equivalent to 'species' are the distinctive procedures developed for transforming elements in the environment. In organisational terms, these are rules or procedures for obtaining and acting upon inputs in order to produce an organisational product. These rules or procedures are analogous to the genetic base of

species and organisational survival is a function of the effectiveness of organisational procedures in enabling the organisation to exploit environmental niches.

The environment is conceived of in terms of two sets of elements defined by (1) the extent to which change tends to be continuous or discrete and (2) produces minor or major effects. An aspect of the environment characterised by continuously changing elements and producing minor effects would be exemplified by sales of a low-cost, high-volume product . These elements constitute the 'fine-grained' aspects of the environmental niche. Changes to the regulatory system exemplify 'coarse-grained' aspects of the environmental niche — discrete change producing major effects.

The specific configurations of coarse- and fine-grained aspects of environmental niches define the resources available to organisations occupying a particular niche. Consequently, organisations are severely limited in the degree to which they can implement strategic choices. Given the structural inertia described above, organisational survival occurs as the result of an adventitious fit between organisational structure and environment with rational planning affecting failure only marginally.

The tendency for such selection processes is to generate an extremely wide variety of organisational 'species'. However, the population-ecology model also posits a set of homogenising forces that tend to steer organisations towards producing similar responses to similar environmental stimuli:

> once disparate organisations in the same line of business are structured in an actual field, powerful forces emerge that lead them to become more similar to each other ...The concept that best captures the process of homogenisation is isomorphism... Isomorphism is a constraining process which forces one unit in a population to resemble other units that face the same set of environmental conditions (DiMaggio and Powell 1983: 143)

It is this process that leads to the development of 'species', or organisations with similar ways of doing things. Hannan and Freeman (1977) suggest four processes of isomorphism: coercive; mimetic; normative; and competitive.

Coercive isomorphism results from pressures for organisations to comply with external expectations about appropriate form. These pressures may be either formal (as a result of legislation) or informal (as a result of systems for providing grants). Examples of such pressures would be seen in the organisation of hospitals, schools and public service departments

Mimetic isomorphism denotes the propensity for decision-makers to look for models as a basis for shaping their own organisations. Organisations perceived as successful offer a basis for imitation by others, particularly under conditions of uncertainty. This is institutionalised in the procedure of constructing 'best practice models'. Best practice models involve the measurement of the performance of lead organisations on a number of indicators. These indicators are then used to construct a model of a hypothetical organisation scoring best on each indicator. The best practice model serves as an ideal providing the bases for other organisations to develop strategic objectives.

Normative isomorphism develops out of processes that bring normative standards into the organisation from outside. Organisations will tend to become similar, the more they have common normative reference points. Hannan and Freeman suggest that professionals in organisations contribute to normative isomorphism through common participation in formal education and through professional networks. Formal education links professionals into a culture that transcends organisational cultures while professional networks promote and maintain socialisation into professional norms.

Competitive isomorphism is the result of non-optimal forms of organisation being selected out of a population because of their incapacity to mobilise resources adequately. Competitive isomorphism is directly analogous to natural selection processes in biological populations.

Clearly, the population ecology model sees the structure of an organisation as the result of the tendency of the environment to constrain organisational choices. In particular, the role of managerial activity in shaping organisations is seen as minimal. However, in contrast to Williamson's account, environmental forces are seen as producing a wide diversity of niches rather than creating a particular trend of development.

One important issue raised by the population ecology model is the extent to which an organisation is the result of selection processes or of adaptation to environmental conditions. Selection results from the relationship between characteristics of the organisation and the environment, favouring some organisational forms and

extinguishing others. Adaptation, on the other hand, concerns the firm's capacity to make internal adjustments that improve the fit between it and the environment. The population-ecology model minimises the role of adaptation in shaping organisations, but this rests on an assumption that the fit between structure and environment is entirely contingent — that is, that no single organisational structure is intrinsically superior in its capacity to respond to environmental change. The second issue is the question of the generic choices available to organisations which might constitute the bases of strategic choice. The population-ecology model focuses on the limits to strategic choice but fails to address the range within those limits.

Firstly, firms can respond to environmental conditions in two general ways. They can try to control their environments by assimilating environmental elements into the organisation. This is exemplified by the strategy of corporate growth through vertical integration and the development of monopolies. Vertical integration and the establishment of monopolies within markets involve firms in trying to maintain internal stability by incorporating as much of its environment as possible into the firm's internal (and therefore, controllable) activity.

Secondly, firms can attempt to increase their capacity to adapt to environmental changes through adjustments in their internal processes and structure. Selection should operate more effectively in conditions characterised by a large range of small, specialised opportunities (ecological niches) that enable firms to compete on the basis of their capacity to innovate. The processes posited by the population ecology model as leading to isomorphism imply that successful organisational forms can result from innovative response to environmental conditions. Consequently, from the perspective of the organisation, the process of selection entails internal organisational changes.

One implication of the transaction-cost and population-ecology approaches is that the configuration of work settings is largely determined by exigencies that emerge from the organisation's external environment. In some ways this bears similarities to Braverman's de-skilling thesis in the sense that Braverman posits a logic of development for capitalism that exerts pressures on managers to implement strategies designed to

increase control over labour. Braverman's work is at a lower level of generality and abstraction than the transaction-cost and population-ecology approaches, but it shares the conception of managerial activity as constituting a conduit between the environment and the way work is organised. However, while such a focus does help identify the parameters framing managerial activity, it does not address variation within these limits. The transaction-cost and population-ecology approaches are concerned with the *objective* conditions determining organisational change. However, management activity and decision-making also involve subjective processes whereby social actors interpret their situations and select courses of action on the basis of their beliefs about the nature of their situation, their own purposes or motives, and varying conceptions of the appropriateness of different choices. The resulting outcomes may be inconsistent with the objective requirements imposed by structural conditions, but the important point is that this normative dimension will result in interventions in the production process and so shape the way work is organised.

The normative dimension

The normative aspect of the function of management centres on the extent to which the intentions and strategies of managers play an independent role in shaping organisational life. In one view, management is primarily a mechanism that optimises rational action within organisations and so simply translates market pressures and exigencies into organisational activity, while others see the role of management as critical in shaping the structure and processes of work activity. For example, Friedman (1977) claims that Braverman's analysis ignores the extent to which managerial orientations vary, claiming that managers tend to weigh the costs of coercive control against allowing a degree of 'responsible autonomy' — allowing workers' some discretion in the production process rather than aiming for complete managerial control. Similarly, Lane (1988) claims that managerial strategies in West Germany tend to be oriented more towards responsible autonomy than is the case in the UK. These claims may be interpreted as saying no more than that transactions costs involve an additional level of complexity — the costs of implementing strategies in the light of possible resistance by others in the situation. However, there is still question of the extent to which management activity reflects the

purposes of managers rather than a commitment to organisational goals or the need to respond to environmental exigencies. A useful contribution to this question is presented by Marglin (1982) who argues against the view that management originated in response to the need for the co-ordination of a system of production characterised by increasing functional differentiation. Rather, according to Marglin, the foundations of the managerial role lies in the purposive actions of early entrepreneurs actively seeking to create a role within the production process.

Marglin (1982) argues that the function of both management and hierarchical structure can be attributed to the actions of early entrepreneurs. He argues that the role of the manager originated in the active pursuit of individual opportunity rather than capitalism developing the need for managers to control and co-ordinate production processes. According to Marglin, entrepreneurs actively created a role for themselves in the production process by disassembling the complete production process and organising it into the separate components that make up the putting-out system. This results in a production system comprising a set of dispersed workers, with each involved in one small part of the production process and with only the entrepreneur having a view of the whole process. Marglin points out that this creates a self-sustaining system because productivity increases and the surplus productivity generates additional profit to cover the costs of the entrepreneur. A critical point is the distinction between profit accruing to capital and profit accruing to the organisation of the production process, even where the same individual may exploit the same source of profit. Consequently, in Marglin's view differentiation and hierarchy result from intentional action by early entrepreneurs able to exploit the *organisation* of production as a source of profit.

Marglin highlight's the view of managers as actors pursuing their own goals rather than agents responding to the functional requirements of a differentiated, complex organisation. A second aspect of the normative dimension is that implied in the population ecologists notions of 'mimetic' and 'normative' isomorphism. These concepts suggest that managers seek models and reference points as the basis for guidance about appropriate organisational strategies. The context for this issue is the uncertainty associated with the state of an organisation's environment (given imperfect information),

and the uncertainty associated with the effectiveness of various options (given unpredictability of future conditions). The concepts of mimetic and normative isomorphism suggest ways in which such uncertainty can be managed — through the mobilisation of institutionalised definitions of the nature of the environment and though authoritative prescriptions of what management *should* do in response. Such prescriptions are communicated through business schools, management consultants and professional and popular publications. They survive as accepted wisdom, or rise and fall as management fads and trends.

A common theme within the management literature during the 1980s has been that the environments in which business organisations operate are changing rapidly and are increasingly unpredictable. As a consequence, central concerns have been with *prescribing* ways of organising work which increase flexibility; and with predicting characteristics of successful companies in the future. For example, Walton (1985) contrasts management strategies based on imposing control with strategies based on eliciting commitment from employees. He argues that business organisations should be adopting strategies based on eliciting commitment by ensuring that work practices offer opportunities for satisfying experiences of work. His argument is based on the premise that committed employees are more likely to accept changes in their work situations as a permanent feature of working life and that this increases the organisation's ability to adapt to change. Drucker (1988) argues that the rapidity of environmental change requires adaptation at the level of organisational structure. He claims that there is a general trend for 'successful' companies to expand the degree of responsibility and autonomy in work roles. This results in a decrease in the number of hierarchical levels within the organisation. Kanter (1989) argues that rapid environmental change demands a re-configuration of managerial roles to emphasise two functions. The first, Kanter claims, is the increasing centrality of entrepreneurial activity in managerial work. Secondly, she argues that managers' time and effort will be involved more in establishing informational networks that extend beyond the organisation because managerial work depends on access to accurate and timely information about the environment.

Such examples are explicitly prescriptive. They claim to be extrapolating from contemporary trends in order to provide managers with guidance about what needs to be done within the organisation to ensure future success. However, such prescriptions provide the basis of widely held agreement about the nature of change confronting organisations and a set of idealised ways of responding to these perceived challenges. One particularly interesting example of this is a model of the 'flexible' firm (Atkinson, 1984) that relates directly to the question of how labour *should* be organised.

Atkinson claims that the 'flexible firm' represents an organisational form that improves the firm's capacity to respond to changing environmental conditions. The flexibility of the flexible firm derives from a structural configuration based on two labour segments *internal* to organisations and an increased use of external contracts. The result is an organisational form that increases flexibility with respect to three dimensions: functional flexibility, numerical flexibility and financial flexibility. Figure 1.1 presents a schematic representation of Atkinson's model of the flexible firm.

The model comprises a 'core' of permanent employees who are multi-skilled workers protected from fluctuations in the labour market by guarantees of job security. The model implies that this core workforce is linked to the organisation through its importance to the firm's key activities. The link is their organisation-specific range of skills which cross traditional organisational boundaries; commitment to long-term employment in the organisation rather than short term gains in the labour market; and a willingness to adjust to the demands of production schedules. This gives a firm 'functional' flexibility, according to the model, by ensuring a capacity to respond to the need for changes in the production process — with such a need stemming from strategic choices made as responses to demand in product markets.

The secondary sector comprises workers in short term employment contracts, publicly-subsidised traineeships and part-time and casual employment. These workers are more closely tied to the open labour market. They are recruited and shed in response to changes in production demand and labour market conditions. This increases the firm's numerical flexibility, enabling it to adjust the absolute size of its workforce in response to demand for labour.

The third component of the firm's labour force, created through the strategy Atkinson refers to as 'distancing', involves the shift from employment to commercial contracts via sub-contracting, outsourcing and the use of agency temporaries. This increases the flexibility of the firm by allowing it to shed non-core activities in busy periods.
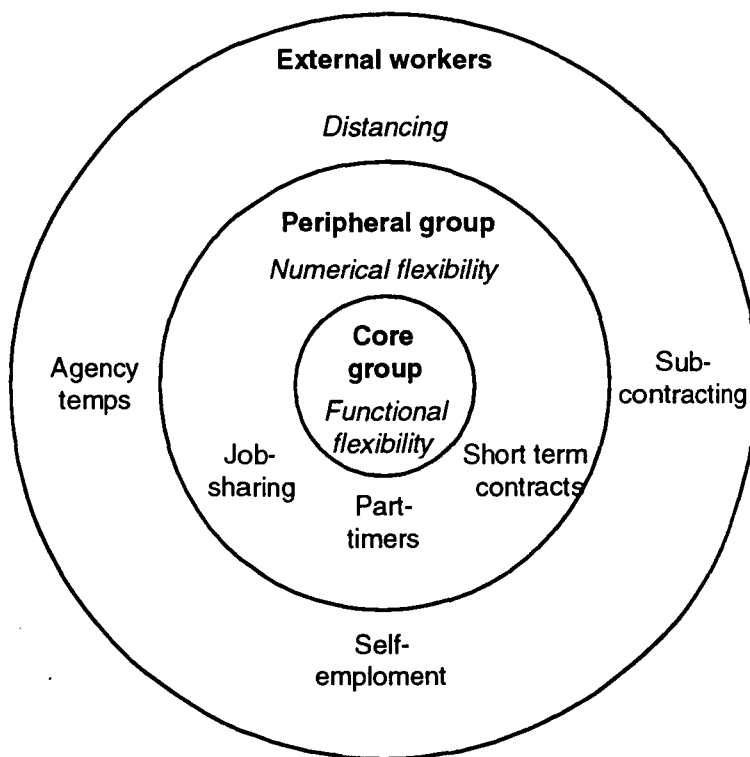
Fig. 1.1 The 'flexible firm'(adapted from Atkinson, 1984)

Whether Atkinson sees the model as descriptive (reflecting empirical change) or prescriptive (a model of 'good practice') is unclear. Pollert (1988), for example, assumes that the purpose of the model is descriptive. She argues that the empirical evidence is selective and unsystematic, and the model does not reflect strategic management choice but is a consequence of economic re-structuring and State employment policies. Hakim (1990: 162), on the other hand, argues it should be '...welcomed as a highly successful exercise in promoting and popularising existing social science and labour law perspectives on current trends in the labour market...'. It is precisely this which makes the model interesting — its ambiguity or duality as both a description and a prescription for business success. Of course, the existence of such literature does not necessarily imply an effect on managerial activity. However, it does present itself as a mechanism for legitimating manager's attempt to organise or re-

organise work, and raises the question of the distinction between factual and ideological inputs into decisions. This question is taken up in some detail in the next chapter which examines the role of managerial discourse in the establishment of organisational problems and their solution.

The diverse bodies of literature reviewed in this chapter can be summarised in terms of two basic dimensions. The first concerns the relation between objective conditions and subjective perceptions (exemplified in the structural-normative distinction referred to earlier). The second concerns the relation between events and activities external to the system and those that are internal to it. This implies four basic elements impinging on the organisation of work: actual environmental conditions (external-objective); organisational forms (internal-objective); conceptions of environmental conditions (external-subjective); and management orientations (internal-subjective). These elements are presented in Figure 1.2, below.

	External	Internal
Objective	Actual environment	Organisational form
Subjective	Conceptions of environmental conditions	Management orientation

Fig. 1.2 Factors impinging on the organisation of work

Actual environmental conditions comprise the forces and relations of production, including regional and global variations in skill and technology; and quantitative and qualitative variation in product and factor markets. Organisational forms represent the characteristic patterns underlying the organisation of work activity. The relationship between these two elements is the primary concern of the labour-process theorists and the population-ecologists, with labour-process theorists arguing for the causal determinacy of an unfolding logic of capitalism. This centres on organisational forms as mechanisms for the exploitation of labour within the long-run process of the concentration of capital. By contrast, population-ecology theorists focus on the environment as clusters of resources and view organisational forms as characteristic patterns for exploiting such resources.

Labour-process theory and population-ecology might be described as approaches that are general and abstract in comparison to analyses such as the technological determinism of Woodward (1958) or Piore and Sabel's (1984) focus on the historical developments in the relationship between market demand and productive capacity.

At least three aspects of variation in management orientations are discernible. The first derives from Friedman's (1975) distinction between strategies of direct control and responsible autonomy; and work by Lane (1988) and by Sabel and Zeitlin (1985) suggests that management strategies reflect a complex interaction of established practice, politics and environmental conditions. The second is the prescriptive models described in the business literature. This assumes a high degree of managerial choice over both the internal organisation of work and organisational responses to environmental exigencies. While this literature cannot be taken to constitute adequate description or theorising of variation in management orientation, it is indicative of sources of normative definitions for effective strategies and assumptions about the co-ordination and control of labour. Finally, the transaction-cost model posits an economically-rational actor who makes choices purely on the basis of calculations of efficiency.

The fourth element, conceptions of environmental conditions, is the main concern of Chapter 2. This refers to the proposition that organisational decision-making occurs in a context of imperfect information about the environment. The function of the invisible hand of the market (at the level of the individual firm) or of ecological processes (at the level of populations of organisations) to system integration is in selecting 'winners' and 'losers' with respect to actual conditions. But the decisions through which strategies are realised are based on assumptions, interpretations, beliefs and habits rather than on direct knowledge of the environment. Chapter 2 provides an illustration of how such conceptions are formed and the role they play in framing organisational processes.

Chapter 2: A case study of planned organisational change

This chapter reports on a project to organise maintenance workers at the Pulp & Paper Mills (PPM[1]), Tasmania into a self-directed work team. It links the theoretical discussion to an empirical case of organisational change in order to instantiate the processes described in the first chapter. It presents an empirical analysis of a single case to exemplify the contribution of management activity to system integration. The chapter analyses the development of definitions of an organisation's *external* conditions, and a strategy to re-organise the co-ordination and control of part of its workforce.

The chapter elaborates on the processes through which managers provide interpretations of the external environment and mobilise these to legitimate particular courses of action. The first chapter examined work from a variety of different perspectives, showing how organisational forms generate the various 'work settings' that are a basic source of the extra-personal aspects of the determinants of work experience. Two factors are emphasised — the complex of pressures arising from developments at the level of the mode of production; and managerial strategies (comprising both structural and normative elements) that transform these exigencies into work practices. The project described here provides some useful insights into the dynamics of the social and political processes through which change occurs, in contrast to the very abstract formulations presented in the previous chapter.

An important feature of this particular project is that it exemplifies planned organisational change in which the intended direction of change was more or less established at the outset. In this sense, it constitutes a contrast to the more evolutionary processes described in the previous chapter. It also provides a useful illustration of the structural and normative dimensions of managerial activity by showing how the project was constructed through particular definitions of environmental conditions, and how the idea of the self-directed work team was legitimised as an appropriate response. Finally, the case sheds some light on the relationships between the work setting, the aspirations and expectations of workers, and managerial activity.

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[1] This is a fictitious name, although all other characteristics of the company are correct.

The case

PPM is a major producer of newsprint sold primarily on the domestic market. It was established in Tasmania originally because of the availability of abundant raw materials (timber), cheap power, adequate facilities for the discharge of effluents and wastes and cheap transport (water). However, the newsprint market has seen a shift from a set of domestic markets to a global market during the past two decades resulting in an increase in the number of competitors and more intense competition. PPM's original advantages have become less effective as other producers in Canada, the United States and Scandinavia all benefit from a similar access to resources. Producers in these countries also have the advantages of closer proximity to large markets and higher productivity because of cheaper access to technology. In the past, a major advantage has been PPM's use of a proprietary process to produce paper from eucalypts. Low productivity inside the plant has to some extent been covered by low raw materials costs. This has been achieved through the use of efficient timber production by external contractors, and through cheap access to State owned eucalyptus forests. However, the increased competition, and PPM's declining profitability in the face of it, established the need for change.

The company is also in the process of structural re-organisation as a result of requirements to implement State policy initiatives. PPM's implementation of national agreements on work restructuring were well under way at the time of the study. These included the creation of career structures for its employees based on competency testing, and increasing the role of workplace-based training.

The most important development, from the point of view of the research problem investigated here, is the company's attempts to improve the quality of its workforce through the establishment of self-directed work teams, initially by running a pilot project to evaluate the feasibility of such teams in the current plant at PPM. Their intention was to build a new plant for the production of light weight coated paper and to investigate the possibility of basing their new work organisation on self-directed work teams.

This chapter reviews the background conditions of the pilot project and then describes why the project was initiated and sponsored and how it was linked to the interests of key actors. The project itself is then described, evidence about the participants' experience of work is analysed, and some implications for programs of organisational change are assessed.

Research implications

PPM's project has not occurred in isolation from other features of the industrial landscape. The industrial scene in Australia has been undergoing a series of major shifts as a result both of unstable local conditions of production and rapid global change. Consequently, planned organisational change is an increasing feature of management activity in response to these changes. Self-directed work teams are particularly interesting because they shift responsibility for much tactical management activity to the team, changing the role of managers and increasing the organisation's reliance on employee commitment.

These changes make the PPM factory a good site in which to study the relationships between management, work orientations and the work setting. The orientational aspects of work are integral to the concept of self-directed work groups, while career re-structuring depends on a range of work motivations and individual conceptions of working life. The project involves managers legitimating change by referring to environmental exigencies and emerging trends in 'normal business practice' in order to restructure work in a way that, on the face of it, appears to have far reaching consequences for their own role and function in the organisation.

PPM's interest in self-directed work teams is not peculiar to PPM , nor is it confined to the Australian situation. Self-directed work teams, in one form or another, have been generating interest by enterprises in all the major economies for the past three decades and represent a radical departure from work practices organised on Taylorist principles.

The term 'self-directed work team' is a catch-all phrase that covers a host of variants on the basic theme of devolving responsibility for work down to the level of the work group. The two major features are:

- the specification of outputs as work goals for a group or team of workers, rather than for individuals; and

- the development of working conditions aimed at ensuring that workers have the resources, training, control and motivation they need to perform to the best of their ability.

Arguments for the value of self-directed work teams rest on the assumption that work can be improved by shifting the responsibility for task performance from the individual to the team. The 'team' is important because as organisations grow in size and scale it becomes increasingly difficult for individuals to identify with the organisation as a whole. The team can act as an intermediary between the organisation and the individual. Individuals will more readily feel part of a small group than a large organisation where the setting becomes too diffuse. Teamwork also increases the visibility of work. Where individuals are responsible and accountable for their work there are strong incentives to hide mistakes and ignore tasks they do not like. It provides a more 'intimate' work setting making the team a forum for scrutiny without the antagonism that can get embedded in authority relations. Finally, teamwork fosters collaboration between people with different skills, talents and ways of approaching problems. This can result in an association that is more productive than the sum of all the contributions that individuals can make.

The use of self-directed work teams tends, in principle at least, to reduce the proportion of specialised management work by incorporating it into the normal work of the team. The function of management becomes to set work goals for the team. The team itself is responsible for determining how the goals are to be met. In addition, the team may be responsible for managing resources, recruiting and selecting personnel, monitoring health and safety regulations, training and so on. If teams execute tactical management functions, strategic functions become the sole responsibility of managers.

Data collection

Data on the project were collected in a number of ways. Fifteen days spread over an eighteen month period in 1990-1 were spent with the workers, providing detailed experience of their working lives. The researcher participated in monthly meetings of

the steering committee that was responsible for managing the project. Team members participated in focus group interviews at the beginning and the end of the project and these were recorded on video. Throughout the life of the project managers involved in or affected by the project, foremen, technicians and the external consultant were interviewed continuously but unsystematically as opportunity presented itself. In all 58 formal interviews were carried with 33 members of the company.

Initial conditions

PPM's history

PPM commenced production at its current location in 1941. It was then the first mill in the world to make newsprint from eucalypt, based on a process developed by PPM's own research in the 1920s and 1930s. Its initial annual production was 27,600 tonnes. Ten years later, in 1951, PPM commissioned a second paper machine boosting annual production 94,000 tonnes, and a third machine, starting in 1969 raised annual production to 169,000 tonnes. However, this capital upgrading involved linking machinery of different vintages and design. As a consequence, the company employed large numbers of mechanical engineers involved in continuous re-design of the production system and day-to-day maintenance became a critical function in keeping the system running.

Through the 1970s and early 1980s PPM's capital upgrading did not keep pace with its international competitors resulting in quality problems. This and the effects of the recession caused a rapid decline in profitability over this period. Consequently, a new chief executive officer was appointed in the early 1980s and PPM undertook a substantial capital upgrading, investing $50 million in 1985, $76 million in 1989 and $66 million in 1991. In 1989, the mill output increased to 240,000 tonnes per annum.

In 1985 PPM also reviewed its workforce with the intention of reducing the number of employees. At this time the company had a workforce of 1400 which managers interviewed thought was twice the company's requirements for labour[2]. By

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[2] I was interested to discover why the number of employees was so high. The most common explanation was that PPM's labour had been drawn mostly from a local rural town. As

1989 the number had decreased to 1000 and in 1991 was approximately 900. Productivity had increased during this period by over 50% as a result of the combination of increased capital investment and labour reductions.

The company identified improved quality control, reduced management numbers and the cultivation of a committed, flexible work force as the key strategic areas for the 1990s. This strategic focus was formalised in a policy document that became a reference point invoked to support the plan to establish the self-directed work team project.

Production technology

The fact that PPM's operations are based on continuous flow technology was critical for the importance of the maintenance function. Managers would talk of breakdown costs in terms of thousands of dollars per minute. The paper production process has four basic stages in which timber (eucalypt and pine) are converted to fibre, pressed and rolled into paper. In the first stage, large sawlogs are debarked, sawn into one metre lengths and split. These split pieces are called billets. The billets are transported to the grinder room, where they are ground into chips and mixed with caustic soda to split the fibres. The fibre, mixed with water, moves as a slurry through a screening and bleaching process. This involves passing the slurry through a coarse screen, treatment with an alkaline wash, an acid treatment and passage through a series of fine screens. The slurry then travels to storage tanks. PPM also buys in hardwood chips from outside suppliers, which goes through a similar process. It also buys in a treated timber product, called Kraft pulp, that is partially treated and needs only washing, bleaching and converting to slurry.

The paper-making process combines fibre from all three sources of timber. The three types of slurry are poured into mixing tanks known as proportioners. From here the mixed slurry moves into the paper machine, an extremely long, complex conveyor belt that turns the slurry into paper. The slurry is sprayed over the conveyor

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employees moved up the management hierarchy, and were in positions to hire new employees, it became common practice to provide sons and other relatives with a job. During the study, it was still not unusual to find three generations of family members working at PPM.

belt which first travels through a long series of rollers to compress the slurry and squeeze out the water. The conveyor belt is contained in a massive hood with heaters at the bottom and extractors at the top. The heaters vaporise the water and the extractors draw off the steam. The paper machine is several hundred metres long and the paper slurry passes through some 24 pairs of rollers. From the paper machine, the paper passes to a winder that winds the paper into large reels. The newsprint leaves the plant in the form of these reels.

Organisation of work

The mill does not employ many specialist workers. Line employees perform mostly manual tasks involving machine-tending and operating. They tend to be low-skilled and in the past were trained entirely on the job. Interaction between employees is constrained by their physical location within the production system and tends to be confined to the functional requirements of the job. This lack of opportunities for sociability is a major source of dissatisfaction and tends to lead to attempts to create opportunities for social interaction — allowing breakdowns to occur, for example.

Skilled workers work mostly in maintenance areas, which employ electricians, carpenters, welders, instrument fitters and fitters and turners. In the past the unions had insisted on a strict demarcation of responsibility between trades. This was beginning to change at the time of the project, but it was still common for an instrument fitter to have to wait for a fitter and turner to remove the plate covering a piece of machinery (which might involve removing two wing nuts by hand) to get access to a flow monitor.

Managers can be classified in terms of three types of background. The first type were employees who had risen to management through the seniority system, becoming leading hands, foremen, supervisors then managers. This group saw the self-directed work team as a threat to their own positions, viewing it as a means of reducing the number of middle managers in the company. The second group were managers with an engineering background recruited from Western Australian and Queensland coal mines by the new CEO. They were also antagonistic towards the project. Their antagonism had two sources. The first derived from a belief about the need to maintain

control of professional engineering standards by monopolising decisions that involved technical judgements. Increasing the autonomy of maintenance workers was viewed as a threat to their own control. Secondly, their experience in the remote coal mines produced an extremely conflictual view of labour management relations. Employees in these mines are, according to the managers, very rugged individuals attracted by high wages that are paid by the piece. They claimed the piece-work system was the sole means of controlling the mine workers who were wont to intimidate managers physically if they felt they were being coerced. The third group were ambitious ex-tradesmen who had studied part-time as adults to gain tertiary level qualifications. Two people from this group were closely involved with the project. Both were former electricians — the training manager, who had gained a degree in education, and the maintenance superintendent who had a degree in business administration. They are described in more detail below.

Work is organised along traditional hierarchical lines. Employees have a very low degree of autonomy, in the main. The company still uses time clocks to punch cards in order to make sure that employees arrive and leave at the right time. Meal and rest breaks are signalled by a siren, with all line employees taking breaks at the same time and risking having pay docked for taking longer than the allocated time for breaks.

The work-orders system epitomises the extent to which the work is hierarchically organised. Bearing in mind that a breakdown could cost the company thousands of dollars, the normal procedure typically involves a machine operator noticing a problem. He would report it to the leading hand, who reports to the foreman, who reports to the production superintendent. The production superintendent reports to the engineering section responsible for maintenance where an engineer would make a decision about how to respond to the problem. The engineer would produce a diagnosis and send a work order to the maintenance superintendent who would allocate the work to a maintenance section headed by a foreman. The foreman would allocate tasks to leading hands on a daily basis and the leading hand would send a maintenance worker to fix the problem.

So the company began the project facing a problem typically associated with such large, hierarchical organisations — workers find it hard to feel they are anything but a small cog in a large machine. They tend not to identify with the company, nor to feel that their work has significance in the overall production process.

In the main, managers themselves tended not see anything particularly troubling about employees' relationship to their work. This relationship to work is only of concern if it affects task performance. Where work can be organised into narrowly defined tasks controlled by close supervision and the pace and layout of the production technology (as in PPMs manufacturing process) then workers' orientations to work hardly matter at all. This is especially true where there is a ready supply of labour that can be quickly and easily trained to perform the work — which is the case at PPM, located in a region of high unemployment.

The way employees treat and relate to their work becomes critical under different circumstances. For example, where:

- the nature of the work tasks demand a concern with quality standards by the worker;

- experience gained by a worker in a particular work situation starts to constitute a store of human capital for the organisation that cannot be easily replaced through the labour market;

- work tasks require skills that are scarce; or

- the work involves judgements and problem-solving that cannot be routinised, either because of the complexity of the work tasks or the particularities of the work situation.

In fact, it is precisely these features that characterise maintenance work in particular and increasingly modern mass production in general. Technological innovations tend to displace the least skilled, most routinised work. Sub-contracting, and other alternatives to the traditional labour contract, can often produce efficiencies for routine work of varying degrees of skill level. Consequently, organisations can expect, and are experiencing, increases in the proportion of skilled to unskilled labour (mostly through shedding unskilled labour). Under these conditions, it starts to become important to

cultivate a core workforce comprising highly skilled, committed workers who have a strong involvement with their work. Such workers reduce supervision costs and improve probabilities that work will be done efficiently and to a high standard. This is the starting point for PPM's interest in self-directed work teams, but the significance of this should not be understood simply in terms of one company trying to improve productivity. In historical terms, their project exemplifies an attempt to establish a form of work organisation that has far-reaching implications for the experience of work.

The establishment of the project was the result of a complex interaction between a series of factors: external changes becoming defined as exigencies within the company; the development of the concepts of 'productivity' and the 'quality of working life' as symbolic themes consistent with managerial orientations; the legitimisation of self-directed work teams as emerging normal business practice; and the mobilisation of motivations as some of the key players saw the project as an opportunity to further their own interests.

External change

PPM's managers constantly reiterate the point that the problems facing PPM are typical of all Australian companies and result from changes in the global economic system. However, some of the PPMs problems were atypical of Australian production. Whereas Australian production has generally been oriented to the export of commodities, the newsprint industry has been tied largely to the domestic market and able to compete because of lower transportation costs. Its current difficulties arise primarily because local demand is static while demand is growing in the industrialising economies so PPM's viability depends on it being able to enter new export markets and to prepare for foreign competition in domestic markets. This is introducing PPM to competition from overseas producers capitalising on growing international demand to establish large plants capable of the low costs accruing to the economies of scale. PPM is now faced with the requirement to compete locally and in emerging overseas markets for a highly standardised product where the primary basis of competition is price and is achieved through successfully implementing cost-minimisation strategies.

In this context, PPM is under pressure to increase its productivity. Outcomes that contribute to improved productivity involve increasing the efficiency of the factors of production. For example: cheaper raw materials; better quality control; higher performance technology; more efficient work flow; improved industrial relations; and increased labour productivity. The key labour productivity issue among managers at PPM is the challenge of motivating workers to invest 'discretionary effort' into their work — to work at a higher level than is needed simply to perform their tasks.

The consequence of the decision to respond to exigencies with a cost-minimisation strategy is that features of the work system start to take on a new significance. In the main, cost minimisation in the industry is achieved by the replacement of labour through technological upgrading. However, maintenance work is less amenable to technological innovation because of the requirement for human judgement. The new problem becomes that the form of social integration for process workers in a large factory is inadequate for mobilising the commitments required to improve maintenance work.

The internal design-challenge facing PPM is to develop an organisational form that could encourage workers to increase their involvement in their work. The issue up to this point has been to use pay and supervision to make people put up with work they do not like. However, the mobilisation of 'discretionary' effort depends on the capacity of the work setting to seek satisfaction through the performance of work.

This creates a problem for managers because their understanding of their function is to control labour within the terms of the labour contract[3]. Discretionary effort cannot be mobilised through contractual obligations alternative bases of trust to the labour contract. Within the company, the importance of increased productivity begins to be linked to declarations of commitment to the importance of the quality of the working life of the company's employees. The root of this is not in the definition of the problem of improving maintenance work, but stemmed from the earlier negotiations with the unions as part of the development of national workplace agreements. These negotiations have far-reaching implications as they initiated a major restructuring of

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[3] Of course, managers themselves do not necessarily express their understanding in these terms

arrangements that had long been integral to management-labour relations. The tensions created by these negotiations are partially ameliorated by the development of a discourse of co-operation. A cornerstone of this discourse is public recognition by unions of the importance of productivity and by management of the importance of improving the quality of working life (QWL). Subsequently, public announcements by both unions and management juxtapose the goals of productivity and QWL. As a consequence, QWL comes to represent a social value within the company and is invoked later to 'sell' the idea of the project.

This provides a backdrop that establishes the desirability of organisational change that is directed to improving productivity and QWL. However, two other factors are necessary: the establishment of the self-directed work team as a 'respectable' course of action; and what might be described as the political will to carry it out.

Establishment of SDWTs as respectable courses of action

The roots of the use of self-directed work teams as an intentional strategy originates with the work of the Tavistock Institute (see Trist & Bamforth, 1951), although it is not a new form of work organisation. As indicated earlier, in some ways, self-directed work teams are a modification of early industrial forms of work organisation (internal sub-contracting systems in the early factories) generalised to modern, large scale organisations. However, managers at PPM viewed it as a radical disruption to taken-for-granted understandings of how work is organised. The first condition for the initiation of the project was incorporation of the principles of the self-directed work team into definitions of normal business practice. This occurred through the establishment of a link at a cultural level between the meaning of the self-directed work team; and through its acceptance as an innovative form of work organisation used in leading mills overseas.

Early work groups

Many of the older employees at PPM had moved into the company from a background in rural occupations. Others have fathers and grandfathers who had been loggers working in gangs or teams that were sub-contracted by the company and where remuneration would be based on a contract between the company and team, with

individuals paid through the division of the contract payment. Thus, the concept of the work team is not entirely alien to the contemporary PPM employee. However, the PPM project is not simply a return to an earlier form of work organisation. For the early gangs, the exchanges within the effort-bargain are clear, especially where payment is directly linked to outputs; loyalty to the gang is sustained primarily by the adaptive advantages it provides to the members; and the relationship between the worker and the consumer of his or her labour is simple and direct. By contrast, the 'self-directed work team' represents an attempt to *construct* a link between the work and the workers motivation that extends beyond the contractual relationship. Similarly, team loyalty has to be created as a cultural accomplishment that involves influencing workers to re-interpret work relations in a new way. Finally, the consumer of the work output is nebulous — 'the organisation', the 'company, 'shareholders' and so on are abstract ideas that have little meaning or importance to the workers here.

SDWTs as 'normal business practice'

The next important event is the construction of the self-directed work team as a model of innovative practice. This is the result of an overseas study tour that the training manager undertook with other PPM personnel in 1989. During this tour self-directed work teams were much discussed, and the training manager visited sites with such teams operating at varying degrees of autonomy.

On his return, he wrote a company report concluding that PPM should evaluate the feasibility of using self-directed work teams as the basis of work organisation in the proposed new plant. At this stage, the new plant was simply a possibility rather than a fully developed proposal. The combination of uncertain capital funding and local community concerns with pollution means that the likelihood of the new plant going ahead can not be assessed. This recommendation was a minor theme in a report devoted primarily to establishing best practice benchmarks that PPM could use as targets. More importantly, the training manager wrote the report without expecting anyone actually to read it. He is accustomed to writing such reports in fulfilment of the bureaucratic requirements to justify the expenses of a trip that, in his eyes, is primarily a perquisite.

In sum, there was widespread recognition within the company that it has to make a series of internal adjustments to remedy the incapacity of the existing production system to cope with changing environmental conditions. The effect of the training manager's report was to establish the legitimacy of self-directed work teams — their use overseas defines them, in managers' eyes, as an emerging feature of normal business practice. Added legitimacy derives from the fact that many employees had rural backgrounds and so were familiar with an older tradition of team-based work. However, these factors alone were not sufficient to generate a viable project. The necessary factor was the coincidence of motivations among a social network who were able to gain access to the resources needed to establish the project. This occured because of a commonality of interests among some of the key players in the project.

Common interests

The project offers the training manager an opportunity for a central role in a program of organisational restructuring. The project was proposed originally as a trial to evaluate the feasibility of self-directed work teams for the new plant that PPM was considering. Involvement in the project guarantees him a role in future labour productivity improvement programs in the company. However, while such an interest may have maintained his motivation to pursue the proposal, it was his connection with the maintenance superintendent and an external training consultant that really got the project off the ground.

The maintenance superintendent read the report and spotted an opportunity to use the self-directed work team concept to implement some changes that were consistent with his own objectives. He had independently worked on the idea of organising maintenance workers into pairs, and to locate each pair at dispersed locations in the factory. He was planning for these partnerships to become much more autonomous, responding directly to requests from production managers and so eliminate the cumbersome procedures involved in having maintenance workers respond to problems.

Another important component of the Production Superintendent's plan was the issuing of two-way radios to maintenance workers. This idea had the potential to

increase the accessibility and response times of the workers, but had very little chance of being accepted because the use of two-way radios was then informally restricted to senior technicians and engineers. Possession of a two-way radio was an important status symbol that would be devalued if workers of lower status also had them.

The maintenance superintendent became interested in the project because it allowed him to make changes that he could not do otherwise. One stimulus for this change is that production superintendents are unhappy about the delays in responding to requests for maintenance work. They are responsible for meeting production schedules and are often held up while waiting for a problem to be fixed. The production superintendents are at the same level in the organisation's hierarchy as the maintenance superintendent and so they tend to direct their complaints to him. Consequently, the project offered him an opportunity to establish a category of 'special' workers not subject to all the constraints of ordinary workers and who could be used to stem the flow of complaints from the production units.

The training manager and maintenance superintendent work together quite frequently as well as sharing a similar background. Maintenance workers include the most skilled manual workers in the company and receive a lot of training through the training manager (ironically, the higher one's skill level, the more likely one is to receive training). Electricians and instrument fitters (the two largest groups of maintenance workers) were recently merged into a single 'occupation' with a common career path and so the training manager and maintenance superintendent were working jointly on a cross-skilling training plan when the training manager wrote his report. As indicated earlier, both the training manager and maintenance superintendent had moved into management after starting working life as electricians.

The first step in developing an internal proposal was to introduce it tangentially as a possibility for consideration within the company. The training manager and production superintendent did this by incorporating a waiver clause into the award restructuring agreement with the unions. This clause required the unions to agree in principle to allow the company to make special considerations for workers involved in a pilot self-directed work team project, should it eventuate. The unions agreed that

conditions established for such workers would not be used as a basis for flow-on claims for other workers.

At this point the concept was established with the company but had little or no backing outside those immediately concerned. The next set of events was precipitated by a fortuitous meeting between the training manager and a friend, a self-employed training consultant. The training consultant put together a proposal directed at a Federal government department. This department had funds available to companies developing workplace change initiatives and the consultant had developed a close working relationship with a senior public servant in the department through working with him on government sponsored projects in the past. Consequently, the training manager was able to present a proposal to his superiors that had agreement by the unions; funding and endorsement from the government; a test site in need of organisational change; the committed support of the maintenance superintendent; and a consultant claiming the expertise to implement the project. Most importantly, the proposal centred on an innovative form of work organisation that was used by leading overseas companies, and that had the dual objectives of increasing labour productivity and improving the quality of working life.

The Project

Overall management of the project was carried out by a steering committee comprising representatives from the company, the team, the union, the government and the consultants. Meetings were held monthly, and were used primarily for team representatives to seek help from management representatives in resolving problems faced by the team.

The operation of the project was carried out jointly by the training manager and the external consultant. The project's objective was to assess the feasibility of self-directed work teams for the company. Neither the training manager nor the external consultant had any practical experience of self-directed work teams. These two factors suggested a fairly unstructured, 'exploratory' approach to the development of the team.

The team comprises thirteen electricians and instrument fitters, drawn from a larger pool of maintenance workers. Those not selected as part of the self-directed

work team remain under the previous work system mostly in a central workshop area. They do 'benchwork' — work that is brought to the worker rather than repaired on site. Benchwork typically involves quite long jobs involving methodical, structured task performance. The work covers jobs like re-wiring electric motors, described by one of the electricians as '… a bit like doing large jigsaw puzzles'. One consequence of the change is that the workshop-based workers work only in the workshop where previously some of their work was done on site.

The organisation of the team proceeds along the lines anticipated by the Maintenance Superintendent's desire to establish sites dispersed though the plant. The self-directed work team is responsible for carrying out round-the-clock maintenance of four designated areas defined by work flow stages. Eight of the team members are organised into pairs, with each pair responsible for one of the areas. A single worker is located in the area where wood chips were produced. At night, five shift workers have plant-wide responsibility with an emphasis on crisis management rather than routine maintenance.

The project lasts for eighteen months. Although the participants say the project had been generally successful, it fails to gain sufficient support within the company and team members are returned to their original duties, with the organisation of the maintenance department modified slightly. The process and the outcomes provide some useful insights into the issue of organisational change.

Leadership

At the start of the project, participants had a great deal of difficulty understanding the concept of the self-directed work team. There were a number of reasons for this. In the early briefing sessions a great deal of emphasis was placed on the self-directed work team as an abstract concept that the team members, generally, did not understand. The consultant and training manager could relate what they had seen or read, but neither successfully presented a picture of what a fully operational team would look like at PPM because neither had actually been involved in such a form of work organisation before. The training consultant was primarily a businessman who made a living by running motivational courses. His approach was unsuccessful in this context because

the project depended on re-negotiating bases of trust. The participants could understand that the basis of trust required here was different from the labour contract to which they were accustomed, but they did not envision an alternative and consequently were initially very distrustful about the motivational training presented by the consultant. Consequently, participants initially found little basis for developing commitment to the project.

This uncertainty about commitment was exacerbated by the lack of a clear picture of the objectives the company was trying to achieve. The training manager and consultant had won support for the project by referring to increased productivity and improved quality of work life. But these very general aims did not have high motivational value for the team members who, in fact, were not all that sure what 'productivity' meant at that stage. After a full-day training session on productivity at the start of the project one of them asked "What do they mean? Do they want me to run between jobs?". From the point of view of an observer at the meetings, managers did seem unwilling to describe the basis of the company's interest in self-directed work teams. The types of objectives that the company might want to achieve through self-directed work teams are reasonably straightforward (reduced supervision costs, less down-time, reduced administrative costs, flexible work arrangements and so on). Generally, managers seemed nervous, initially, about disclosing that the company might have financial incentives for developing the project.

Workers were in a similar position with respect to the quality of working life issue. The idea that team members will be committed to the team presupposes a capacity to be able to identify with self-directed work teams as a means of realising one's own work values. However, at the start of the project participants had only a very limited conception of what would improve work for them. Their views of work tended to be focused around pay and specific issues to do with their particular situations. During in-depth interviews at the beginning of the project team members were asked what sort of changes would need to be made to their jobs in order for them to enjoy work more. They had a great deal of difficulty in identifying *any* aspect of their work that they thought could be enjoyed. All they could think of were pay increases and

shorter working hours. The problem was that they had very little conception of work in other than instrumental terms. So when they were asked what they liked about work they did not have a sufficiently rich conception of work to answer the question. In fact, for them, it was a nonsensical question — the juxtaposition of the terms of 'like' and 'work' makes no sense because they are contradictory.

An attempt by management to recruit a production crew into the pilot project highlights this. The project was originally supposed to include a production team as a self-directed work team running parallel to the maintenance crew. When the production workers heard what was involved — that they would be given more freedom at work, they could set their own work goals and so on — they refused to participate unless they were to be paid more. They argued that the company paid people more to supervise than to operate machines. If they had to supervise themselves then this meant more work — that they were doing their own work and the work of a supervisor.

This relationship between individual work values and commitment was one of the most striking developments during the pilot project. Participation in the project enabled team members to clarify their own work values and most came to see the self-directed work team as a means of improving the quality of their work life and they became increasingly committed to the project. While early briefings stressed the importance of putting effort into making the team work, just hearing a consultant stressing the importance of commitment was not enough. Commitment started to develop as team members developed a clearer conception of self-directed work teams and, more importantly began to recognise benefits from participation. The key link in this transition was the opportunity the project provided for developing some conception of what constituted ideal working conditions for them. This conception of the ideal formed the basis of individual goals towards which they could work.

In general, the early stages of the project were characterised by a very low degree of trust of management with many participants believing they were being manipulated in some way. This was reinforced to some extent by the maintenance superintendent's tendency to support changes that he personally thought were good ideas, but stalled or refused to implement changes that he did not like. As a

consequence of this, in the beginning the team members tended to see the union as important because it was their insurance against an untrustworthy management. This changed over the course of the project as team members became more confident about their roles.

There was a communication problem between the men on one hand, and the training manager and the consultant on the other. They used two entirely different languages. The training manager and the consultant were both familiar with the culture of organisational trainers and tended to use jargon that intimidated the men (remembering that at the beginning even the term 'productivity' — let alone the concept — was problematic for at least one of them). The training manager and the consultant used similar sets of assumptions about organisational change — that its success depended on establishing solidaristic bonds, and that this could occur through a willingness to trust each other, for example. They took for granted many similar things about training (that all training is good training), productivity (that it is a good thing), working life (that it is getting better) and motivations (that they can be changed through participation on training courses).

Participants initially resolved the ambiguity of their situation by maintaining two contradictory views. They interpreted the discourse to mean that self-directed work teams were based on a formula about which they were not being. This put the communication problem back onto familiar ground — management were hiding something from them. The second view was that the project was entirely experimental and exploratory and so was a source of uncertainty and some anxiety about their working futures.

Work setting boundaries

A major source of problems was the discrepancy between descriptions of the team concept and descriptions about how the SDWT was to be organised. The move from the maintenance department workshop to working in pairs in dispersed sites made sense to the participants as a response to an organisational problem they could identify themselves. However, they were unable to see the connection between this and the

team. This is not surprising, given that there is no logical connection, but that the connection lies in the history of the development of the proposal.

The team had no central work space; no distinctive work clothes so that individuals were clearly identifiable; the relationship between the team and production supervisors and technicians were unclear and tended to revert to established authority relations; and the four shift workers could not participate in team activities and were therefore effectively excluded from the team.

A consequence of this lack of coherence was that much activity, particularly in the early stages, tended to lack focus. For example, one of the exercises undertaken to initiate the self-directed work team was to organise the participants into pairs to produce proposals focused on identifying and tackling some aspect of current work practices (at PPM) that needed reform. When the merits of these proposals were discussed by the steering committee it was clear that there were no criteria upon which they could be evaluated. They were discussed by team members and members of the steering committee entirely in terms either of their own merits, or with respect to aspects of the organisation that did not relate to the project as such. They were never discussed in terms of the priorities and targets of the project. The lack of clearly defined goals meant that there was no basis for establishing any guiding strategy nor for setting priorities.

Procedures

Meetings

Much of the work of managers involved discussing issues at meetings. Managers assumed that this would be an appropriate procedure for managing the business of the team. Team meetings were run initially by the external consultant, and often involved some training. The team members took some time to get used to meetings and tended to find them too formal and daunting even though they mostly comprised other team members with whom they had worked and knew well. They adjusted as meetings became a more common aspect of their working life, building experience in smaller meetings, so that by the end of the project most (non-shift) team members were familiar and comfortable with meetings procedures.

Budgeting

Control over budget was a contentious issue. This was because budgets represent authority, responsibility and accountability. When managers were asked about allocating the team a budget there was a high degree of consensus that 'the men' would not be able to manage a budget. Individually, they were all convinced that they (each manager) was able to budget although none of them had any training in budgeting and had all learned on the job.

The financial decision-making processes provided the team with little opportunity to build up an awareness of the costs of resources they consumed (or produced). The question of responsibility for tools exemplifies this. The arrangement the team inherited was that if tools were lost, stolen or broken then it was the company's responsibility to replace them. Under this sort of arrangement, the life of tools is entirely dependent on how careful or careless each individual is and there is little possibility of developing general agreements of what is 'normal' wear and tear or loss. From the point of view of individuals, the 'good' thing about the arrangement is that you do not have to worry too much about tools, because if they go missing the company will replace them. However, this turned out to have a high opportunity cost to the project, in that it is precisely through dealing with such questions as a *team* responsibility that a self-directed work team can develop, because as a team problem it demands collective responsibility and, therefore, a system of accountability which can work entirely independently of management.

Over the course of the project, team members underwent a fairly significant change regarding the issue of responsibility for tools. This question was discussed in the early stages of the project. At this point, peoples' concerns were entirely to do with how much better or worse off they would be under the alternative systems (the company provides either tools or a tools allowance). The same discussion towards the end of the project focused much more on the question of what would be more consistent with the operation of a self-directed team. The financial question was treated as marginal, focusing on the particular problem of one especially expensive piece of equipment that the electricians use.

The lack of an accounting and budgeting system meant that costs tended to be invisible to everyone concerned and reduced the possibility of developing team level responsibility for resource use. By contrast, a greater emphasis on developing internal budgeting procedures might have devolved management functions to those most affected by them. By the same token, productivity gains would also become visible, providing successful teams with a basis for claims for productivity bonuses or some form of profit-sharing. Team members could not develop such a budgeting process unaided. The development of budgeting and accounting systems needs to be undertaken as part of the team design.

Planning

The capacity of team members to plan their work was one feature that struck observers as a particularly satisfactory aspect of the project. Work planning, prior to the self-directed work team project, was done entirely bureaucratically, primarily by company engineers responding to requests by production superintendents. By contrast, a large proportion of the tasks of the self-directed work team were undertaken in direct response to requests by the relevant superintendents.

The potential problem in increasing the autonomy of employees is the possibility of them choosing to concentrate on those tasks that they prefer, ignoring 'unpleasant' tasks. However, there was no evidence of it. On the contrary, production superintendents found the scheduling of tasks to be better than previously. In addition, team members reported that being able to control their own schedules increased the opportunities to build preventative maintenance into their work. For example, noting the upcoming need to replace a part on one job would mean they could come prepared to replace it the next time they worked on that piece of machinery — before the part failed.

By the end of the project, the scope of planning activity was still limited to the tasks of each pair of area electricians over a time horizon of no more than a two or three days. There was no evidence of planning developing either into a team-wide activity or for long-term schedules.

Work roles

Because no-one could successfully explain self-directed work teams in the early stages of the project, team members themselves produced a variety of interpretations about what was going on. Some assumed that the consultant and manager must know what they were talking about but that they, the men, had missed something or lacked the intellectual capacity or education to understand. The most common interpretation was that the single objective of the project was to discover what 'self-directed work teams' are (in one sense this was true and this interpretation later became an important mechanism for the team to take possession of the project).

Responsibility and authority

A major focus of the project was to encourage the team, or team members, to increase their involvement with their work through increased responsibility for it. However, responsibility is tied to control of resources and this, in turn, is a significant symbol of authority. So there was obviously some conflict about the control of resources.

Workers felt that they should be given increased control over the resources they consumed. In particular, they argued that they needed greater control over overtime and access to material from the store. Their argument was similar in both instances. Their work demanded responsiveness to the exigencies imposed by the work flow, and organisational procedures reduced that responsiveness. For example, if a repair was likely to continue beyond normal working hours, then the tradesman had to obtain authorisation from his foreman, or finish at the normal time and continue the next day. Managers, on the other hand, argued that workers might abuse the system and that other workers might get jealous.

There was also some evidence that managers were willing to defend opportunities for personal gain at the cost of group autonomy. For example, team members tried to change the 'on-call' system. Some urgent repair jobs required all available labour. At off-peak times, during the night, for example, maintenance workers could be rostered on-call, meaning they could be called into work to help with emergencies. They received an allowance for being on-call, and paid at overtime rates if actually called in. The 'calling in' was done by a manager who was also paid to be on-

call. The procedure was for the on-duty maintenance worker to call the manager who called the on-call maintenance worker. The team members wanted to be able to bring in on-call workers themselves should the need arise. This was strongly resisted by managers, apparently because they would lose a fairly substantial 'on-call' payment.

Dealing with managers

There were no major change in patterns of communication between team members and management. In the main, managers seemed concerned to preserve and maintain traditional patterns of authority and decision making. Team members reported having little opportunity to develop either an overview of the various problems and resources that have to be managed or an understanding of the company's perspective. Similarly, team members had almost no opportunity to present their understandings of situations.

In some ways the tone was set at an early meeting when a supervisor outside the project expressed the view that the pilot group were '…already more or less a self-directed work team', meaning that he thought that they worked at minimal levels of supervision suggesting, perhaps, that the project represents a small incremental change rather than a radical departure from existing work practises.

Access to expertise

The nature of maintenance work means that team members required intermittent access to expertise outside the range of the group. An example of this is design work. Some members of the team reported increased opportunities to design customised solutions for problems in their areas but this sometimes depended on access to the expertise of engineers. However, in the main, engineers refused to collaborate with the tradesmen citing insufficient theoretical knowledge.

Similarly, there were a number of areas like project management, budgeting, costing and computer use where some training would have been useful, but these were seen as management skills. The productivity projects mentioned earlier highlighted the fact that while team members had little problem in identifying areas for improvement, they were not equipped either to research, evaluate or express these ideas on paper. These were not people who do these things as part as their normal working lives and so for them tasks like these were demanding and took up a lot of time. They really needed

to discuss their ideas and for someone better equipped to actually undertake the preparation of reports or proposals.

Training

Team members saw technical and non-technical training very differently. Technical training was seen as much more important and much more 'real'. People tended generally to be fairly clear about their training needs and the benefits of training — the main benefits being the potential for improved pay and prospects, and its applicability to the job. Training also meant time away from work which was generally seen as a good thing. However, in terms of the question of developing a self-directed work team, technical training was less important than some other skills. This is especially the case given that technical training is incorporated into award restructuring agreements.

At the beginning of the project, team members tended not to recognise non-technical skill needs. This was partly because they were so conscious of technical skill deficiencies when they were part of their work. They experienced this as something that could be solved by training whereas other deficiencies tended to be seen as 'fixed' personality or temperament characteristics. However, one example of general skills training that was perceived to be useful was the area of basic communication skills training. Once again though, its effectiveness was related to its perceived relevance and applicability to working life — team members found the training particularly useful when dealing with production supervisors and technicians.

Team members viewed training as something that the company should provide if they, the members, want it. They had little sense of training decisions being governed by issues of cost/benefit trade-offs. Again, managing a training budget (to cover the training that is not part of award restructuring agreements) would have been an appropriate challenge for the team, dealing directly as it does with issues of productivity improvement and the optimal allocation of resources.

Team members went through the project totally as consumers of training whereas, there would have been a number of advantages in encouraging team members to conduct some of their own training. For example, they complained that they would undertake training courses and then lose the skills because of the lack of opportunity to

practice them. If just one or two members had taken a course, and then led courses for their team mates, skills would be refreshed and maintained.

Overall, though, team members attitudes to training did change over the period of the project. Technical training was still seen as more valuable than non-technical training. But, in general, team members attached more importance to communications skills, planning, running meetings, general problem solving and so on. The value of non-technical courses tended to become clearer in hindsight. At the time they were involved in these courses they tended to see them as having little value — 'mickey mouse courses' is a phrase that was commonly used — but their experience of problems faced in the project fostered a more favourable view of non-technical training.

Role development

A striking characteristic of the team members at the beginning of the project was a reticence to initiate activity or to take charge of problems and issues. There was a clear set of work habits based around expectations of being told what to do. This changed to some extent, during the project, partly because some individuals found opportunities within the project to exercise leadership within the group. The self-directed work team provided a forum within which they were able to experiment with developing and exploring ideas, motivating others, problem solving, analysing key elements of an issue and so on. One particular individual was frequently presented as an example of this in discussion with supervisors and other workers. When the project first started, his aspirations were directed to union activity. He saw opportunities for advancement opening up for him primarily through his involvement with the union. This is not an unusual orientation for manual workers — it is rare for tradespeople to advance into management so the main opportunities are either into the union, into positions as foremen or into self-employment. He saw the self-directed work team as opening up opportunities inside the company. It provided a vehicle for the aspirations of someone generally viewed as an extremely competent individual. This made his job more satisfying at the same time as utilising non-technical skills for the benefit of the company.

Work flow

There was a large discrepancy between how the men saw their work and the view of the training manager and consultant. From the men's point of view, they had worked in a context in which the capacity to follow routines and procedures was highly regarded. The training manager and consultant understood the process in terms of training outcomes. At this stage both were thinking of a self-directed team as being a team of self-directed individuals. With backgrounds in training, they saw the issue as being to motivate individuals in order to encourage them to work autonomously and with initiative. The "team" kept coming up in discussion, but the focus, for the training manager and consultant, was on *individual* inputs and responsibility. This was reinforced by the design of the team (which was a result of the exogenous interests of the maintenance superintendent) with members dispersed throughout the plant with no central team area.

The tone of some of the early meetings reflected participants' suspicions that there was a definition of self-directed work teams that they had not understood. The meetings at the beginning of the project always finished with questions seeking clarification about self-directed work teams, particularly why the company was interested in them. Employees were unsure and suspicious about management's intentions. The men thought for a time that the project was primarily an attempt to reduce the size of the workforce. It was only towards the end of the project that a common conception of what constituted a self-directed work team began to emerge. But the concept of the 'team' never really became something central to team members.

The innovation that probably had the most impact on fostering a common understanding of the team was the issuing of two-way radios to team members. Team members mobility and response times increased because they could respond from anywhere on site rather than report to a central area to be issued instructions. This increased their sense of responsibility and completely changed their experience of the workflow processes in the company. By the end of the project they were seeing their work much more in terms of ensuring problem-free production in their areas rather than merely completing tasks generated by the work orders procedures. Paradoxically, while

the use of radios meant they team members were at the beck and call of production superintendents, it also fostered perceptions of greater control over their work activity because they were responding to clients rather than supervisors. The use of the radios tended to personalise the relationships between maintenance and production crews, because interactions were not channelled through organisational routines and procedures. It was a good example of a decision that led to an increase of solidarism within the team.

The work group

A source of a number of problems was the lack of a clear boundary distinguishing team members from non-members — the boundaries of the 'work setting' were never clearly established. One reason for this was that the team did not take on a very clear, strong group identity. Members were dispersed throughout the plant, and did not interact as a team except in meetings and some early training sessions. The indicators of the distinction between members and non-members were interpreted as privileges by co-workers outside the team and team-members were uncomfortable about having 'privileges' their work mates did not have, viewing this as disloyalty.

Obviously, team members did spend much more time working with a partner, and this was one of the main sources of reported increased levels of work satisfaction. The shift to working in pairs was irrelevant, even inimical, to developing a self-directed work team, but did contribute to the maintenance superintendent's objectives. Having team members work in pairs, with each pair at dispersed locations in the factory, tended to work against the development of commitment to the team because the partnerships became the most significant aspect of the men's working lives. Over the period of the project, partners developed strong bonds with each other and tended to take on similar positions in discussions in team meetings.

In general, team members did not have much face-to-face contact with each other — less, probably, than when they were based in the workshop. They would see each other at meetings, but most could not attend all meetings. Typically, they would have more to do with production workers in their areas, and with those in the workshop, than with other team members. This lack of regular interaction inhibited the

development of a common work culture so, as indicated earlier, a sense of the salience of the *team* never really developed.

The shift from a central to dispersed location dominated the development of the project. In the past, all the maintenance workers had been based in a single site, a workshop, and so team members and other maintenance workers had all previously worked together. All the maintenance tradesmen used to do bench work as well as on-site maintenance. The SDWT members soon began to avoid the workshop. They reduced the amount of bench work required in their work, and spent more time in their dispersed locations, thus increasing their involvement in a dyadic relationship with their work partners.

The tradesmen were very concerned, especially, in the early stages about standing out from the crowd at work. There was apparently some jealousy on the part of the workshop electricians, manifested in grumbles and jokes implying team members were cheating on overtime and so on (although overtime payments records showed that, in fact, they were not working more overtime than they had previously). This created some anxiety for team members, and tension between them and other electricians in the workshop.

The radios also distinguished team members from other workers. Two-way radios have high symbolic value at work because they were restricted to only senior personnel. The radios certainly increased efficiency, but their symbolic status served to exacerbate the conflict between the SDWT members and workshop workers. They also highlighted the manner in which team members could extend the application of their technical competences into domains that previously had been the preserve of managers and supervisors. Because team members used the radios constantly, and were very familiar with electronic equipment anyway, they soon became more skilled at using them than were the production superintendents. Conversations on the radios between supervisors and team members were often punctuated with instructions on their use by the team members.

The interesting thing was how the self-directed work team member responded to criticism from the workshop electricians. For example, at a meeting

between the team and management, members argued that changes made as part of the project (e.g. not having to clock on) should flow-on as benefits to the workshop electricians. The changes were seen not as part of the practice of implementing the self-directed work team, but as privileges that should be shared with work mates. This suggests that there was little sense that the team had interests independently of work mates in the workshop and highlights the difficulty members had in developing any loyalty specifically to the team.

A related issue is the way in which technicians dealt with self-directed work team members. Throughout the project some members complained about the way in which technical staff dealt with them. The complaints were that staff were too authoritarian, although some technicians attracted no complaints, so apparently this depended on the attitudes of the particular individual. The point is that it is not sufficient just for team members to attach significance to team identity — it needs to be solidly embedded in the organisation. This means that, for example, the relationship between the team and individuals in authority will always be in danger of reverting to prior patterns The tensions between team members, technicians, managers and co-workers highlights the resilience of the established norms and role relationships.

Recruiting team members

The specific operation of the self-directed work teams depends on the attributes of the individuals who make up the team. Throughout the project there was some ambiguity about how participants were originally selected for the pilot project. The training manager said publicly that people were randomly selected in order to increase the representativeness of the pilot. In interview, he said that the maintenance superintendent had organised the selection of participants. The maintenance superintendent actually hand-picked members, gearing selection to suitability for the use of dispersed area crews. They were selected on the basis of supervisors' judgements about their ability to work autonomously.

Recruitment never became a team decision; individuals never had the opportunity to discontinue team membership; and the team were not free to expel members. Consequently, underlying all the attempts to increase the exercise of

autonomy was the consciousness of the involuntary basis of the member's ties to the team.

Workers and motivations

The self-directed work team depends heavily on the degree of motivation of the team members. Members are most likely to be highly motivated if the team provides opportunities to achieve things that they value. This means that they need to be conscious of what they value about work because this is the basis for motivation.

In fact, the work characteristics they valued were those commonly reported as associated with higher levels of work satisfaction: they liked variety in their work; they liked to work with other people or with a partner; and they liked being able to move around from one area to another during the working day. They disliked 'dirty' and routine work, and they disliked close supervision, particularly being told how to carry out work that they knew how to do (this was the main source of tension between team members and technicians).

There were also some less obvious, but important, indications of what made life interesting for project participants. For example, during a working day there were periods when there was nothing to do. Sometimes this would be because they were having to wait for something — for parts, a fitter, machinery to be turned off and so on. But they would also organise their tasks so that there were slack periods during the day. They might ensure that they would finish one job just before a break and so have to wait around for ten minutes or so. Ironically, although they actively created these slack periods, they typically did not like to spend time with nothing to do and tended to get bored on these occasions.

By contrast, there were numerous instances in which they were faced with a difficult, non-routine problem that required a few of them to solve. In these circumstances their attitude to their work was completely different. They would become intrigued by the problem, collaborating with obvious interest and enjoyment. Generally, they tended not to be conscious of what they liked and did not like to do at work. The impression they gave was that 'using up' time was almost a habit stemming from a legacy of previous experience of work reinforced by the PPM work culture.

Workers' perceptions of their work changed significantly over the course of the project. Starting out as a mix of individuals with fairly narrow views of work, the project provided a concrete experience of how structural changes can improve the quality of their working life. By the end of the project they had a much more focused set of expectations about work — they had no difficulty in describing what they wanted from work. They reported much increased work satisfaction resulting from team participation, particularly the combination of increased individual autonomy and the shared responsibility involved in working with a partner.

The expectations and attitudes people have about their work are critical in a project of this sort. The main benefits in working as part of a self-directed work team revolve around the rather intangible rewards of autonomy, the capacity to shape one's own work and the individual possibilities it opens up for the future. If people see work solely in terms of the income they get from it, then the benefits in working as part of a self-directed work team have little value.

Age differences

The final point is that there were very noticeable differences between younger and older workers. The younger workers were those who had recently completed their apprenticeships and so were aged around 20 years old. Younger workers were more likely than older workers to see the self-directed work team as a major change of benefit to them. In particular they tended to have a different vision of the future. Job security, for example, appeared to be less important to younger workers; they tended to be more concerned about a career as opposed to a job; they were more willing to explore new ideas; they were more trusting of the motives to management; and they had higher expectations about work. The project provided a context in which these qualities could be linked to work goals. Over the course of the project, the younger members of the team demonstrated a clear development path in terms of a sense of responsibility, and a commitment to high standards of work.

Older workers were more confident about their own management abilities. One component of the focus group centred around a hypothetical scenario in which the SDWT worked completely autonomously on the basis of a commercial contract rather

than an employment contract. They were asked to imagine a situation in which the team agreed to supply full year 24-hour maintenance in return for an agreed amount of money. The discussion focused on such issues as organising shift work, recruiting and selecting team members, managing inventory and tools and so on. In the main, older workers were much more confident about their capacity to work under such conditions, with some of them seeing this hypothetical scenario as quite a desirable vision of the future and others seeing it as at least plausible. They discussed the issues with a keen sense of realities involved in, for example, ensuring that team members pulled their weight. The younger workers, on the other hand, tended to see this as a less desirable future and were much less confident about their capacity to manage such a work system. Interestingly, they tended to see supervisors and the foreman as the first source of support rather than older colleagues. They did not see the team itself as an adequate source of expertise and experience. However, the important point here is that it demonstrates how those involved in the project had begun a process of re-defining their conceptions of work as established ways of doing things began to change.

The most important features of this case revolve around the questions of how organisational strategies are developed given the uncertainty inherent in contexts of inadequate information; the extent to which the commitment of workers is contingent upon the establishment of trust; and the relationship between the hopes or expectations workers invest in their work and the capacity of the work setting to meet these.

The establishment of the self-directed work team project was the result of the discovery of a course of action that was supported by key players in the organisation. In this sense, it was primarily political rather than strategic. However, this may have been a necessary condition, in this case, but it was probably not sufficient. Rather, the project depended on the construction of the self-directed work team as a legitimate response to the conditions facing PPM. This occurred as an outcome of the training manager's reportage of similar projects in overseas companies. Consequently, he was able to establish the self-directed work team as a model of good practice in the face of opposition within the company. The key issue here is the role the manager plays in constructing a definition of the organisation's environment. The environment is

constructed within the organisation through interpretation and discourse. The case suggests successful interpretation is contingent on a degree of consonance with existing definitions of conditions. The two themes that facilitate this, in the PPM case, are that of international competition (and the need to keep up with competitors around the world); and the 'problem' of labour (the extent to which this case represents a more general perception of the issue of labour productivity is discussed in the next chapter).

The extent to which the definition of conditions succeeds was facilitated within the company by its consistency with existing strategy. The recent changes in the company's operations are also premised on an interpretation of the necessity of meeting the challenge of international competition and the need to improve labour productivity. However, although this was not brought out in the case, it is likely that the self-directed work team project represented the possibility of marginal gains in productivity. This might be inferred from a corporate culture where productivity improvement would be seen as deriving primarily from capitalisation and reduction in the *quantity* of labour rather than by improvements in the *quality* of labour.

One of the most interesting features is the extent to which the workers appeared to have been committed to a form of work organisation that they did not find satisfying. To be sure, the commitment was not generally a strong one, but it is important to note that the attempted changes initially provoked a high degree of distrust. This suggests that the promise of better things to come was offset by the uncertainty deriving from the threat to the established ways of doing things. The established ways may have been bad, from the point of view of the worker, but they were at least familiar and therefore provided at least a minimal basis for trust.

Finally, the case sheds some light on the issue of the social integration of work at the level of a single workplace. The original system for organising work drew on a very narrow range of values, concerned primarily with pay and working conditions such as amenities. Some of the early problems occurred because the operations of the envisaged self-directed work team depended on a broader range of values or on different values altogether — to do with autonomy, opportunities to take pride in work, social relationships and commitment to the team, for example. Consequently, at the

beginning at least, there was a gap between the typical orientations to work of the team members and the forms of commitment required for the team to succeed in providing a satisfying working life.

This chapter focuses on an account of the relationship of actors to the system, on how the experience of work is in part the result of actors pursuing their own ends under conditions over which they have limited control or understanding. In particular, the case exemplifies the role managers play in defining environmental pressures, selecting from possible courses of action and implementing the strategies that shape the situations of people at work. While the case describes the activities of just a few managers in a single firm — and so is not intended to be representative of a population of firms[4] — it does bring out a general feature of the process of organisational change. This is the double contingency affecting the probability of success of organisational strategies, that is, that they succeed or fail *within* the organisation as the outcome of political activity: of interests, control over resources and the mobilisation of discourse; and that they ultimately succeed or fail as an outcome of environmental pressures selecting out firms that are ineffective. This is the concern of Chapter 3 — the effect of environmental pressures.

Chapter 3 provides a different perspective on the issues analysed in this case study. It presents an empirical analysis of the processes whereby organisations adapt to external conditions and the consequences such activity has for the internal organisation of work. The chapter attempts an analysis at the level of the system, drawing on a representative sample of Australian workplaces, and focuses on the second of the double contingencies, the impact of the external environment on the survival of organisational strategies.

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[4] Chapter 3 locates this case in terms of a wider population. This chapter is able to show that some of the issues facing PPM are typical of organisations of this type.

Chapter 3: Selection, adaptation and survival processes

The aim of this chapter is to demonstrate empirical variation in the relation between conceptions of the environment, management orientation and organisational form. The chapter builds on Chapter 2, extending the analysis from a single case to a sample of Australian workplaces. The analysis treats management orientation as reflected in two aspects of the function of management: the development and implementation of strategies in response to definitions of *external* conditions; and practices associated with the co-ordination and control of the *internal* division of labour. Organisational form is inferred from the occupational profiles of workplaces' labour forces, while conceptions of the environment are defined narrowly in terms of managers' perceptions of the market conditions for their main product or service.

The analysis addresses the contribution of management activity to system integration and links it to the population ecology approach discussed in Chapter 1. In Chapter 1 it is suggested that developments in the mode of production generate new conditions to which firms are forced to adjust. These adjustments contribute to the integration of systems of production through the survival (and failure) of various forms of organisation. These mechanisms are described by two sets of activities: those involving responses to market conditions (product innovation, price mechanisms, inter-firm networks and relationships, technological upgrading and so on); and the co-ordination and control of the internal division of labour. System integration at the level of the system of production is posited to be achieved through the aggregation of organisational adjustments carried out by managers (adaptation), with ecological processes 'judging' effectiveness as external conditions select out certain organisational forms (selection processes).

The chapter links adaptation to selection processes through an empirical demonstration of the concept of 'ecological fit'[1] (Beard & Dess: 1988; Hannan & Freeman: 1977; Hannan & Freeman: 1983; Hannan & Freeman: 1989; Romanelli:

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[1] The data analysis strategy presented in this chapter has been developed by modifying and adapting techniques and procedures commonly used in community and landscape ecology within the biological sciences. See, for example, Jongman, ter Braak & van Tongeren (1987).

1991). The population-ecology literature specifies: that environmental conditions impose variable demands on organisations; that ecological processes select out non-viable forms; and that the viability of any particular organisational form is a function of its capacity to access and use requisite resources given particular environmental conditions. Ecological fit is operationalised as an empirical association between different organisational forms and specific configurations of environmental conditions.

The link between adaptation (management strategies and management practices) and selection processes (indicated by ecological fit) requires a relatively complex analysis. The data are drawn from the Australian Workplace Industrial Relations Survey (AWIRS) (Dept. of Industrial Relations, 1991). AWIRS is a survey of 2004 workplaces with twenty or more employees covering all industries with the exception of defence and agriculture, across all states and territories in Australia. It employs four different questionnaires, three of which were administered by personal interview. The analysis uses data from three of the questionnaires: the General Management Questionnaire; the Employee Relations Questionnaire; and the Employee Profile Questionnaire (a self-completed form). The analysis is based on a sub-sample of 1263 commercial workplaces.

The first stage of the analysis is the measurement of ecological fit, measured here through the identification of 'ecological communities' (see below). This is carried out in three steps. The first is to classify the workplaces into three[2] 'populations' using a cluster analysis to discriminate between them in terms of a set of variables that describe the occupational mix in each workplace. This takes the workplace's occupational composition or profile to reflect the main differences and similarities in how work is organised. The idea that variation in the proportions of different categories of labour reflect differences in the structure or form of the organisation is not new[3]. However, the use of clustering techniques to take into account the complete occupational profile of a

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[2] The selection of *three* populations is arbitrary. The intention is to simplify the analysis while still providing an adequate basis for comparison by ensuring at least two contrasting populations.

[3] Stinchcombe (1959) presents an initial demonstration of the relationship between skill and bureaucratic procedures in different administrative and decision-making systems. He later provides a set of formal measures organisational task complexity based on various ratios of different types of labour as indicated by occupational titles (Stinchcombe, 1990).

workplace has not been used in previous research and so represents a new method of operationalising this concept.

The second step is to classify these workplaces in terms of the environmental 'niche' they occupy. The niche is defined by market conditions — the number of competitors, the degree of competition and the predictability of the market. The result of these two operations is that all the workplaces are coded by membership of one of three populations and occupation of one of three niches. The third step links the two earlier steps, constructing ecological 'communities' by analysing the dispersion of the populations across the niches. The resulting ecological communities are the three most typical population/niche combinations. This is taken to represent three examples of an ecological fit.

The second stage focuses on adaptation processes, distinguishing between strategic management choices (external) and employee relations practices (internal) in an attempt to operationalise the mechanisms of system integration identified in Chapter 1. The external function (involving responses to market conditions), referred to as 'managerial strategy', is measured by variables indicating the occurrence of major changes in the work place (product, work re-structuring and technology). The internal function, (concerned with the co-ordination and control of labour) referred to as 'management style', develops three measures: the extent to which employees' rights are formalised ('organisational citizenship'); a measure of workplace communications; and a measure of labour flexibility.

The third stage is an examination of the relationship between the management function, managers' estimates of productivity in the workplace[4], and managers' nominations of the critical factor for success for their workplace (included as an indicator of the organisation's primary focus or mission). This relationship is examined separately for each of the ecological communities. The logic of the analysis is depicted in Figure 3.1.

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[4] Managers' estimates are obviously less than ideal measures of actual productivity but is the only available measure in the data.
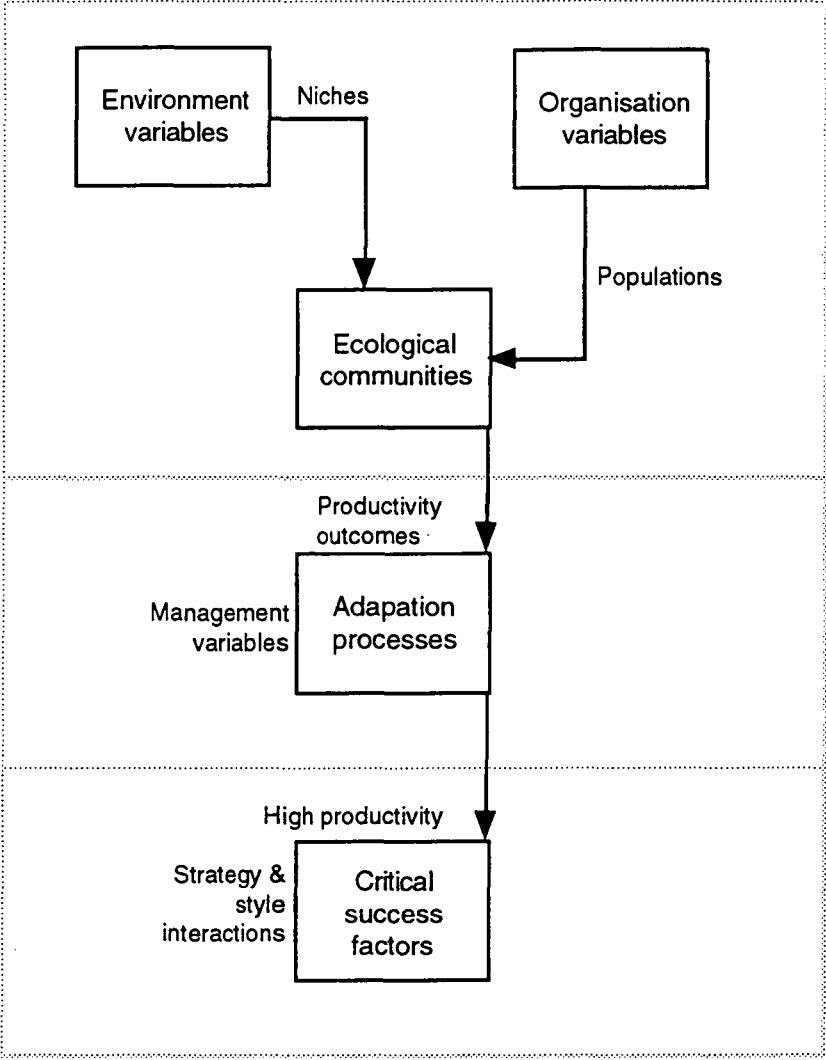
Fig. 3.1 Ecological analogy applied to the analysis of system integration processes

Selection processes

Environmental conditions ('niches')

The General Management Questionnaire asked three questions that can be used to describe environmental conditions.

> Is the market for this workplace's major product or service one with many competitors, few competitors or no other competitors?

n	%	Category
728	64.7%	Many
356	31.6%	Few
41	3.6%	None

How would you rate the degree of competition for this workplace's major product or service?

n	%	Category
53	4.0%	Limited
77	5.8%	.
100	7.5%	.
186	14.0%	.
329	24.7%	.
588	44.1%	Intense

Generally speaking, is the demand for your main product or service fairly predictable, or is it largely unpredictable?

n	%	Category
1621	81.1%	Predictable
379	19.0%	Unpredictable

The use of the three items provides a series of descriptors of environmental sites, for example, 'many competitors, intense competition and unpredictable demand' or 'few competitors, limited competition and predictable demand'. Using the existing categories there are 36 (3 x 6 x 2) possible sites.

The first step in constructing the environmental niches is to reduce the number of possible sites. This has been done by using a multiple correspondence analysis to identify the main underlying pattern to the associations between the three variables. Correspondence analysis is a weighted principal component analysis of a contingency table used to find a low-dimensional graphical representation of the association between rows and columns of a table. The correspondence analysis can be applied to a contingency table or a Burt table[5] (when it is referred to as to multiple correspondence analysis). Each row and column are represented by a point in a Euclidean space determined from cell frequencies. The multiple correspondence analysis (MCA) provides scores for each category of the three variables on the dimensions underlying the cross-classifications. The variables were coded numerically using the scores on the first dimension of the MCA.

The second step is a disjoint cluster analysis of the three new quantitative variables specifying three clusters (in order to find the 'average' niche and two forms of variation from it). The niches are labelled in order to facilitate discussion of their effects

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[5] A Burt table is a multivariate table where every variable is tabulated against every other variable. In a Burt table every variable is included in both rows and columsn of the table, in contrast to a contingency table where variables are included in either rows or columns.

without constant reference to the variables from which they are constructed. The labels are drawn from Emery and Trist's (1965) presentation of four ideal-typical organisational environments:

- placid-randomised (*random*) where environmental stimuli are relatively unchanging and distributed randomly throughout the environment. This type is referred to but not used in the analysis;

- placid-clustered (*clustered*) where environmental stimuli are relatively unchanging but clustered within the environment;

- disturbed-reactive (*disturbed*) where the environment is dominated by competition within similar systems in the field; and

- turbulent-field (*turbulent*) where the complexity and unpredictability of the environment exceed the organisation's capacity consequence of its actions on the environment.

Table 3.1 shows the composition of the three clusters in terms of the three original variables (with the 'degree of competition' variable dichotomised to 'limited' and 'intense' to simplify identification; and cases with missing values not shown). As the table below indicates, the property space of the first niche (cluster 1) is related to the tendency to have many competitors, moderate to intense competition and relatively predictable market demand (ratio of predictable: unpredictable = 3.2). This is the largest niche and can be anticipated to have the capacity to support a wide variety of organisational 'species'. It exemplifies the characteristics of what Emery and Trist (1965) refer to as a 'turbulent field'.

Table. 3.1 The composition of the three environment clusters
in terms of the three original variables

Characteristics			Site cluster		
Number of competitors	Degree of competition	Predictability of demand	1	2	3
Few	Intense	Predictable	.	.	182
		Unpredictable	.	.	39
	Limited	Predictable	.	118	.
		Unpredictable	.	14	.
Many	Intense	Predictable	517	.	.
		Unpredictable	170	.	.
	Limited	Predictable	23	8	.
		Unpredictable	7	2	.

The property space of the second cluster is defined by few competitors, limited competition and predictable conditions (ratio of predictable: unpredictable = 7.9). This is the smallest cluster and would be anticipated to support relatively specialised species. In Emery and Trist's terms, cluster 2 represents a relatively simple environment characterised by little change in the sources and types of effect from the environment, and with these effects clustered rather than widely dispersed. It approximates the 'placid, clustered' environment (clustered).

Cluster 3 is characterised by few competitors but with intense competition, and predictability intermediate to the other two environments (ratio of predictable: unpredictable = 4.7). This a more complex environment than cluster 2. It approximates Emery and Trist's 'disturbed-reactive' (disturbed).

Organisational forms ('species')

The problem of defining populations involves being able to classify them so that they are homogeneous with respect to organisational form. Romanelli refers to organisational form as '...those characteristics of an organization that identify it as a distinct entity and, at the same time, classify it as a member of a group of similar organizations' (1991: 81-2). There have been a number of approaches to the problem of classification of organisations. At one extreme, McKelvey (1982) has urged the development of a standard taxonomic classification scheme in order to improve confidence about the generalisability of research findings. At the other extreme, Hannan

and Freeman (1977, 1989) argue that form can be described in terms of the organisation's formal structure or normative order, but that classification should be tied explicitly to the research problem and objectives rather than to a general taxonomy.

The problem here is to describe organisational form in a way that is consistent with the idea of environmental selection and so requires a classification scheme that is analogous to describing species in biology. Nelson and Winter (1982) and McKelvey (1982) have both proposed bases of classification consistent with the species analogy. Nelson and Winter suggest 'organisational routines' as the basis for classification. Routines describe typical patterns of organisational activity and tend to persist over long periods. McKelvey, on the other hand, proposes 'comps' or organisational competence elements — the basic units of skill and knowledge that define what the organisation know how to do.

The concept is operationalised here by assuming that the organisation's occupational composition (the variation in proportions of professionals, clerks and so on). This is consistent with the propositions of Nelson and Winter (1982) and McKelvey (1982) in that it measures indirectly both organisational competencies and routines. Organisational competencies ultimately rest in the skills, knowledge and experience of workers and so depend on what workers invest in work activity. Consequently, competencies concern the way structural elements of the work setting (roles, routines, work groups and work flow) define the organisation's capacity to perform. For the purposes of this analysis, no attempt is made to specify the exact correspondence between work setting and occupational composition but simply to assume that settings characterised by a large proportion of plant operators will be different from, for example, those with large proportions of professionals. The workplace is a higher level of aggregation than the work setting, and so the occupational composition can be taken to reflect the aggregation of setting characteristics and organisational competencies. Workplaces with similar species characteristics can be considered to constitute a 'population'.

The Employee Profile Questionnaire (EPQ) provides numbers of employees in the eight ASCO categories and the total number of employees. Seven of these were

used as the basis for constructing three 'populations' ('para-professionals' were

excluded because very few organisations had any, and there was a large correlation

between para-professionals and professionals). The counts provided in the EPQ have

been converted to percentages of total employees and converted to square-roots (to

reduce skewness). A disjoint cluster analysis has been carried out using the

occupational measures as the basis of clustering. Again, the analysis is constrained to

three clusters.

Table 3.2 shows the characteristics of the three resulting clusters. The cells

contain the average scores on the occupational measures for each cluster. Cluster 1 is

dominated by professionals and by clerical workers; cluster 2 is dominated by sales

workers; and cluster 3 is dominated by plant operators and labourers, as well as having

the highest proportion of tradespeople. Again, these clusters are labelled to facilitate

discussion. The basis for labelling is derived from the occupational category that most

distinguishes the population: 'professional' for cluster 1; 'sales' for cluster 2; and

'labourer' for cluster 3.

Table. 3.2 Composition of the three population clusters
in terms of variation in occupational composition

Occupation:	Clusters		
	1	2	3
Managers	2.4	2.5	1.8
Professionals	3.9	0.6	1.0
Trades	1.0	2.2	3.5
Clerical	5.3	2.9	2.4
Sales	0.7	6.6	0.9
Plant operators	0.3	0.6	4.0
Labourers	2.1	2.7	5.4

Selection

The next question is how populations are dispersed across niches. Table 3.3 is a

contingency table of the counts of populations and niches. The table is ordered on the

basis of the first dimension of a correspondence analysis. The profile of niche 2

(clustered) across the populations is most different from niche 1 (turbulent), while the

dispersion of population 1 (professional) across the niches is most different from the

dispersion of population 2 (labourer). The diagonal, with highlighted cells, orders both

niches and populations along the first dimension, and shows that population 1
(professional) is most concentrated (taking column marginals into account) in niche 2
(clustered); population 3 (labourer) in niche 3 (disturbed); and population 2 (sales) in
niche 1. Conversely, niche 2 has the highest concentration of population 1 (taking row
marginals into account); niche 3 the highest concentration of population 3; and niche 1
the highest concentration of population 2.

Table 3.3 Contingency table of the counts of populations and niches
ordered along the first dimension of a correspondence analysis

Populations	Site			
	2 Clustered	3 Disturbed	1 Turbulent	Sum
1 Professional	**105**	61	125	291
3 Labourer	121	**189**	250	560
2 Sales	61	76	**275**	412
Sum	287	326	650	1263

The total variation in the contingency table can be decomposed into two dimensions.
The relative positions of the populations and sites are shown in Figure 3.2. The typical
association between a niche and a population are taken to represent an 'ecological
community'. The first dimension (horizontal axis) shows the disturbed/labourer and the
clustered/professional communities to be more similar to each other than either are to
the sales/turbulent community. The second dimension contrasts the disturbed/labourer
and the clustered/professional communities. The first dimension appears to reflect the
extent to which the communities are characterised by segmented or mass markets. The
disturbed/labourer and the clustered/professional communities have relatively few
competitors and predictable demand suggesting market segmentation. By contrast, the
sales/turbulent community exhibits the mass market conditions, with many competitors
and unpredictable demand. The second dimension distinguishes mostly between the
disturbed/labourer and the clustered/professional communities. They differ primarily in
terms of the intensity of competition, suggesting a dimension reflecting the degree of
autonomy in that the disturbed/labourer community, with few competitors but intense
competition, will be driven by the need to take into account the activities of its
competitors.
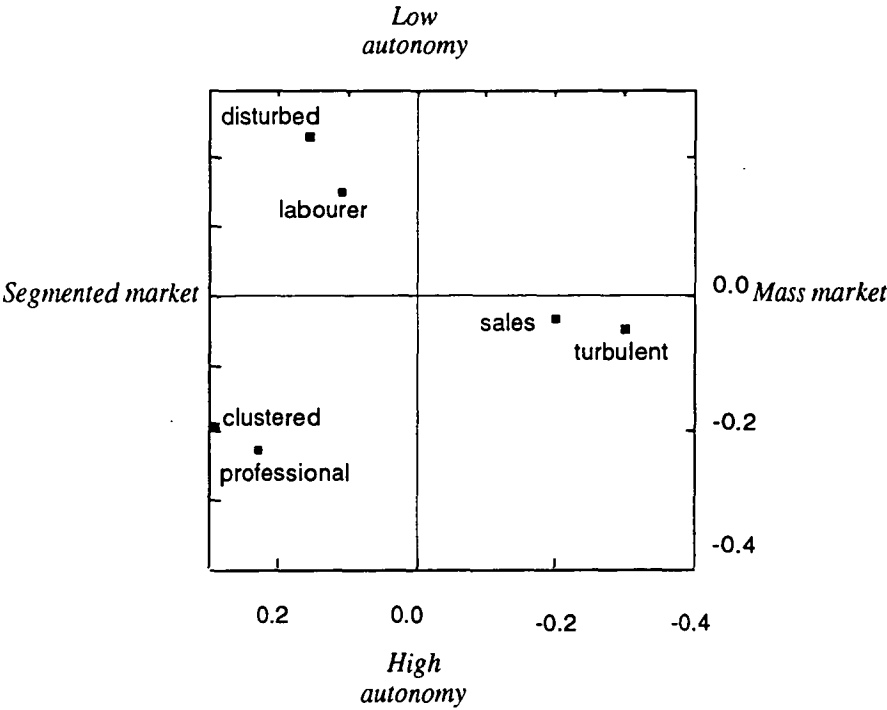
Fig. 3.2 Correspondence analysis plot of sites-populations associations

The 'empty' quadrant invites the speculation that it would define an ecological relationship involving a population with a workforce dominated by clerical/administrative workers in a placid site. In dimensional terms, this environmental niche would be characterised by a mass (rather than a segmented) market and low autonomy.

Adaptation processes

Adaptation processes refer to the internal adjustments that improve its ability to respond to exigencies originating both internally and externally to the system. Two sets of measures of adaptation process are used: three items measuring the occurrence of instances of organisational change; and three items measuring relations between management and the work force.

Managerial strategy

Respondents were asked about the occurrence of several types of change in the organisation. Three of these are used as indicators of the types of strategic choices made by managers:

> Which, if any of these have affected this workplace in the last two years?
>
> • Major change in product or service
>
> • Major restructuring of how work is done
>
> • Introduction of major new plant, equipment or office technology

Figure 3.3 shows the variation in the three types of change across the three sites. Organisations in the three sites are relatively unlikely to have experienced a major change in product or service (approximately 16% in turbulent and clustered niches and 18% in disturbed) and differences between the niches are not statistically significant[6]. However, there are significant differences in the probabilities of experiencing a major restructuring of work and of the introduction of new technology. Approximately 29% of those in turbulent niches underwent a major re-structuring of work compared with 35% of those in the disturbed niche and 43% for clustered ($p \approx 0$). Those in turbulent niches were again least likely to have introduced major new plant, equipment or office technology (34%). However, those in disturbed niches are more likely than those in the clustered niche to have experienced a major change in technology ($p=0.009$).

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[6] The graphs in this chapter and in subsequent chapters apply principles of graphical perception based on research into the perceptual, psychophysical and cognitive processes involved in the interpretation of graphs. A good review of this research, and a discussion of the implications for the construction of graphs is found in Spence and Lewandowsky (1990)
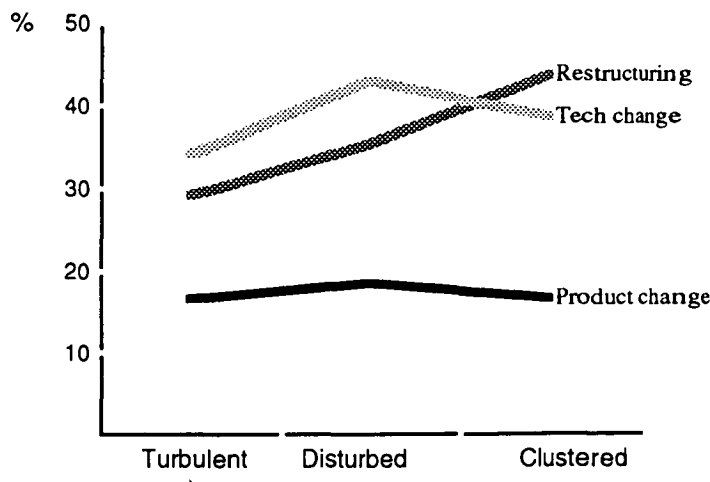
Fig. 3.3 Differences between niches in the probability of implementing
three types of organisational change

Comparisons between populations produces less clear-cut effects. Figure 3.4

shows a slight, but not statistically significant, increase in the probabilities of

undergoing product change (sales 16%; labourer and professional 18%) and work

restructuring (sales 31%; labourer 35%; professional 37%). However, 47% of the

labourer population have implemented major technological change compared with 33%

for both sales and professional populations.
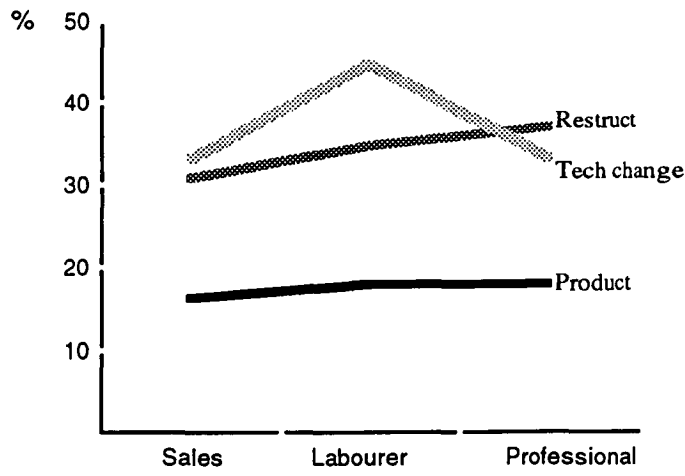
Fig. 3.4 Differences between populations in the probability of
implementing three types of organisational change

Figure 3.5 compares the three communities in terms of the measures of managerial

strategy. Again, the differences between the probabilities of product change are not

statistically significant, although the labourer—disturbed community has a higher

probability of product change (20%) than the sales—turbulent and professional—

clustered communities (both 15%). There are statistically significant differences for

probabilities of work-restructuring and technological change. The data for the

communities sharpen the differences introduced by the separate graphs. The labourer—disturbed community has a higher probability of technological change than the other two communities (p=0.001), while the professional—clustered community is more likely to experience work re-structuring, but is the least likely to experience technological change (p=0.004; actual percentages shown in Figure 3.5 below).
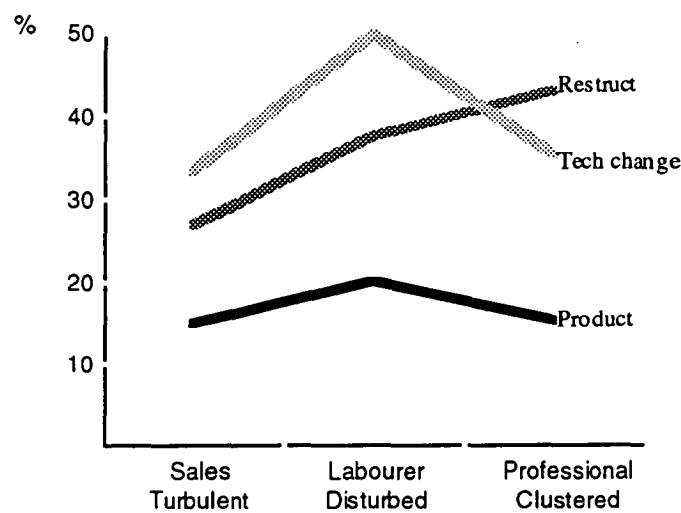
Fig. 3.5 Differences between communities in the probability
of implementing three types of organisational change

Table 3.4 clarifies the notion of 'ecological fit' by showing how the percentages for each niche and population category are similar to their matched set on the three measures, with only very slight interaction effects. So, for example, the probability for the sales population to experience technological change is almost the same probability as for the turbulent niche. The sales population is typical of the turbulent niche over all and, conversely technological change in the turbulent setting is typical for the sales population — 33%. In contrast, the professional-turbulent and sales-clustered combinations[7] represent the 'opposite' (the furthest column and row, respectively in Table 3.3). The probability of technological change is significantly lower in both these combinations — 29% for the professional—turbulent combination and 26% for sales—clustered.

The labourer—disturbed community tends to show small interaction effects, particularly for technological change, while for the other two communities the

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[7]Note these are not 'communities' in the sense described above

probability for the community is very close to what would be predicted from the niche and population probabilities.

Table 3.4 Interactions between niche and population for organisational change

Niche-population community	Product	Restruct	Tech change
Sales	16	31	33
Turbulent	16	29	34
Sales-turbulent	15	27	33
Labourer	18	35	43
Disturbed	18	35	47
Labourer-disturbed	20	38	50
Professional	18	37	33
Clustered	16	43	39
Professional-clustered	15	43	35

Management style

The Employee Relations Questionnaire asked three questions regarding the existence of formal policies or procedures for equal employment opportunities, occupational health and safety and disciplining employees. The questions were:

- does this organisation have a written policy on equal employment opportunities?
- does this organisation have a written policy dealing with occupational health and safety which covers this workplace?
- are there any specific procedures followed when disciplining employees at this workplace? (prompt: procedures are a set of written or unwritten guidelines that deal with the process of disciplining employees)

Responses to these items provide a crude measure of the extent to which organisational citizenship is established as a set of formal rights within the workplace. Workplaces that had 0 or 1 positive responses were coded as having a low degree of organisational citizenship, while those with 2 or 3 positive responses were coded as high. As will be seen, this coding tended to produce a skewed distribution, with most organisations coded as high on organisational citizenship.

The measure of workplace communication was based on a weighted index of responses to six items:

Which of these methods, if any, are currently used by management here to communicate with employees at this workplace?

- workplace newsletter/staff bulletin

- regular meetings between senior management and employees

- task forces, ad hoc joint committees or working parties

- regular meetings between employees and supervisors or line management

- ongoing formal joint consultative committees

- regular social functions

The weightings for the index were derived from the first dimension of a multiple correspondence analysis of the six variables. The index was dichotomised into two categories 'consultative' and 'non-consultative', reflecting the type of interaction between managers and employees.

The final measure was a composite measure of non-core workers — specifically contractors, agency workers, home-workers and part-time casual workers. The proportion of non-core to full-time, permanent workers indicates the degree of labour flexibility in the workplace. The ratio of non-core to core workers was dichotomised and coded as 'low' and 'high' flexibility.

Figure 3.6 shows the differences between the three niches in terms of the various measures of management style. The differences are all statistically significant ($p=0.002$ for flexibility and $p \approx 0$ for citizenship and consultation). The biggest differences are between the turbulent and clustered niches, particularly with respect to flexibility and consultation. Turbulent niches are much more likely than clustered niches to have high levels of labour flexibility (54% and 42% respectively, with disturbed in between at 49%). By contrast, turbulent niches are less likely to have consultative communication styles — 40% compared with 52% for clustered niches. Again, disturbed niches are in between at 51%. Disturbed niches, however, are the most likely to have high levels of citizenship at 79%, compared with 66% for turbulent niches and 76% for clustered niches.
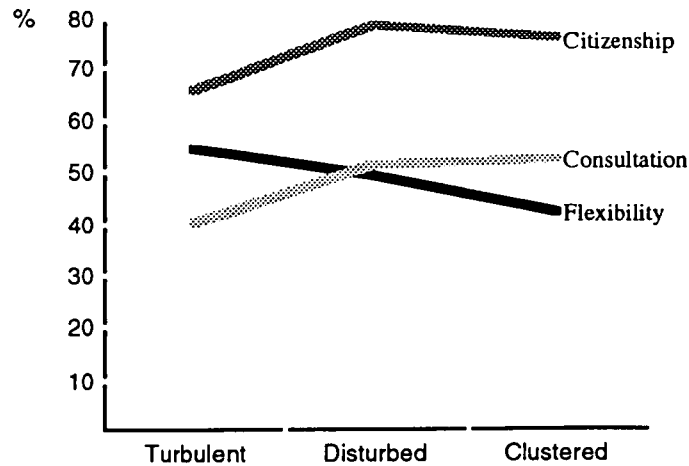
Fig. 3.6 Differences between niches on three measures of management style

The relationship between the populations and niches is less uniform for the management style measures than for the workplace change measures. However, as Figure 3.7 shows, both sets of relationships show the same basic pattern, although the probabilities for the sales and professional populations are higher than for their complementary niches, while the converse is true of the relationship between the labourer population and the disturbed niche. The greatest variations from what might be predicted from the previous graph is the higher probabilities for the professional population of having a consultative communication style (62% compared with 52% for clustered) and the higher probability of flexibility for the sales population (67% compared with 54% for turbulent niches.)
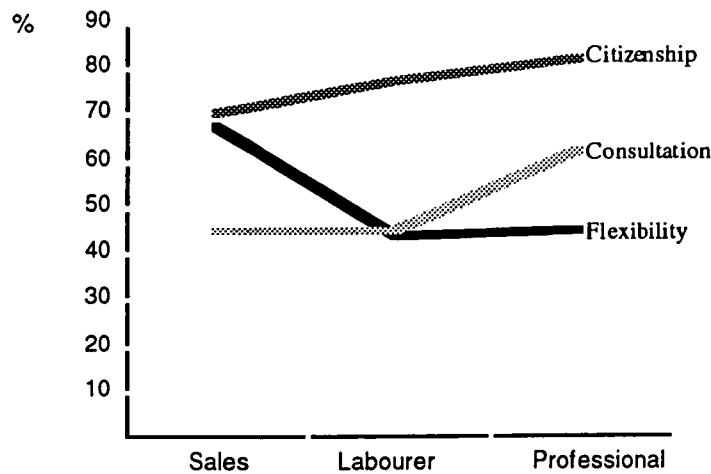
Fig. 3.7 Differences between populations on three measures of management strategy/style

Table 3.5 shows the 'ecological fit' for the communities. The table shows a slightly higher degree of interaction between the two sets than was the case for the managerial

strategy measures. In particular, the labourer—disturbed community is higher for citizenship than either labourer or disturbed, and the professional-clustered community is lower for flexibility than either set. While the pattern is fairly similar for the managerial strategy and management style measures, the difference suggests that the ecological fit has more effect on management style than it does on managerial strategy.

Table 3.5 Interactions between niche and population for management style/strategy

Niche-population community	Flexibility	Citizenship	Consultation
Sales	67	70	45
Turbulent	54	66	40
Sales-turbulent	68	68	42
Labourer	44	77	45
Disturbed	49	79	51
Labourer-disturbed	44	83	50
Professional	45	82	62
Clustered	42	76	52
Professional-clustered	34	79	59

Managerial effectiveness

The next question concerns the problem of the relationship between the aspects of the workplace over which management has some control (management style and managerial strategy) and the outcomes to which managerial activity is directed — namely, achieving high levels of productivity. Addressing this question involves an analysis of the relationship between the six measures of organisational adaptation and a measure of productivity.

In the General Management Questionnaire, respondents were asked how the level of labour productivity in their workplaces compared with other workplaces in their industry. Respondents were offered five response categories: 'Lot higher'; 'Little higher'; 'About the same'; 'Little lower'; and 'Lot lower'. Only about 2% of the respondents reported their productivity as a lot lower, so the 'Little lower' and 'Lot lower' were collapsed to create a single 'lower' category. The resulting distribution of responses is : 'Lot higher', 11%; 'Little higher', 33%; 'About the same', 41%; and 'Lower', 15%.

Figure 3.8 gives an indication of the variation in level of productivity across the nine possible combinations of population and niche. Here, productivity is temporarily dichotomised by combining the two 'higher' categories and the 'same' and 'lower' categories. The graph shows the percentages of high productivity with the three communities marked by white rectangles. The graph indicates that the professional population has a consistently higher probability of high productivity than the labourer population across all three niches, while the level of productivity for the sales population is contingent on the niche and is actually lowest in its own community.
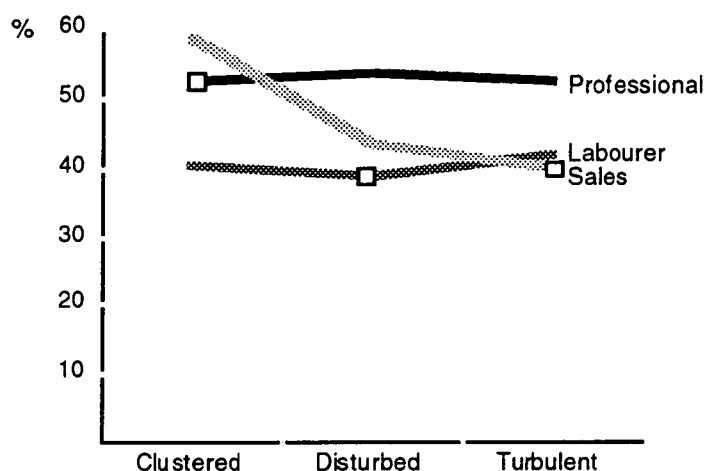
Fig. 3.8 Effects of niche and population on the probability of high productivity.

Associations between the management measures and the productivity variable were analysed for each of the three communities using correspondence analysis. The results are displayed as two-dimensional plots that express the degree of association between the measures as Euclidean distances derived from the decomposition of the chi-square distance. The contingency table for the correspondence analyses comprises the six dichotomous management and organisational measures as rows and the four-level productivity variable as columns. In addition, the General Management Questionnaire used an open-ended question to ask respondents to identify the crucial factor for success for their workplace. The responses were coded in the original data-collection process to the following categories 'More than 1 response'; 'Price'; 'Quality'; 'Responsiveness'; 'Advertising'; 'Distinctiveness'; 'Location'; 'Reputation'; and 'Other'. These were

included in the correspondence analyses as a supplementary column variable[8]. This 'crucial factor' variable is taken to provide a rough indicator of the management's focus or organisational mission. As a column variable, its location in the correspondence analysis space is defined by its profile across the management style and managerial strategy variables.

Labourer, disturbed

The first community examined is the labourer—disturbed, which is the 'middle' community in Figure 3.2. Figure 3.9 shows the two main dimensions of variability (the first dimension is the horizontal axis), with the relationship across the categories of productivity shown by a curve. The dashed lines intersect at a point representing the table average (the centroid).

Fig. 3.9 Correspondence analysis plot of associations between management style, managerial strategy and productivity for the 'labourer—disturbed' community

The main featureis that work restructuring and technological change are both associated with lower levels of productivity, as is high labour flexibility. However, while work

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[8] Supplementary variables are not included in the metrication of the correspondence analysis dimensions, but their scores on these dimensions are estimated on the basis of their row and column profiles in comparison to the original contingency table.

restructuring and technological change are associated with low productivity, their opposite categories are both close to the centroid. It is difficult to say whether change is a consequence or cause of low productivity, but it seems more plausible to suggest that managers' perceptions of low performance fosters the search for remedies, and technological change and work restructuring represent attempts to cure the ills of poor performance.

The dispersion of the 'crucial factor' categories also suggests there is no clear-cut 'mission' that fosters improved performance. Four responses — quality, responsiveness, price and distinctiveness — are displayed (other categories were not used by respondents in this community). All are close to the centroid on the first dimension, although there is some difference on the second dimension.

The second dimension represents higher order interactions that mediate the main associations identified in the first dimension. Figure 3.10 below shows just such an interaction, represented by the diverging lines for the categories of the intervening variable. The graph displays the effect of a strategy variable (product change) mediated by a management style variable (labour flexibility) and illustrates the critical success factors for this community.
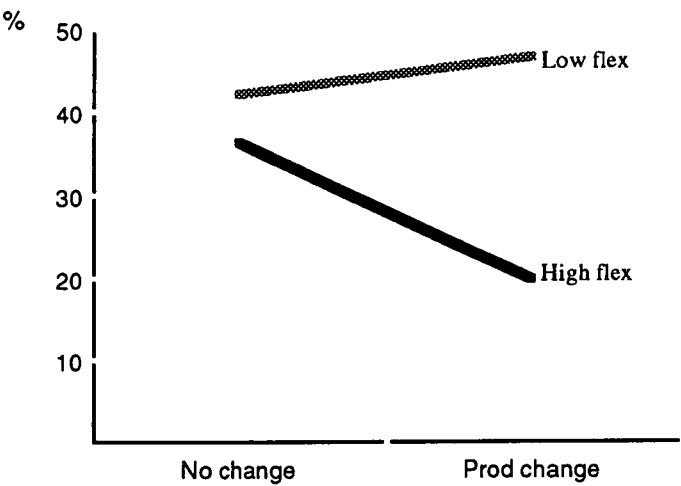
Fig. 3.10 The effects of product change and labour flexibility on the probability of high productivity within the 'labourer/disturbed' community

The graph shows that product change is positively associated with higher productivity among workplaces with low labour flexibility, but is negatively associated with productivity among workplaces high labour flexibility. This interaction provides more information about the relationship between the variables. Bearing in mind that high

productivity is rare in this community, the move from the centroid out to the 'Lot Higher' labour productivity category involves moving from high to low flexibility and, to a lesser extent, moving from no product change to product change. This suggests that, in this community, higher productivity involves the cultivation of a core workforce; high levels of management-employee communication; a focus on responsiveness to the market rather than distinctiveness of product; and a willingness to enter new markets.

Professional, clustered

Figure 3.11 shows the main dimensions of variability for the 'professional/clustered' community. Again, low labour flexibility is associated with high productivity, but low citizenship is also. This raises the issue of whether these variables are actually measuring what was intended. 'Flexibility' was intended to measure the capacity of management to adjust the workforce in response to market demand. Its behaviour in the variable space of the 'labourer/disturbed' community suggests that in fact *low* flexibility is more important and possibly reflects the extent to which a stable workforce is cultivated. 'Citizenship', on the other hand, was intended to measure the extent to which employees' rights vis-a-vis the organisation were formalised in policy. The association between technological change, low citizenship and high productivity suggests it may be measuring the degree of procedural flexibility within the workplace.
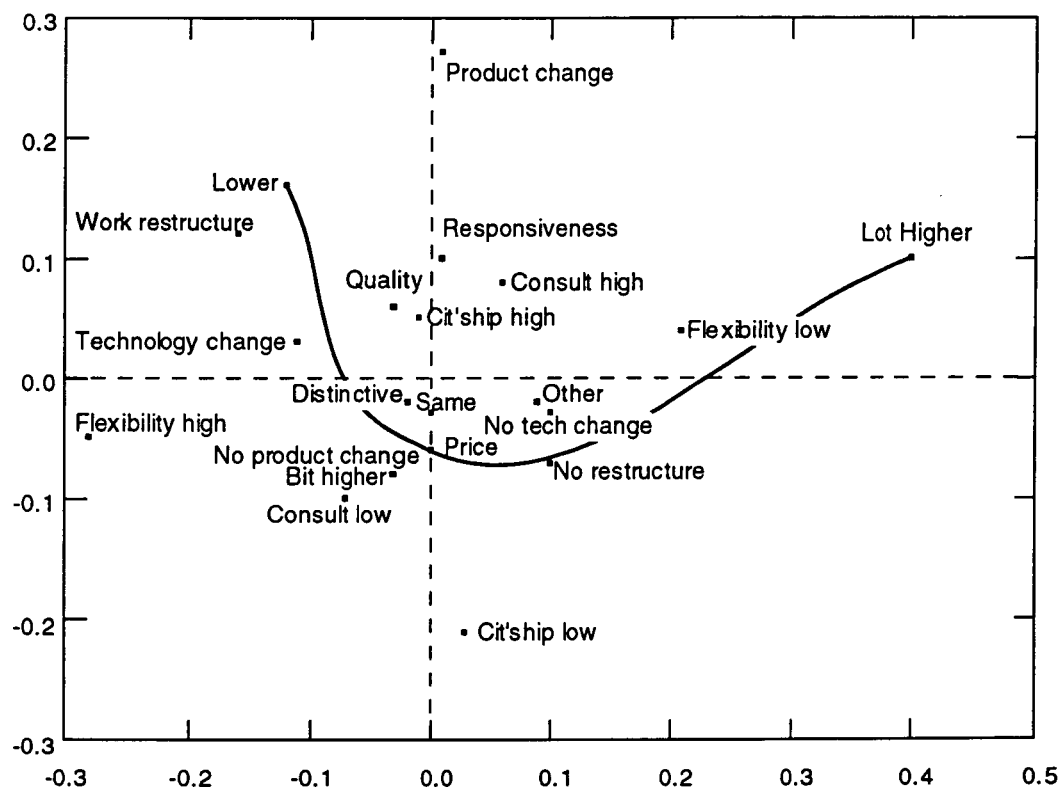
Fig. 3.11 Correspondence analysis plot of the associations between management style, managerial strategy and productivity for the 'professional/clustered' community

The main sources of variability are flexibility on the first dimension and technological change on the second. This indicates that higher productivity is associated with technological change, low flexibility, low citizenship and a focus on distinctiveness. Figure 3.12 shows the main interactions on the two dimensions — that between flexibility and technological change— and indicates that low flexibility and technological change have an additive effect with both improving labour productivity independently.
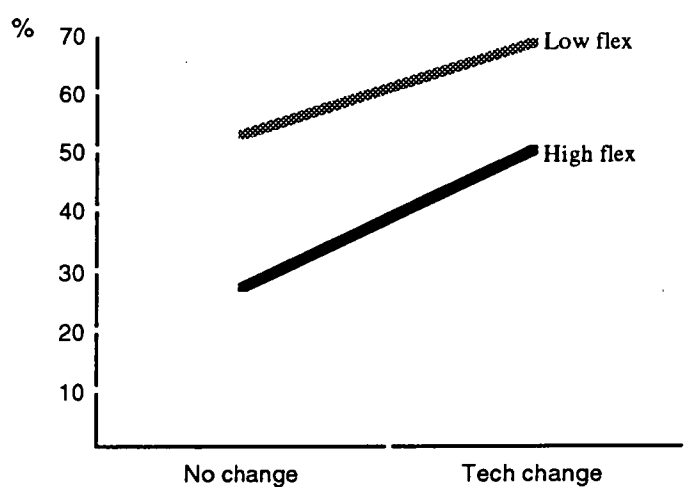
Fig. 3.12 The effects of labour flexibility and technological change on the probability of high productivity among the 'professional/clustered' community

Sales, turbulent

Figure 3.14 displays the variable space for the 'sales/turbulent' community. This is dominated by a complex set of interactions between work restructuring, product change and citizenship. Both product change and work restructuring are associated with higher productivity, but are separated on the second dimension because of the way the citizenship variable interacts with these variables (this is discussed below). This community has two other interesting features. The first is that labour flexibility makes no difference to productivity, either in terms of direct effects or interaction effects. Both categories of the variable are almost exactly at the centroid (not displayed).

The second feature of interest is that the 'crucial factor' variable shows much stronger associations than in the other communities. 'Quality' in the top right hand quadrant is associated with work restructuring and higher productivity. By contrast, 'reputation', 'location' and 'more than one response' are located close to low productivity and are also closest to 'no product change'. The three factors closest to

lower productivity suggest a lack of focus or a passive approach to the market, by contrast to the proximity of 'quality' to high productivity and work restructuring. This suggests that a more active, responsive approach to the market is important in this community.
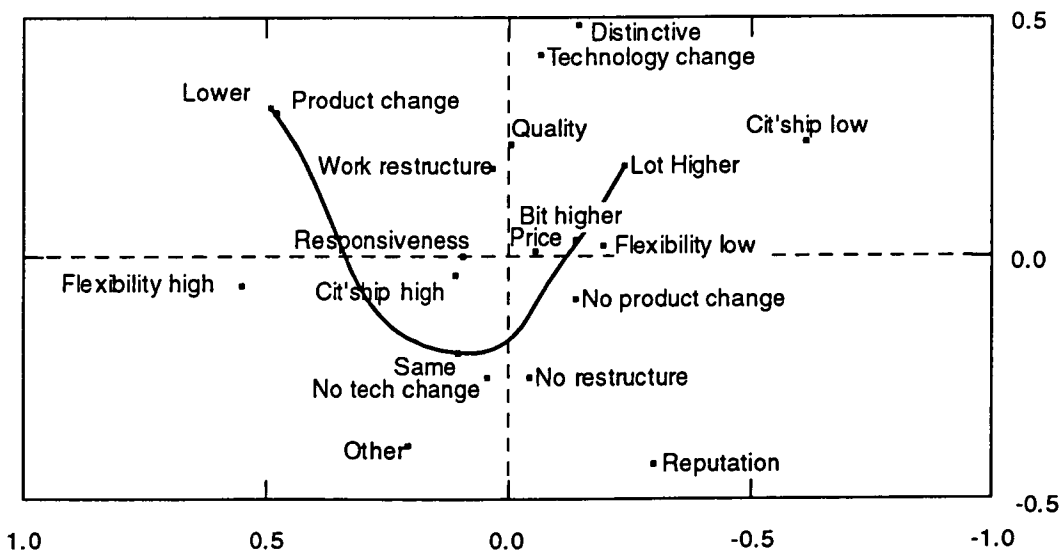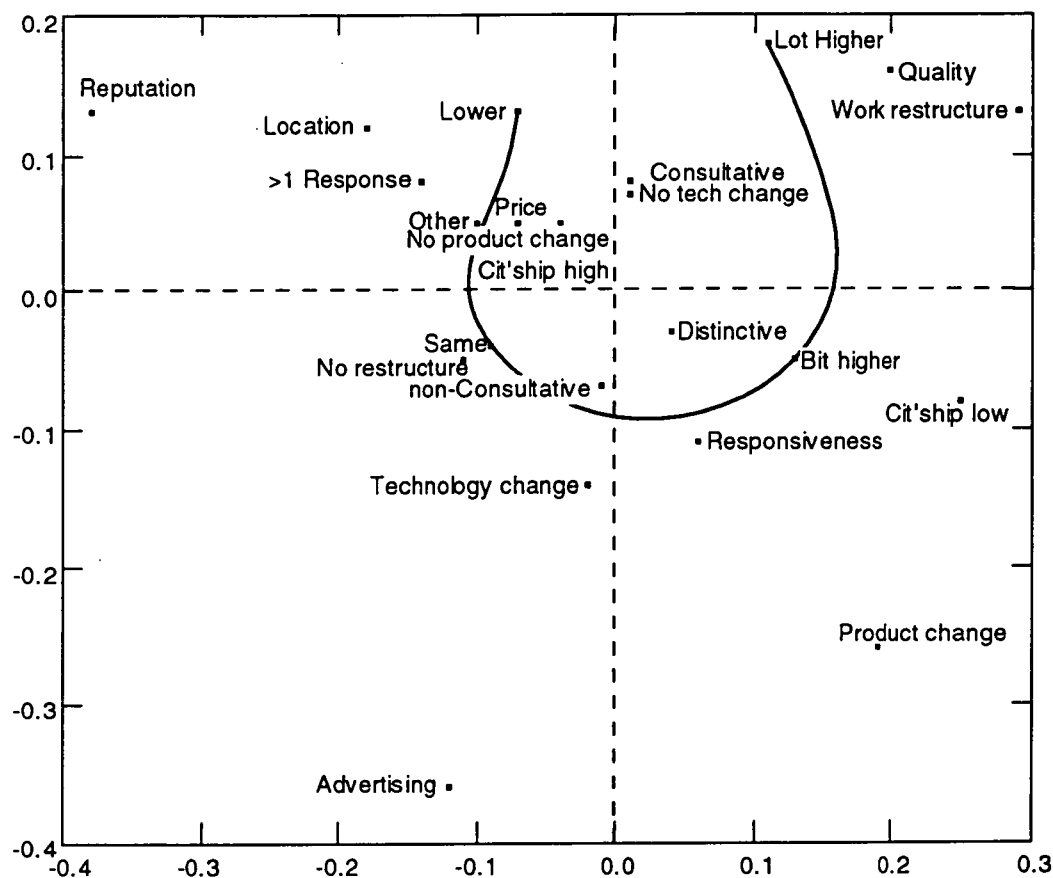

Fig. 3.14 Correspondence analysis plot of the associations between management style, managerial strategy and productivity for the sales/turbulent community

Figure 3.15 shows the relationship between product change, organisational citizenship and productivity within the sales—turbulent community. The way citizenship mediates the relationship between the entry into new markets and achieving high labour productivity lends support to the view that the citizenship variable is indicating the degree of procedural flexibility. It suggests two possible explanations — either that success depends on the ability of management to coerce unfranchised workers into achieving organisational goals; or that success is conditioned by management-workforce relations characterised by high levels of mutual trust. If this is the case, the citizenship variable may be reflecting size differences, suggesting that product change has a less damaging effect on work commitment in smaller organisations where there is more contact between members.
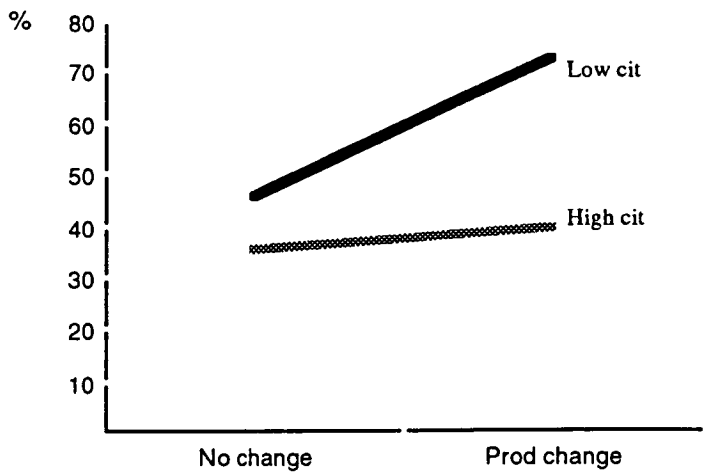
Fig. 3.15 The effects of product change and organisational citizenship on the
probability of high productivity within the 'sales/turbulent' community

Figure 3.16 shows the relationship between work restructuring and productivity, again

mediated by the effects of the citizenship variable. In this case, the maintenance of

commitment in the face of work restructuring does depend on the existence of formal

policies safeguarding rights.
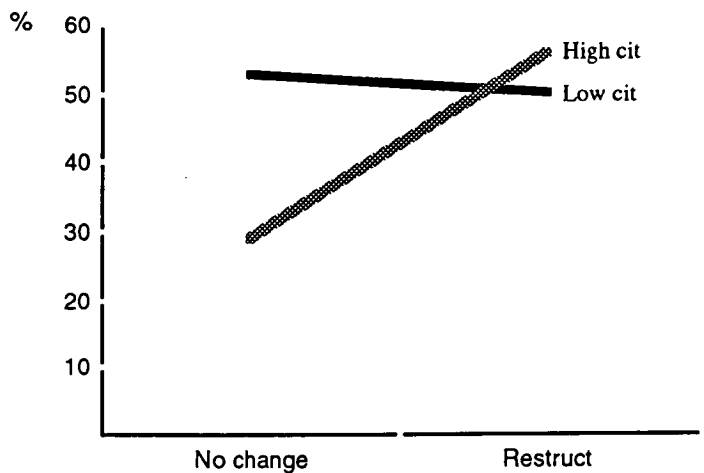
Fig. 3.16 The effects of work restructuring and organisational citizenship on the probability of
high productivity within the 'sales/turbulent' community

Success, in this community, seems to be more contingent on the capacity of

management to elicit employees' commitment while simultaneously ensuring a high

degree of responsiveness to the possibilities for new markets. The data suggest that the

organisational mission is important in this community. Also, the effects of restructuring,

product change and a focus on quality seem to indicate that it is under the conditions

exemplified by this community that a strategy aimed at the exploitation of niche, rather

than mass, markets is critical.

Conclusion

The structure to the data revealed in this analysis clearly demonstrates that the system integration process is non-random. Rather, it is possible to identify different types of organisational environment and show these to be associated with typical organisational forms. Both environmental conditions and the characteristic structure of the organisation establish parameters that shape the exigencies facing the organisation and the range of probable responses to these problems.

The differences between the three communities highlight the conditional nature of the viability of organisations. The 'labourer—disturbed' community is characterised by a predominantly manual and largely unskilled work-force, with few competitors, a high intensity of competition and very predictable markets. Within this community senior managers are rather more likely to perceive levels of productivity to be low. The data indicate that the critical factors associated with higher productivity centre on the cultivation of a core, stable workforce with high levels of management-employee communication. This, in turn, suggests that greatest threat to productivity in these conditions is the development of conflictual relationships between management and workers.

The 'professional—clustered' community is also characterised by few competitors, but with less predictability and less intense competition. This community is composed of a large proportion of professional and administrative workers. The critical factors for success appear to be associated with technological upgrading and the development of a core workforce. This suggests that employers are willing to invest effort to a greater extent in organisations that provide high quality facilities.

The 'sales—turbulent' community is the most complex of the three. The most striking point is that the labour composition is dominated by sales workers, which means that the community is probably composed largely of retailing enterprises. The critical success factors seem to be responsiveness to markets, the cultivation of commitment within the workforce (who, in fact, probably have higher levels of interaction with customers than in the other communities) and a clear strategic mission focused on quality.

The company in the case described in the preceding chapter, PPM, is an example of the 'labourer—disturbed' community. It is characterised by: a predominantly manual, unskilled work-force; it has few competitors, but competition between them is intense; and the market for newsprint are very predictable and stable. The findings suggest that the situation at PPM is not atypical of companies within this community. The case highlights the importance of a core and committed workforce; the difficulties of communication between workers and managers; the discordant nature of labour-management relations; and the tendency to define labour productivity as problematic.

The findings from the survey data also offer the possibility of abstracting a more general understanding of some of the issues identified by the case study. The results of the data analysis are consistent with evidence from the case study in that they suggest that success is related to the development of commitment within the workforce. There appear to be three sources of threat to this: distrust, communication failure and value dissensus. The problem of trust is suggested by the problem of labour-management relations. This was clearly identified as an issue in the case study as attempts to re-organise work provoked distrust. Antagonistic labour relations can be seen as a reflection of low levels of mutual trust. At PPM this reinforces existing communication difficulties, with workers tending to interpret managers' communications in the light of imputations of motives. The problems of trust and communication, in turn, reflect a lack of consensus about the extent to which labour and management are oriented towards a common goal. In the survey data this is suggested by the concern with labour productivity. A perception of low labour productivity by managers implies dissensus between labour and management with respect to evaluations of adequacy of effort within the terms of the employment relation. Similarly, in the more concrete and specific context of the case study, these three factors (communication quality, trust and consensus of values) did seem to have substantial effects on the workers' level of commitment to their work.

These first three chapters attempt to clarify a range of questions about the nature of change and work. In principle these can be organised into two problematic issues. The

first concerns the problem of describing change at several distinct levels of analysis. The thesis has so far highlighted factors originating in the development of the mode of production, the role of managers in the organisation of work, features of the work setting itself and the dispositions and qualities of individual workers.

The second problematic issue concerns the purely theoretical concern of conceptualising change as the outcome of the relationship between the structural elements in a system of action (system integration processes), by contrast with the relationship between the system and the behaviour of actors energising the system (the processes relevant to social integration). It is to these two issues that the thesis now turns, presenting an attempt to formulate the relevant concepts for analysing changes in work and constructing a theoretical model that links these concepts.

Chapter 4: Social integration and the organisation of work: orientations to work and work settings

The first three chapters highlight the fact that modern systems of production face pressures and exigencies that generate change and instability at multiple levels. 'Threats' to stability include: changes at the level of the mode of production, particularly through technological change, commodification and the extension of the market; the increasing differentiation of production, an increasing division of labour and a consequent increase in the diversity of organisational forms; the impact of changes at the normative level, exemplified in shifts in the regulation of labour such as equal employment opportunity, payment systems and so on; and cultural variability, as opposed to psychological constancy, in work motivations. In addition, the case study highlights: the problems that organisations face in interpreting environmental conditions and translating these into strategies; the dependence on trust for managing uncertainty in relations between managers and workers; uncertainty associated with changing work practices; and potential threats to work commitment and to morale, associated with conceptions of the meaning of work, under conditions of planned change.

The focal problem now is the question of how stability and orderliness are achieved in the face of such turbulence. Clearly, the institutionalised forms through which work is organised constitute a complex action system that connects the microsocial structures and processes of individuals' lifeworlds (e.g. Berger et al 1973; Schutz 1972) with the global economic structures of the modern world economy (e.g. Wallerstein 1979). The complexity of this connection means that any conceptual framework aimed at improving understanding of the nature of work needs to be capable of integrating multiple levels of analysis and of describing change multi-dimensionally.

The core issue of stability centres on the extent to which institutionalised practices within a system of production achieve two types of integration: system integration, which refers to the fit between the material mode of production and the (social and technical) division of labour; and social integration, which refers to the orderly or conflictual relationship between the actors in the system — in this context, a relationship between two ontologically distinct types of actor: the worker and the firm. The purpose of

this chapter, and the two subsequent chapters, is to develop such a conceptual framework. More specifically, this chapter presents a theoretical model of work as a *system*, by re-formulating concepts derived from Parsons' general theory of action to analyse the nature of work in modern societies in terms of system integration (see Chapter 6) and social integration processes (in this chapter and Chapter 5). Four structural elements that foster stability can be identified: informational categories; work settings; management orientations; and work orientations. Social integration is proposed as the relationship between work settings and work orientations; while system integration is analysed in terms of the relationship between informational categories and management orientations.

The conceptual framework is developed by focussing specifically on business organisations ('firms') and individuals in paid employment ('workers'). The reason for this is to reduce the complexity of the problem by restricting the scope to a type of organisation that has relatively clearly identifiable purpose; and to avoid the question of whether unpaid labour (e.g. housework, voluntary work) constitutes work in the same sense that paid employment does.

The focus of this chapter is on the types of institutionalised practice by which social integration is achieved within work. The degree of social integration is a function of the potential conflict or orderliness characterising the relationship between workers and firms in which workers seek gratification from work while firms seek to transform the effort of workers into production in order to achieve profit. Social integration is problematic because complex societies are characterised by a high degree of heterogeneity with respect to work motivations As Chapter 1 shows, they are also comprised of increasingly diverse work settings. Social integration is achieved to the extent that mechanisms are established that (1) channel motivations into a 'desire' for engagement with work and (2) provide stable forms for work performance. The clearest illustrations of these motivations and performances can be inspected in the notions of the 'instrumental orientation to work' and 'work-roles', respectively. An instrumental orientation to work involves the worker seeing work as meaningful in so far as it constitutes a source of income. This is fundamental to the employment relationship, providing stability and

continuity of motivation in the face of uncertainties deriving from mood, impulses and competing opportunities for gratification. The work-role provides stability with respect to expectations about performances, reducing (but never eliminating) potential uncertainty about how work effort is to be directed towards tasks.

However, it is not the case that the instrumental orientation exhausts the possible meanings of work. This has been established by Goldthorpe, Lockwood, Bechofer and Platt (1968) in an analysis of differences in work satisfaction among manual workers of varying skill levels in three different firms. They find that levels of satisfaction are largely conditioned by the expectations people have of work. For example, although the work of the craftsmen in their sample involves higher levels of skill, pay and autonomy than the work of setters, the setters tend to display higher levels of satisfaction, particularly with respect to the actual nature of the job — autonomy, opportunity to use skills, interest and variety (1968: 13). The researchers explain that this is a result of differences in expectations: setters are promoted from the ranks of the semi-skilled into more rewarding and better paid jobs, while the craftsmen generally have expectations that are greater than workers in other groups. Consequently, Goldthorpe et al conclude that satisfaction cannot be considered except in relation to what people want from work (1968: 36), and that '...wants and expectations are culturally determined *variables*, not psychological constants; and from a sociological standpoint what is in fact of major interest *is* the variation in the ways in which groups differently located in the social structure actually experience and attempt to meet the needs that at a different level of analysis might be attributed to them all' (1968: 178). However, '...all work activity, in industrial society at least, tends to have a basically instrumental component...' (1968: 41). The instrumental orientation is therefore used as a point of reference to describe two deviations and thus posit three ideal-typical orientations to work. These two deviations from the instrumental orientation are a bureaucratic orientation where work is seen in terms of attachment to the employing organisation and a solidaristic orientation where attachment stems from social bonds.

Goldthorpe et al apply four basic dimensions to describe the three ideal-typical orientations. The underlying dimensions are:

- the primary meaning of work (as a means to an end or end in itself)

- involvement in the organisation (calculative, moral or alienative)

- ego-involvement (the expectation that it satisfies expressive needs and is part of the workers central life interests)

- the extent to which workers' lives are dichotomised between work and non-work

These four dimensions produce 24 logical possibilities, where the ideal-types constitute three of these (for example, instrumentalism is where work is seen as a means to an end, there is a calculative involvement with the organisation, low ego-involvement and a sharp separation between work and non-work).

However, this formulation of the three orientations appears not to be related to cultural variability but rather arises from the conditions of the capitalist mode of production. For example, the instrumental orientation derives from an economic, rather than a cultural dimension in that it is capitalism as an *economic* system that produces the separation of work from non-work. Similarly, for the 'bureaucratic' orientation, involvement '…entails …an acceptance of a specific obligation of faithful administration in return for a relatively secure and privileged existence' (p. 40). It is thus tied to the dominance of bureaucratic organisations as a basis for organising work.

Goldthorpe et al see the solidaristic orientation as exemplified by the mining community, but overlaid by class consciousness. Its critical features are: that work constitutes an important context for the manifestation of identity; and the boundary between work and non-work is blurred by reference groups, role-sets and social locations that transcend work. Expressiveness can focus on at least two features: skill as a central aspect of work identity (as argued by Blauner 1964 and Mallet 1975); and the reproduction of social relations and practices external to work within the work setting[1].

For Goldthorpe et al, the three ideal-types provide useful constructs for analysing how their affluent workers differ from white-collar (to whom they impute a tendency to display a bureaucratic orientation) and more traditional workers (to whom

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[1] The textile workers in Blauner's study showed a similar relation between community and work life. Consequently, levels of 'alienation' were lower among these workers than would have been predicted by the effect of their working conditions alone.

they impute a solidaristic orientation). However, these constructs do not help us to understand how expectations are culturally conditioned. Goldthorpe et al's argue that the individual's social location shapes orientations, but this obscures any distinction between cultural patterns and social structure. Orientations must to some extent be institutionalised expectations in which widely differing individuals come to participate as their conceptions of work develop. For Goldthorpe et al, orientations emerge primarily as an expression of social location. Clearly, social location exposes the individual to varied experiences of work but Goldthorpe et al's formulation allows for no autonomy at the level of culture. In fact, while social being may determine consciousness, social being is itself variable. This is exemplified by the team-members at PPM who began with very narrowly defined conceptions of work. As the conditions under which they worked began to change — as the basic Tayloristic operating principles were replaced by increasing autonomy — their conceptions of work also began to change.

Consequently, it is unclear to what extent Goldthorpe et al's formulation captures possible dimensions of cultural variability rather than providing a specific analysis of a unique and possibly idiosyncratic groups of workers (the study was based on a purposive sample). The four main issues which require clarification are as follows. First, the extent to which their findings can be generalised, given the research objectives and method for selecting their sample. The sample is entirely appropriate for their research purposes — but the aim must be to develop a *general* model. Second, the relationship between social change and the cultural variability of orientations is unclear. Third, they posit, but do not theorise, the 'objects' that comprise 'work' and on which orientations are focused. Finally, their formulation does not provide the basis for a coherent account of work as a system.

In response to this, this chapter develops a theoretical model of work that draws on Parsons' concepts of the pattern-variables and the functional imperatives, and, in particular, on his attempt to clarify the theoretical relationship between them (Parsons 1960a). This provides an analysis of the relationship between the actor's possible orientations to the social objects within the situation (the pattern-variables), and the functional sub-systems of the system (the AGIL scheme). The relation between the

pattern-maintenance and the goal-attainment functions can be seen as describing the social integration of work from the perspective of the system (linking motivations to production) while the pattern-variables can be seen as describing it in terms of the dimensions of the worker's experience of work. This provides a link between the system and actor perspective and thus integrates the two distinct levels of analysis represented by the 'situation of action' and the 'social system' (represented respectively in *The Structure of Social Action* (1937) and *The Social System* (1952), Lockwood, 1992: 11 ff).

The model conceptualises generic motivational structures as 'work orientations' and the mechanisms through which work performances are regulated as 'work settings'. Orientations reflect the translation of internalised social values into culturally appropriate aspirations for work and are proposed as deriving from two key processes underlying the development of capitalism — the alienation of labour and the dominance of rationality as a basis for organising social life. The work setting reflects the duality of the work situation as both a social setting and a site of production — it is both the means whereby workers' ends are translated into performances, and the means whereby organisations' interests in productivity are realised by the transformation of effort. This chapter describes the structure of the work setting by applying Parson's modality set of pattern variables.

The work setting provides the articulation between the worker and the firm. For each, the work setting provides the potential means of achieving satisfaction and productivity, respectively. In this sense, the work setting links workers and firms by providing the means whereby each type of actor seeks to attain its goals. The experience of work is presented in terms of the tendency for the idiosyncratic motivations of individuals to become stabilised through socially structured patterns of orientation to work; and for organisations to be experienced as complexes of multiple social settings. The consistency between the patterns or orientations and the configurations of work settings can define the degree of social integration. The core problem of the social integration of work can now be re-cast as the extent to which the structure of the work setting produces or reduces conflict between the organisational goal of productivity and the individual's desire for work satisfaction.

The pattern-variables provide a set of very general categories of orientation that are not tied to any particular empirical instance. Consequently, they lack the empirical grounding and substantive content provided by Goldthorpe et al. As Boulding says '...we always pay for generality by sacrificing content...' (Boulding 1956: 197). However, the categories display a degree of convergence with Goldthorpe et al, but are constructed theoretically. Goldthorpe et al's categories can therefore be used to inform and refine the categories of *work* orientations derived from Parsons' general categories describing orientation to a situation.

The dimensions underlying the orientations can be linked to two major social processes: the alienation of labour (c.f. Marx) and the growth of rationality in legitimising forms of organising work (c.f. Weber). Consequently, orientations reflect the emergence of socially determined choices of the way meaning can be imputed to work activity. The source of this structuring lies in the development of two systems basic to modernity: the capitalist (economic) system of production; and the (cultural) system of expertise. The alienation of labour provides the conditions for the emergence of an instrumental-expressive distinction while the dominance of rationality fosters a bureaucratic-vocational distinction.

The use of the pattern-variables makes this possible by providing a coherent and systematic account of the features of the work setting. For Goldthorpe et al, the objects on which orientations are focused are sensible but derived atheoretically. These include the job, the work group, the firm, the union and the worker's economic future. By contrast, the modality set of the pattern-variables generate the work role, organisational procedures, the work group and the workflow. These are important to the 'social integration' problem because they describe the mechanisms through which work performances are ordered. Thus the orientations-modalities categories provide a systematic description of the bases on which idiosyncratic motivations are channelled into institutionalised patterns (orientations) and the mechanisms by which effort is directed towards production as work performance (modalities).

Finally, and most importantly, a guiding aim of this thesis is to develop a model of work activity as an 'action system'. Parsons' has demonstrated the link between

the pattern-variables and the AGIL scheme, where the categories of orientations define the content of the pattern-maintenance sub-system and the modalities define the content of the goal-attainment sub-system (Parsons 1961a). This reveals two aspects of the social integration issue. From the perspective of the system, the problem of linking motivation to production, given both increasingly diverse motivations and differentiating production sites, concerns the pattern-maintenance and goal-attainment sub-systems. From the perspective of the situated actor, the orientations/modalities relation defines the structural limitations on choices that allow need-dispositions to be translated into the willingness to work; and the constraints and opportunities that channel effort into work performance. Hence, the social integration of work can be read as the outcome of the potentially conflictual interests of workers and firms, where workers seek gratification from work while firms seek to transform the effort of workers into production in order to achieve profit. Thus, Parsons' scheme allows the system and actor perspectives to be handled within the same theoretical framework. In addition, it provides the link to the system integration problem (see chapter 6). In the Parsonian framework, work can be described as a system of action where the experience of work is the outcome of the operation of social and system integration processes. The aim of the thesis is to produce just such an integrated theoretical model.

The theoretical framework draws on the link between the pattern-variable schema, the functional exigencies of action systems (or the AGIL scheme) and the three 'modes of orientation' (cognitive, cathectic and evaluative) which structure choice (Parsons 1960a; Parsons and Shils 1951). The modes of orientation reflect three necessary conditions for choice. First, that some objects need to be discriminated from other objects. Such discrimination is achieved through a cognitive mode of orientation to establish the *modality* of objects. The modality of objects defines the goal-attainment activities of the system, in that goal-attainment refers to the selection of elements of the environment or situation as a source of 'consummatory goal gratification' (1956, p.17) . Thus, the cognitive mode of orientation concerns the actor's organisation of the object world and its meaning for the actor. The pattern-variables relevant to the classification of the modality of objects therefore define the organisation of goal-attainment activities at the

level of the system. The two modality pattern-variables are universalism/ particularism and quality/performance.

The second necessary condition for choice proposed by Parsons concerns the actor's motivational interest in, or attitudes to, the objects in the situation. This is that objects need to be experienced as having positive or negative values relative to the actor's goals or interests and so require a cathectic mode of orientation. The relevant pattern-variables, affectivity/neutrality and diffuseness/specificity, provide the basis for classifying the actor's *orientation* to objects. At the level of the system, patterns of orientation comprise the pattern-maintenance activities. Figure 4.1 displays modalities and orientations as components of actions systems defined by functional imperatives.

The third necessary condition is that objects need to be compared with other objects by reference to standards of relevance for the actor's goals or interests. This requires an evaluative mode of orientation. It is this which frames the social integration of work by reference to 'work values'. Discussion of this aspect is deferred until Chapter 5, following the specification of orientations and modalities for systems of work, in this chapter.
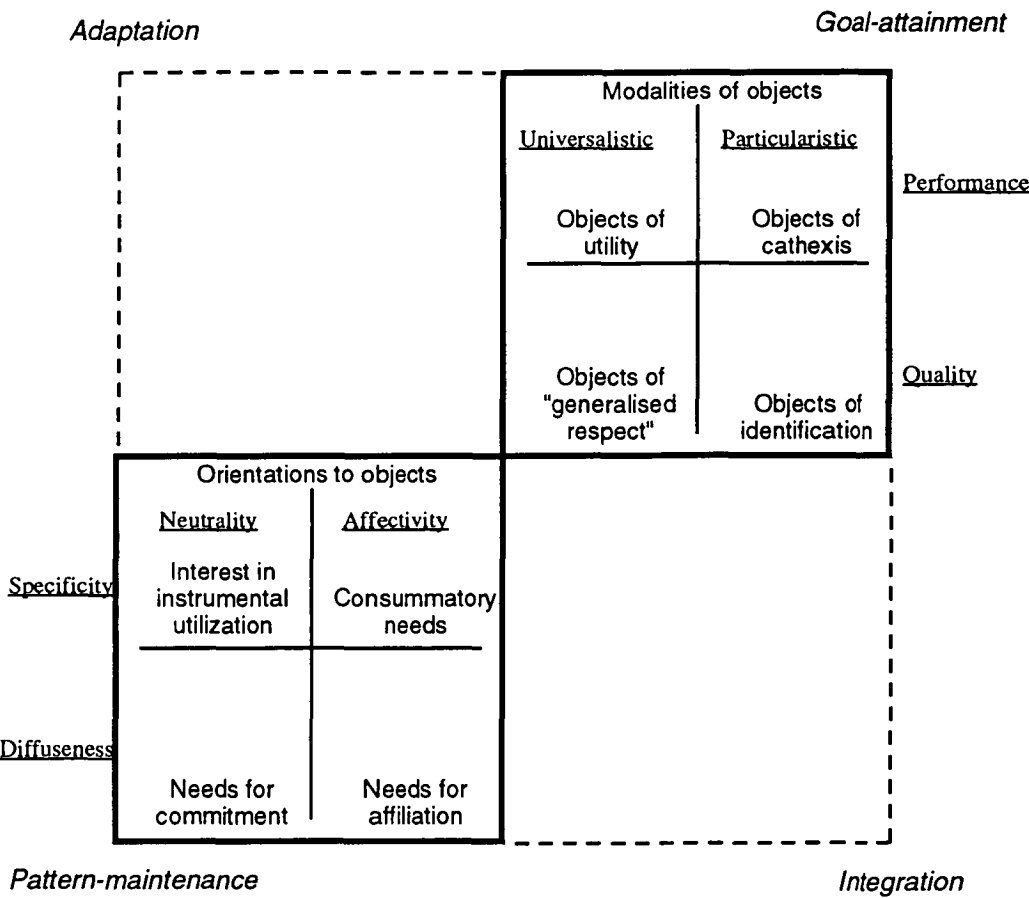
Fig. 4.1 The latent-pattern maintenance and goal-attainment components of action systems defined by the combinations of the pattern variables. *Adapted from Parsons (1960a)*

The adaptive and integrative sub-systems define the mechanisms through which the system adapts to the environment, and the normative standards regulating relationships of the actor-object elements. This chapter is concerned with an analysis of only the pattern-maintenance (work orientations) and the goal-attainment (work settings) sub-systems of systems of work. However, the full model is shown in Figure 4.2, below, in order to contextualise the analysis of the pattern-maintenance and goal-attainment sub-systems. Figure 4.2 shows the four components of action systems defined by the combinations of the pattern variables. This is the general model — that is, it can be applied to any system that devolves from the relationship between an actor and a situation comprising objects, e.g. voters and parties, or consumers and commodities, as well as workers to work.

Adaptation   *Goal-attainment*

Adaptive exigencies represented by 'symbolic' meanings of objects		Modalities of objects	
Performance/ Neutrality	Particularistic/ Specificity	Universalistic	Particularistic
Cognitive symbolization	Expressive symbolization	Objects of utility	Objects of cathexis
Universalistic/ Diffuseness	Quality/ Affectivity		
Existential interperation	Moral-evaluative categorization	Objects of "generalised respect"	Objects of identification
Orientations to objects		Integrative standards for orientations	
Neutrality	Affectivity	Universalistic/ Specificity	Performance/ Affectivity
Interest in instrumental utilization	Consummatory needs	Adaptation	Goal-attainment
		Quality/ Neutrality	Particularistic/ Diffuseness
Needs for commitment	Needs for affiliation	Pattern-maintenance	Integration

Performance (right side, top)
Quality (right side, middle)
Specificity (left side)
Diffuseness (left side)

Pattern-maintenance   *Integration*

Fig. 4.2 The four components of action systems defined by the combinations of the pattern variables. *Adapted from Parsons (1960a)*

Work orientations

Goldthorpe et al's categories represent ideal-typical derivations generalised from interpretations of patterns in survey data. By contrast, Parson's general concepts are derived as theoretical elaborations of the nature of action: the actor's situation must have subjective meaning in order for it to act; the pattern-variable combinations define the possible general forms of meaning; therefore choosing between pattern-variable combinations produces the 'meaning of the situation' that makes action possible[2].

However, when Parsons' formulation of the pattern variables are re-specified as orientations to work the result is a set of categories that are similar to those derived by Goldthorpe et al. The affectivity/neutrality distinction is comparable to their dimension of

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[2]Meaning is the relation between what the actor wants from the situation and what objects it believes are contained in the situation — the actor's evaluation of the situation given choices within the orientational ('wants') and the modality ('objects') sets of the pattern-variables. The discussion of 'work orientations' is concerned with the orientational set. The modality set is discussed later with respect to the elements comprising the 'work setting'.

the 'meaning of work' — whether work constitutes a means to an end (neutrality) or an end in itself (affectivity). But the affectivity/neutrality distinction refers to one component of the *meaning* of work — the choice between the expectation of work as a source of gratification or a means to gratification.

Similarly, the specificity/diffuseness distinction is comparable to Goldthorpe et al's dimension of 'ego-involvement', or the extent to which work is part of the 'central life interests' of the worker. For Parsons, the specificity/diffuseness distinction '…indicates that where the "interaction surface" between actor and situation is approached, the actor's interest in objects must be more highly specified than where the internal states of the acting system itself are in the forefront' (Parsons 1960a: 471). In the context of orientations to work, the critical distinction here is that between an interest derived specifically from the actor's status as a 'worker' (the interface between the actor and the situation of being 'at work'), as opposed to the more diffuse interests originating in social identities, the actor's construction of selfhood, or in personality systems.

There is then broad similarity between Parsons' general orientational pattern-variables and two of Goldthorpe et al's four dimensions. The differences are minor: the dimension of the 'meaning of work' is overly inclusive for the narrower distinction between work as 'end-in-itself' and 'means-to-an-end'; and while the degree of ego-involvement is similar to the specificity/diffuseness distinction, the notion that the extent to which work is a central life-interest differs from Parsons' conception of the basis of interest. In fact, Goldthorpe et al conflate ego-involvement with the worker's distinction between work and non-work — in each description of the three orientations, the extent to which work and non-work are dichotomised is a *consequence* of ego-involvement (1968: 39-41), implying that these dimensions do not vary independently. The key differences between Parsons' categories and Goldthorpe et al are that the specificity/diffuseness distinction is more abstract than the ego-involvement dimension (which denotes concrete priorities and preferences), while the affectivity/neutrality distinction involves a more specific concept than the 'meaning of work'— a concept that, for Parsons, would refer to relations between the orientational and modality pattern-variables.

The analytical differences between the two formulations becomes clearer when Parsons' categories of orientations are compared with Goldthorpe et al's orientations to work with respect to the two commensurable dimensions (Figure 4.3, below).

	Means to an end *Neutrality*	End in itself *Affectivity*
Low ego-involvement *Specificity*	Instrumental *Interest in instrumental utilisation*	*Consummatory needs*
High ego-involvement *Diffuseness*	*Needs for commitment*	Bureaucratic Solidaristic *Needs for affiliation*

Fig. 4.3 Comparison of the categories of orientation derived from Parsons and from two dimensions of Goldthorpe et al's formulation.

The two most obvious points here are: that Parsons' categories fail to discriminate between the bureaucratic and solidaristic orientations; and that Parsons' scheme generates two categories of orientation not identified by Goldthorpe et al. While both the bureaucratic and solidaristic orientations are characterised by high ego-involvement and an engagement with work as an end-in-itself, Goldthorpe et al distinguish between these orientations in terms of different contents within these categories. The primary meaning of work for the bureaucratic orientation '...is as service to an organisation ... in return for a career' (1968: 39), while for the solidaristic orientation, work is constituted by the 'work group' and gratification derives from group membership. It is unclear how 'group membership' constitutes an end-in-itself except that the capacity of the group to satisfy expressive or affective needs (through social relationships at work) is presented as the source of high ego-involvement. As a consequence of this, work and non-work are integrated through involvement in ' ...some distinctive occupational culture and occupational community...' (1968: 41). Parsons' formulation is clearer. The solidaristic orientation is diffuse in that it occurs through a wider self-definition or identity than the specific engagement of an occupational status or role; and it is affective because it is

gratifying in itself because of the opportunity to satisfy expressive needs — perhaps through social relationships at work, but also through opportunities to exercise skill, for personal autonomy and so on. The fundamental idea is that the solidaristic orientation reflects the desire for the expression of diffuse needs through actual work activities.

For the bureaucratic orientation, ego-involvement is high (work represents a central life interest), because the '...individual's career is crucial to his "life-fate"'. Prima facie, this appears to be a reference to work as a means-to-an-end rather than ego-involvement and so the distinction between this and the instrumental orientation is confounded. But Goldethorpe et al make a more confusing claim that the bureaucratic orientation is characterised by (in Parsons' terms) a diffuse relationship to work: '...workers' lives cannot be sharply dichotomised into work and non-work'. A bureaucratic orientation surely entails: a *dis*engagement of self from role; an *im*personal rather than a personal involvement with the objects of work, and a clear boundary between work and non-work, represented through such cultural motifs as the '9 to 5' job, the 'business suit' and 'the office' (Brubaker 1984: 32-3). This suggests that the bureaucratic orientation involves specificity (in Parsons' terms) or low ego-involvement (in Goldthorpe et al's terms). The claim that work constitutes an end-in-itself is thus what distinguishes the bureaucratic from the instrumental orientation. This hinges on the notion of service to an organisation in return for a career, a view consistent with Parsons' definition of affectivity as a need for a relationship with an object that can be gratified by the establishment of such a relationship. Work is an end-in-itself to the extent that the orientation seeks gratification internal to the work activity. In the case of the bureaucratic orientation, this gratification can accrue by virtue of the relationship to the organisation: status; the rights to control organisational resources; seniority; and so on. The ego-involvement dimension (or specificity-diffuseness) distinguishes the solidaristic and bureaucratic orientations in terms of the gratification sought from commonality (such as membership in an occupational community) and gratification sought from distinctions (such as the rewards attached to hierarchical positions in organisations). In Parsons' formulation, the bureaucratic and solidaristic orientations would represent specific forms of consummatory needs and needs for affiliation, respectively.

The next issue is the logical possibility implied by the combination of diffuseness and neutrality or high ego-involvement and a view of work as a means-to-an-end. Parsons' own explanation of this category of orientation does not make sense. He describes 'needs for commitment' as '... oriented to diffuse categories of objects and their properties rather than to specific objects and properties, and as engaging more diffuse sectors of the acting system than do "interests in instrumental utilization."' (Parsons 1960a: 471). This description uses the specificity/diffuseness distinction in two ways. However, the combination of diffuseness and neutrality implies that, like the solidaristic orientation, gratification is sought at the level of self-definition or social identity rather than within the differentiated category of actor as worker (i.e. removed from the 'interaction surface' between actor and situation). Like the instrumental orientation, it involves commitment to values that are not realised in the work itself. A plausible candidate here is the 'professional' orientation identified, but not described, by Goldthorpe et al. A 'professional orientation' connotes diffuseness in the sense of a moral rather than calculative involvement with work; and neutrality in the sense of the meaning of the work activity lying in its capacity to realise professional values. This notion of a 'professional' orientation is discussed more fully below in the context of an analysis of the conditions that give rise to the institutionalisation of work orientations.

It now becomes possible to compare the re-formulated categories of Goldthorpe et al with Parsons' general categories of orientation. This comparison is shown in Figure 4.4. The original instrumental and solidaristic orientations are very similar to Parsons' general categories of 'interest in instrumental utilization' and 'needs for affiliation', suggesting some degree of theoretical convergence between the two sets of categories. However, the 'professional' orientation is posited as a footnote in the original rather than being developed in the same way as the other three orientations; and the similarity between the bureaucratic and professional orientations proposed by Goldthorpe et al and Parsons' categories of 'needs for commitment' and 'consummatory needs' is less than is the case for the other two orientations. In addition, the cross-classification in Figure 4.3 is not faithful to Goldthorpe et al's original formulation in that they make use of the *four* dimensions described earlier rather than just the two used here.

The two dimensions excluded are: the form of involvement in the organisation; and the extent to which workers' lives are dichotomised between work and non-work.

	Means to an end *Neutrality*	End in itself *Affectivity*
Low ego-involvement	Instrumental	Bureaucratic
Specificity	*Interest in instrumental utilisation*	*Consumatory needs*
High ego-involvement	Professional	Solidaristic
Diffuseness	*Needs for commitment*	*Needs for affiliation*

Fig. 4.4 Comparison of the categories of orientation derived from Parsons and from a reformulation of the work orientations identified by Goldthorpe et al.

These two dimensions are of a different character from the dimensions of ego-involvement and meaning of work inasmuch as they are contingent on specific conditions under which work occurs. The orientational differentiation of work from non-work is related to the structural differentiation peculiar to the capitalist mode of production. Similarly, the form of involvement with the employing organisation is contingent on the dominance of (or, minimally, the existence of) organisations as the form through which work activity is institutionalised. This suggests that these dimensions in some sense underlie the orientations described above; and define these orientations as specific to modern conditions. This notion of underlying dimensions can be appreciated by inspecting the diagonals in Figure 4.4 as defining the two greatest differences between the orientations: the instrumental and solidaristic are completely dissimilar (specificity/neutrality compared with diffuseness/affectivity); as are the professional and bureaucratic orientations (diffuseness/neutrality and specificity/affectivity, respectively). These two sets of differences, and the notion that they underlie the four categories of orientation, form the basis of an analysis of the conditions that give rise to the institutionalisation of orientations peculiar to the capitalist mode of production.

The proposed four types of orientations describe the pattern-maintenance sub-system of the system of work. It is pattern-maintaining by virtue of its capacity to channel

and stabilise diverse needs, drives and motives originating externally to the system into institutionalised orientations to work. The critical feature of orientations to *work* is the extent to which they contribute to social integration by virtue of their relative consistency with the system's capacity to mobilise human effort in exchange for opportunities for the actor to realise its values. The range of rewards that work systems can provide is finite and structured, while the range of motivations of individuals is infinite and random. So, the stability of the system is contingent on the emergence of motivational channels within the system into which energy originating outside the system (in this case, originating in 'personality systems' and 'biological organisms') can flow. In Marxist terms, this is the question of the mechanisms by which labour power is released for transformation into labour. The argument so far has been an attempt to define these motivational channels — the 'orientations to work' — but the question still remains as to how these, and not other, orientations emerge under capitalism.

Orientations to work reflect two fundamental processes of social change associated with capitalism (exemplified in the analyses of Marx and Weber) and consequently reflect socially constituted structural categories rather than psychological or personality factors. The relationship between social structure and work orientations can be analysed in terms of the differentiation of an 'instrumental' and 'expressive' (a more general form of Goldthorpe et al's 'solidaristic') orientation derived from Marx's account of the alienation of labour (Ollman 1978; Meszaros 1972); and analyses of rationality as the organising principle of modernity (Brubaker 1984; Crook, Pakulski and Waters 1992; Giddens 1991).

Marx sees work motivation as deriving from two fundamental 'drives': the need to subsist; and the need for self-expression through creative activity (Marx 1844). Different social conditions tend to create systems of work based on eliciting one drive more than the other. A critical element of capitalism is that the need to subsist is institutionalised as a primary work motivation. Consequently, work activity becomes oriented to the purposes of capital rather than being an expression of the desires of the worker because workers are forced to sell their labour rather than engage in work as a

means of creative self-expression. Hence, capitalism is based on a commitment to work derived from the necessity of selling labour in order to acquire the means of subsistence.

For Marx, the motivational base underpinning the capitalist mode of production derives from man's character as 'natural man' as opposed to the motivation to creative work that characterises man as 'species being'. According to Ollman 'Man's natural power's are said [by Marx] to have two outstanding characteristics: first they exist in him as tendencies and abilities — as impulses'...: and, second, that they seek their fulfilment outside his own body.' (1978: 77). This is a more concrete and historically specific characterisation of Parsons more general and abstract categories of neutrality and specificity. The motivation deriving from the 'natural' half of Marx's dichotomy produces an affectively neutral orientation with respect to work activity itself; while the capitalist system of production engenders an orientation of specificity by differentiating work activity into a distinct and separate sphere from home. Capital has a specific interest in the worker — its labour power — and organises the conditions of production around this specific interest (Marx, 1844). This, in turn, sets limits to the aspects of the workers involvement with work activity that will be rewarded and thus encourages an orientation of specificity in which life at work is experienced as a discrete domain of the worker's social world.

It is this differentiation of work into a domain defined by the interests of capital that gives rise to the conditions in which an instrumental orientation to work develops. It establishes a 'motivational channel' for the investment of human energy that has two important components. First, the objectives to which the motivation to work are directed lies not in work itself, but in work as a means to securing access to opportunities for consumption. Second, a definition of the 'worker' is institutionalised as the source of labour power.

The instrumental orientation is historically concretised in the capitalist system of production. By contrast, Marx also posits a contrasting orientation to work where the desire to work reflects motivations originating in man's 'species being' as opposed to the motivations derived from the drives and impulses of man's animal being that are fostered under capitalism (Ollman, 1978: 109-113). This contrast derives from the potential to

engage in work activity for reasons other than the need to satisfy basic physical functional needs. For example, work activity is the context for, and the product is the manifestation of, the worker's skills. Where the worker's mastery of skill contributes to self-definition or where it forms a basis for social identity then work orientations can be understood in terms of the satisfaction of diffuse needs and the desire for work to provide opportunities for satisfaction through 'expressive' activity.

These two structural forms of motivation — the instrumental and expressive — are approximately equivalent to the orientations derived from the specificity/neutrality and diffuseness/affectivity combinations of the pattern-variables. The institutionalisation of these orientations is contingent upon a dynamic relationship between the 'needs' of a system of production and the needs of personality systems. Motivations that flourish under conditions of 'alienated labour' are seen by Marx to take on an historically concrete form resulting directly from relations of production.

This 'instrumental-expressive' distinction is highly abstract, but Blauner's (1964) analysis of the differences in the meaning of work for semi-skilled machine operators and craftsmen illustrates it more concretely. He identifies an instrumental orientation to work, associated with semi-skilled machine operators in which the workers' main concern is with pay. This is contrasted with an orientation to work that he claims characterises the craftsman, exemplified in the meaning work has for craft printers: 'Work for craft printers is a source of involvement and commitment. It is not chiefly a means to life, but an expression of their selfhood and identity' (1964: 24).

The concepts of 'involvement' and 'commitment' are not central to Blauner's formulation. Rather, he uses the terms to point out that craftsman are involved with and committed to the work itself in contrast to the disengaged (as opposed to 'involved'), or affectively-neutral, commitment of the semi-skilled machine operator. However, it is the nature of the involvement that differentiates labourers from the craftsmen. The labourers engage work solely through the employment relationship, and so work is viewed in terms of the rights and obligations associated with the job. For craftsmen, on the other hand, the nature of involvement is tied to their identity as craftsmen and in that sense is more diffuse than the requirements of any specific job or work setting.

Similarly, machine operators differ from craftsmen not in terms of the existence of *lack* of commitment but what they are committed to. For machine operators, as for Goldthorpe et al's instrumental workers, the objects of commitment lie outside the work situation, in the uses that can be made of pay. By contrast, work activity for craftsmen provides an opportunity for craftsmanship — the production of work that is an expression of those skills that form the basis of identity. The instrumental orientation refers to a view of work as a means to attaining goals external to the work activity itself, as exemplified by the salience of pay. By contrast, the craftsman sees work as rewarding in itself — exemplified by the capacity to experience pride from the exercise of skill. Team members in the PPM case study showed evidence of beginning an orientational shift along this dimension. At the beginning of the project, they had difficulty identifying desirable features except pay increases and shorter working hours, thus indicating an instrumental orientation. However, by the end of the project, their conceptions of work had expanded to include a new range of features they found rewarding: autonomy, opportunities to take pride in work, social relationships and participation in a team.

One last distinction needs to be made between the 'solidaristic' and 'expressive' orientations. The example of craftsmen suggests that the solidaristic orientation is a special case of the more general expressive orientation that results from the historical coincidence in a 'craft' of both a set of skills performed to certain standards and a social group. However, it is precisely the existence of such social groups that enables such an orientation to become institutionalised within a system of production. Many behaviours that occur at work (sexual harassment, for example) reflect a desire for expressive activity originating in the personality system. However, while the behaviours may survive, work offers little scope for linking such motivations to activity in any sustainable form. Put another way, in modern systems of production, the social integration of work depends more on the fit between the desires and opportunities for pay and pride than on desires and opportunities for sexual expressiveness.

Goldthorpe et al's characterisation of orientations in terms of the extent to which workers' lives are dichotomised between work and non-work is subsumed by the distinction between the instrumental and expressive orientations. Further, this

dichotomisation derives from structural characteristics inherent in the capitalist mode of production and can be described by Marx's distinction between alienated and non-alienated labour. The orientational differentiation, then, is a cultural pattern consistent with structural conditions deriving from capitalist relations of production.

The second problematic dimension suggested by Goldthorpe et al is that of the worker's involvement with their employing organisation, categorised as either calculative, moral or alienative (Etzioni 1961 in Goldthorpe et al 1968: 39 ff). This can constitute a second major social process defining the nature of work orientations in modern systems of production — the development of (cultural) systems of expertise and their application to the production process. This dimension thus underlies the distinction between the bureaucratic and the professional orientation derived from the affectivity/specificity and neutrality/diffuseness pattern-variable combinations, respectively. It is suggested above that the salience of Goldthorpe et al's dimension of organisational involvement is contingent upon the dominance of organisations in modern systems of production. However, the salient point for orientations is the growth of demand for qualitatively different forms of labour under conditions of alienation. This second process is contingent upon the first. It refers to the growth of the scale of enterprises and a corresponding demand for expert knowledge with respect to administrative processes ('bureaucratic expertise'); and the increasing application of scientific knowledge to the technical and managerial functions of production ('professional expertise').

Bureaucratic expertise denotes a capacity to execute an organisation's administrative functions by applying 'local' knowledge of a specific organisation's rules, policies, procedures and techniques. It is based on experience within an organisation and is typically determined by length of service that tends to determine seniority within the organisation. Consequently, it is expertise that is practical and local. By contrast, professional expertise concerns general principles (Bell's 'theoretical knowledge' [1973]) rather than particular cases. It is acquired primarily through education and professional training rather than by practical experience[3]. It is expertise that can be described as

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[3]Although, of course, professional expertise depends on practical experience in the same way that bureaucratic expertise is contingent upon literacy and numeracy skills acquired externally to the organisation.

theoretical and universal. The emergence of both forms of expertise are associated with the organisation of modern enterprises: bureaucratic expertise with the need for systems of rational administration (Blau, 1963; Weber, 1968); and professional expertise with what Bell (1973) identifies as the tendency for intellectual technology to supersede machine technology, the growth of science-based industries, and the increasing use of applied mathematics in inventory management, quality control, logistics and marketing research (see also Sixel 1988 on science as a force of production).

The growth in demand for such forms of labour provides a context in which new orientations can become institutionalised. As with the instrumental/expressive dimension, it is changes at the level of the mode of production that gives rise to conditions in which specific orientations can become established. This is not to ignore the importance of the development of science, the educational system or professional groups as necessary conditions for the application of expertise to production. But the realisation of the possibility of orientations centred on service to an organisation in exchange for a career or on contributing to a socially valued field of activity in exchange for recognition (see below) requires the existence of specific types of collectivity, bureaucratic organisations and professions.

The 'bureaucratic' orientation (specificity/affectivity) requires the differentiation of work role from self, by contrast with the 'expressive' orientation (diffuseness/affectivity) where the self is immersed in the work activity. In contrast to the instrumental orientation (specificity/neutrality), the focus is on service to the *organisation*. More specifically, meaningfulness is manifested by the capacity of the organisation's purpose or mission to invoke loyalty in the worker, and by their willingness to apply their expertise in the service of this purpose. Where an instrumental orientation sees rewards in terms of improving lifestyle opportunities, and the expressive orientation sees pride in the work product, the 'desires' characterising the bureaucratic orientation are seniority, status and privilege within the organisation.

The professional orientation is derived from the diffuseness/neutrality combination. The locus of gratification is external to the work activity itself (neutrality) as with the instrumental orientation, and scope of involvement is more diffuse than the

specific employment relationship[4]. The professional orientation is an orientation towards values manifested in cultural objects or normative standards external to the work activity itself. Within modern work systems the predominant basis for this orientation is a commitment to values represented by service to collectivities that transcend the employing organisation — to professions, to science, to society, or to God, for example. This suggests that a key defining characteristic of this orientation is the notion of a 'vocation' or 'calling' and that, as with the case of the 'solidaristic' orientation's relation to the 'craft', professionalism is a special case of a more general form that might better be termed a 'vocational' orientation.

Both the bureaucratic and vocational orientations are possible because the increasing dominance of rationality as a basis for organising social life. The bureaucratic orientation derives from the predominance of instrumental rationality as the principle legitimating the organisation of work. The vocational orientation is tied to the secularisation of modern life whereby science eclipses religion as the basis for value-rational action. Two sets of conditions lay the groundwork for the emergence of the vocational orientation. The first is the differentiation of organisational forms into bureaucratic forms of organisation based on instrumentally rational action and collegial forms of organisation based on value-rationality and organised around the principles of: expertise as the sole basis of authority; an assumption of theoretical equality of the level and specialised area of expertise of colleagues; and a commitment to consensus as the basis of decision-making (Waters 1989). The second condition is the development of 'science' as the primary site of the cultural ascendancy of value-rationality whereby the standards for assessing the competence of a judgement or decision are derived from the norms of science rather than, say, religious inspiration. Under these conditions, the aspirations marking out the vocational orientation centre on what Merton (1973) refers to as the 'recognition of excellence'. By this he mean that rewards accrue to individuals on the basis of the quality of their contributions to a socially valued field of activity.

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[4] The 'Protestant ethic' (Weber, 1958) shares characteristics with the professional orientation in that work is viewed as a *moral* duty (i.e. involves a diffuse orientation) and its meaning is defined with respect to religious goals (i.e. work is a means to an end).

The distinctions between the four work orientations exemplify the relation between two ontological levels: an underlying economic and cultural structure; and a set of institutionalised work motivations. Orientations denote the bases for commitment to and involvement with work, describing general categories of institutionalised work motivation. The specific motivations of any particular worker will always comprise a content that reflects the idiosyncratic outcomes of their experience of social life. But the satisfaction of these motivations is conditioned by the capacity of social situations to provide opportunities for satisfaction. While, the instrumental and expressive orientations derive from the institutionalisation of the polarisation of motivations under capitalism, the vocational/bureaucrat distinction reflects the growing application of expertise legitimated with reference to rationality within the system of production. This dimension reflects change in the *cultural* system (as opposed to the *economic* system of capitalism). More specifically, as rationality becomes the predominant basis for legitimising knowledge, organisations and professions become differentiated sources of commitment to, and involvement with, work.

Thus, the four orientations are associated with two processes of differentiation resulting in the separation of 'labour' (associated with an instrumental orientation) from 'craft' (expressive); and 'organisation' (bureaucratic) from 'profession' (vocational). The historical development of capitalism, as both a system of production and a cultural configuration, has structured potentially random and idiosyncratic work motivations by framing choices about sources of meaning. The four generic types of work orientation are patterns defined by variability in the propensity to frame one's hopes for work by the scope of one's involvement (centred on the employment relationship or on social identity) and on the locus of one's commitment to work (internal or external to the work situation). The four types of orientation are displayed in Figure 4.5.

Scope of involvement	Locus of commitment	
	External to work situation	Internal to work situation
Employment relationship	Instrumental	Bureaucratic
Social identity	Vocational	Expressive

Fig. 4.5 The four orientations to work

The work setting

The purpose of this extensive discussion is to outline how certain orientations emerge and survive, functioning to condition what people want from work in a way that is consistent with the needs of the mode of production. The capacity for this to occur, and for the production system to satisfy these wants, defines the social integration of work[5]. The 'work setting' is proposed as the second half of the social integration equation.

Part of the confusion in the content of Goldthorpe et al's categories of orientation lies in their failure to clarify the distinction between orientations and modalities, that is what people might seek from work and what they might find there. For example, they characterise the solidaristic orientation as finding social relationships rewarding. This requires both a desire for social relationships and the opportunity to participate in them. If either the desire or the opportunity is lacking, the worker cannot experience social relationships as rewarding. Rather the experience will involve disinterest (if the desire is absent but the opportunity is present) or frustration (if the desire is present but the opportunity is absent). An important insight to be derived from Parsons' distinction between orientations and modalities is that the organisation of work determines the experience of work to the extent that specific desires are institutionalised as work orientations and specific opportunities are institutionalised as structural elements within work activity. In a similar vein, Goldthorpe et al describe the relationship between satisfaction and orientations:

> ...the question of *satisfaction from work* cannot in the end be usefully considered except in relation to the more basic question of what we would term *orientation towards* work. Until one knows something of the way in which workers order their wants and expectations relative to their employment — until one knows what *meaning* work has for them — one is not in a position to understand what overall assessment of their job satisfaction may most appropriately be made in their case [1968: 31-36].

The second question here is the question of 'orientation towards *what*?'. If satisfaction with work has two aspects and one is to do with the orientations of the worker, then the second must be the way work itself provides a context for the realisation of these orientations. Just as individuals vary with respect to what they want, so can work settings

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[5]Social integration is never perfectly achieved, of course — there is always mal-integration and dis-integration as indicated by sexual harassment, embezzlement, work dissatisfaction, sabotage, absenteeism.

vary with respect to what they offer. Consequently, an individual's experience of work can be conceptualised in terms of the link between these two components, with the social integration of work constituted by a generalisation of the system's component individuals' experiences.

There are three other points to be made about the work setting. Firstly, it performs the goal-attainment function of the system of work and, as such, implements the value principle of 'effectiveness' of collective action (Parsons and Smelser 1956). Effectiveness, in this context, refers to the translation of the worker's willingness to work into actual work performances. So the work setting comprises mechanisms that channel motivations flowing through work orientations into the effort required for productive activity. Secondly, the work setting constitutes an interface between the individual and the organisation — it is both a production site and the social setting of work activity. Consequently, the mechanisms share properties of each type of actor. For example, the performance of a work role is a function of prescriptions defined organisationally and the role-occupant's interpretation of appropriate performance. Lastly, the structure of the work setting is more flexible than are work orientations. The organisation has more control over work practices than it does over work orientations. This is illustrated in the case study of PPM, where managers are able to 're-design' various aspects of the work setting to some extent. Organisations are also subject to ecological pressures, particularly those associated with competition for resources in markets. Chapter 3 indicates that organisations tend to converge towards a structure consistent with the demands made by the ecological niche they occupy.

The modality set of the pattern-variables describe the components of the work setting. It includes the universalism/particularism and the performance/quality pattern-variables. In the context of work, these pattern variables can be understood as objects relevant to the work setting in terms of two pairs of categories, that is:

> how work is done (performance)

or:

> what work is like (quality)

And:

> it is a unique aspect of this setting (particularism)

or:

> it is a general characteristic of work itself (universalism)

Cross classifying these categories produces four types of mechanisms through which motivational energy can be channelled into work performances. Four such generic mechanisms are proposed as the basic components of work settings and presented in Figure 4.6.

	Feature of work itself or work here?	
How work is done or what work is like	General feature of work itself *(universalism)*	Feature of work here *(particularism)*
How work is done *(performance)*	Roles *(objects of utility)*	Routines *(objects of cathexis)*
What work is like *(quality)*	Workflow *(objects of 'generalized respect')*	Work groups *(objects of identification)*

Fig. 4.6 The four components of work settings

Roles

Formal work roles are most commonly understood as the technical performances associated with a position in an organisation. These are: the specifications of tasks and sets of tasks that define a job[6]; obligations to perform in certain prescribed ways (such as beginning and ending work at certain times of day); a set of rights (to compensation, for example); and a set of formal relationships with other roles. Work roles can vary, for example, with respect to: scope (i.e. the number of component tasks); the degree to which rights are clearly specified; and the extensiveness and complexity of role relationships. Work roles are the primary focus of the instrumental orientation with its concern with the rights and obligations of the job. 'Work roles', as a modality of the setting, are defined by the pattern-variable combination performance/universalism — 'how work done in work settings generally'. The study of 'roles' can be inspected in the work of Burns and Stalker (1961), Jaques (1972), Kalleberg and Leicht (1986)

Routines

Routines and procedures define the way information and problems coming into the work setting must be processed. They comprise standard procedures that describe what the

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[6] It is the design of this aspect of work which was the focus of scientific management.

setting knows how to do best: the formal techniques to handle recurrent problems; sets of policies that define an organisation's position on issues; guidelines that provide direction for relatively new or unstructured problems; and organisational purposes or goals by which successful organisational performance is defined (these may be formalised in a mission statement or statement of objectives). Routines may be more or less formalised and so establish the spaces where autonomous judgement is required. Routines and procedures are the primary focus of the bureaucratic orientation experienced as a concern with organisational integrity and defensibility of action. 'Routines', as a modality of the setting, are defined by the pattern-variable combination performance/particularism — 'how work is done here'. The study of 'routines' can be inspected in the work of Gouldner, (1954), Cyert and March (1960), Burns and Stalker (1961) and Stinchcombe (1959; 1990).

The work group

Work typically implicates individuals in relationships with others. These relationships are defined by the formal relationships between roles, the interdependence of tasks integrated into procedures and the pace or temporal sequencing of the workflow. Work groups can offer a counterpoint to the formal prescriptions of performance embodied in these features of the setting. However, the work setting is above all a social setting and so workers are embedded in a set of specifically *social* relationships. These relationships are experienced by the worker as membership of groups comprising the significant people with whom one works. Such groups may be constituted by formally defined work units, such as departments or work teams, or by friendship networks, colleagues or political cliques. The importance of the work group lies in the extent to which co-workers constitute a reference group particular to the work situation and so provide the definitions of conduct appropriate to the situation that are independent of the specifically organisational features of the setting. The group is the site in which the social norms of working life arise. Groups comprise: social, as opposed to formal, roles; systems of prestige or deference; cliques or networks that define membership and group boundaries; and an 'ethos' as exemplified by the motifs of 'mateship', 'toughness' and 'masculinity' among pioneer work gangs. Work groups are the primary focus of the expressive orientation with its

interest in solidaristic relationships as an affirmation of identity. The 'work group' as a modality of the setting is defined by the pattern-variable combination quality/particularism — 'what it is like to work here'. The study of 'work groups' can be inspected in the work of Kreiner (1976), Roethlisberger and Dickson (1939), Pfeffer (1978), Whyte (1961), and Trist and Bamforth (1951).

Workflow

The workflow defines how work is organised in terms of pace, schedules, production priorities and physical layout. Two examples of the role of the workflow in production sites based on machine technology are reviewed in Chapter 1: Blauner's (1964) analysis of how different workflow systems shape the character of the workplace: and work by Woodward (1958) on the relationship between technical complexity and organisation.

Stinchcombe (1990) analyses workflow in a production site based on intellectual technology. The particular problem is that of translating students' work standardised grades amenable to requirements of the administration of a university. Stinchcombe points out that a university's procedures for determining whether or a candidate should be awarded a degree depend on assessments of performance over a sequential programme of study. However, such assessments involve judgements about heterogeneous pieces of work. The university relies on the academic to translate expert judgements about the merit of the work into a set of standardised measures at defined points in the academic year. Stinchcombe's point is that a major function of the professional is to ensure the viability of the workflow in the face of problems that are not amenable to routinisation. The 'workflow' is the primary focus of the vocational orientation with its interest in the control of quality. The 'workflow', as a modality of the setting, is defined by the pattern-variable combination quality/universalism — 'the character of work'. The study of 'work flow' systems can also be inspected in the work Galbraith (1973), Perrow (1983) and Taylor (1916)

These components of the work setting reduce uncertainty with respect to work performance by specifying the nature and form of work activity, making it controllable and work performances predictable. This, in turn, increases the extent to which stability is achieved. However, such mechanisms can reduce uncertainty but not achieve certainty

with respect to work performance — work settings are typically characterised by *un*certainty with respect to expectations of performance (Baldamus,1967). Roles, routines, groups and workflow systems vary widely in terms of the degree of specification, formalisation, social control and predictability, creating gaps that provide opportunities for interpretation, judgement, non-compliance and error.

Conclusion

The problem of the social integration of work is the problem of the capacity of the work setting to satisfy values underpinning work orientations. The integration of the work setting and orientations is a function of the tension involved in organising work to take into account the organisational goal of productivity and workers' desire for the consumption of the social and cultural objects that make up their experience of work. This is achieved, firstly, through the institutionalisation of motivations as 'orientations to work' that reflect a 'factual order' underlying the organisation of modern systems of production and that create channels through which motivations can flow into the production system as a willingness to work. Secondly, there need to be mechanisms that link environmental conditions and organisational choices to variably specified expectations of work performance. In Chapter 5 the social integration of work is developed in terms of a set of social values proposed as the basis for normative evaluations, given variable orientations and heterogeneous work settings. Chapter 6 then turns to the second part of the conceptual framework — the problem of describing system integration processes. Parsons' descriptions of the adaptation and integration subsystems are used to construct a conceptual framework for analysing how management processes translate organisational and market pressures into features of the work process.

Chapter 5: Social integration and work values:
the relationship between the worker and the work situation

Chapter 4 identifies four orientations to work and four components of work settings. This chapter examines social integration as the relationship between these two features of the work setting. Social integration is proposed as deriving from evaluations of the contingencies in the relationship between work orientations and the capacity of the work setting to provide opportunities for gratification. This link depends on eliciting commitment to values that are consistent with work orientations and the structure of the work setting. They underlie both conceptions of desirable features of work and institutionalised forms of organisational reward and incentive.

The aim of this chapter is to specify these work values and to identify the features of people's lives that shape commitment to them. This is undertaken by an analysis of data from the *National Social Science Survey*. This survey was carried out in three waves in 1984, 1985-6 and 1987. The survey comprises a representative sample of the Australian adult population and includes data on a range social, economic and political areas. The analysis described in this chapter is based a subsample of 3607 currently employed respondents from the three waves.

The aim of the analysis centres on the concrete directions of choice relating actors' values to the content of situations (Parsons, 1968) rather than the orientations themselves. The four orientations discussed in the previous chapter are categories for classifying what people hope to get from work. However, concrete actors are embedded in historical contexts, biographies and daily lives. Thus, configurations of orientations at an aggregate level may vary historically, as is suggested by the relationship between the orientations and the economic and cultural processes discussed in the previous chapter. Orientation may vary over the life course as emphases and concerns change both within and outside work. Different orientations may become concretised within particular combinations of industrial and organisational conditions so that different categories of workers can be characterised in terms of different typical orientations. Examples include the association proposed by Goldthorpe et al (1968) between unskilled factory workers and an instrumental orientation; administrative workers and a

bureaucratic orientation; craftsmen and an expressive orientation; and professionals and a vocational orientation. Last, orientation may vary across the working day, depending on the nature of the task, time, interactions and so on.

This suggests gradations of meaning within the general conception of 'orientation'. At its most ephemeral, orientation as mood, it concerns the question of how the objects comprising a particular work setting provoke subjective experiences in the form of feelings, emotions and evaluations. Orientations are characteristic expectations of occupational groups concerned with the question of how common frames of reference develop from common occupational experiences within generic work settings.

By contrast, 'work values' describe the relationship between orientations and the work setting. This relationship can be described from two perspectives. From the point of view of the worker, the experience of work is the result of the capacity of the work setting to match its wants or needs. From the perspective of the system, a capacity to induce or coerce workers to channel commitment into the components of the work setting establishes the basis for achieving social integration. So, work values underlie social integration in that they underlie both the incentives available within work settings and the bases for work satisfaction. Social integration is contingent upon the extent to which the available incentives are deemed desirable by workers. Work values, then, are embedded in the *relation* between orientations and settings

Systems of work vary with respect to the way in which social integration is achieved. For example, Taylorism was built on a model of workers' motivations as being relatively homogeneous and focused primarily on pay (Braverman 1974). Where work is organised on the basis of control and financial incentives, other bases of motivation can be treated as superfluities to be suppressed through systems of supervision. Hence Blauner (1964) elaborates alienative outcomes of some features of the organisation of work and Braverman (1974) is concerned with the erosion of the workers' control over their own work. However, the Luton studies (Goldthorpe et al 1968) show that within a Fordist car assembly plant workers will conform to the requirements of the work process given sufficient pay and adequate working conditions

because of the fit between an instrumental orientation and the capacity of the work to provide high pay. As Goldthorpe et al point out, though, the combination of such an orientation and adequate pay can result in attachment to a job with a simultaneous *dis*satisfaction with the work itself.

The set of work values that make up the relationship between orientations and modalities can be identified by cross-classifying the categories of the orientation set and the modality set[1]. Figure 5.1 shows this cross-classification. The core work values lie on the diagonal identified in the previous chapter: money; career; respect for skill; and recognition of excellence. The work values are bases for the evaluation of opportunities provide by the components of the work setting. So, for example, an instrumental orientation fosters the tendency to evaluate the work role in terms of the opportunity it provides for the attainment of lifestyle goals. A vocational orientation tends to evaluate work flow systems in terms of their scope for opportunities for recognition.

The off-diagonal cells in Figure 5.1 show *latent* values. These define the 'adequate working conditions' that make it possible for the assembly-line workers studied by Goldthorpe at al to be satisfied with their jobs while being unhappy about the work. There are six rather than twelve (i.e. they are repeated above and below the diagonal) because the content of the value is similar for complementary pairs of orientation-modality combinations. For example, the value associated with the bureaucratic orientation as an anticipation about roles and tasks is similar to the basis of instrumental orientation to routines. Both seek clarity. It is not clear, though, whether these latent values can be a source of satisfaction (e.g. if opportunities for sociability within the work group can compensate for inadequate pay) or if they reflect the hygiene factors identified by Herzberg (1968) that can cause dissatisfaction by their lack, but not satisfaction by their presence. The latent values are not relevant to this chapter but are

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[1] Parsons himself treats the concept of values in this way (e.g. Parsons, 1968b). For example, he says "...the concept of value within the action frame of reference ...involves and actor or system acting, a situation and a set of relations between them sometimes called 'orientation' (as seen from the point of view of the actor). Value, in this sense, I treat as a category of the *relations* between actor or system and situation, and hence not as a property or attribute of either..." (Parsons, 1991, p. 37). However, he does not make the obvious move of treating the set of values as defined by the cross-classification of the orientation and modality sets.

developed more fully in chapter 6. They are mentioned here because they have implications for the operationalisation of the manifest values.

Orientation to work	Components of the work setting			
	Roles Univ-Perf (A)	Routines Part-Perf (G)	Groups Part-Qual (I)	Workflow Univ-Qual (L)
Instrumental Spec-Neut (A)	**Money**	Clarity	Sociability	Meaning
Bureaucratic Spec-Aff (G)	Clarity	**Career**	Stability	Coherence
Expressive Diff-Aff (I)	Sociability	Stability	**Respect for skill**	Identity
Vocational Diff-Neut (L)	Meaning	Coherence	Identity	**Recognition of excellence**

Fig. 5.1 The set of manifest and latent work values

The total set of values define the experience of work, and the bases of social integration, multi-dimensionally. However, the two facets differ with respect to the goals deriving from the set of work values. The experience of work results from the quantum of each value realised — the amount of money, the degree of clarity and so on. From the point of view of the actor, these represent values to be maximised. The social integration problem, on the other hand, is an optimisation goal. It involves ensuring sufficient opportunities for sociability so that people are happy at work, but not so much that no work gets done. A second important point is that while the total set is multi-dimensional, the manifest values are described by a single underlying dimension in which 'money' and 'recognition of excellence' are opposites, approximating an extrinsic-intrinsic dimension. This dimension of the values is elaborated in the analysis.

Four questionnaire items are abstracted to measure the manifest work values and comprise the dependent variables in the analyses. Respondents were asked to rate the importance to them of various aspects of a job on a 7-point scale. The four items used were ratings of the importance of:

- high pay
- job security
- the opportunity to use one's skills
- work which is important and gives a feeling of accomplishment

These items are less than ideal for the specific purposes of this thesis. In particular, a question that taps the importance of opportunities for promotion and career development would be a more valid measure of the bureaucratic orientation than is the item on the importance of job security. The job security item , prima facie, is also related to an instrumental orientation but is selected here because it is the only item in the NSSS that comes close to measuring attachment to the organisation and is more closely related to connotations of tenure and bureaucratic career than any other item.

Secondly, a wider range of questions allowing the construction of composite variables would have been more useful. For example, a scale or index based on a set of questions on the relationship between work and lifestyle — such as the importance of flexible hours, holidays, comfortable working conditions, opportunities for overtime pay — should produce a better measure of the instrumental orientation.

Last, the response categories do not stimulates a high degree of discrimination between respondents. The histograms in Figure 5.2 show that respondents tended to rate all but high pay as relatively important (maximum importance is rated 1) and hardly use response categories 5-7. Approximately 41% of respondents rate high pay as '4', the middle category. Given this, the four variables are dichotomised about the median value to create categories of 'high' and 'low' importance.

High pay

Job security

Importance and sense of accomplishment
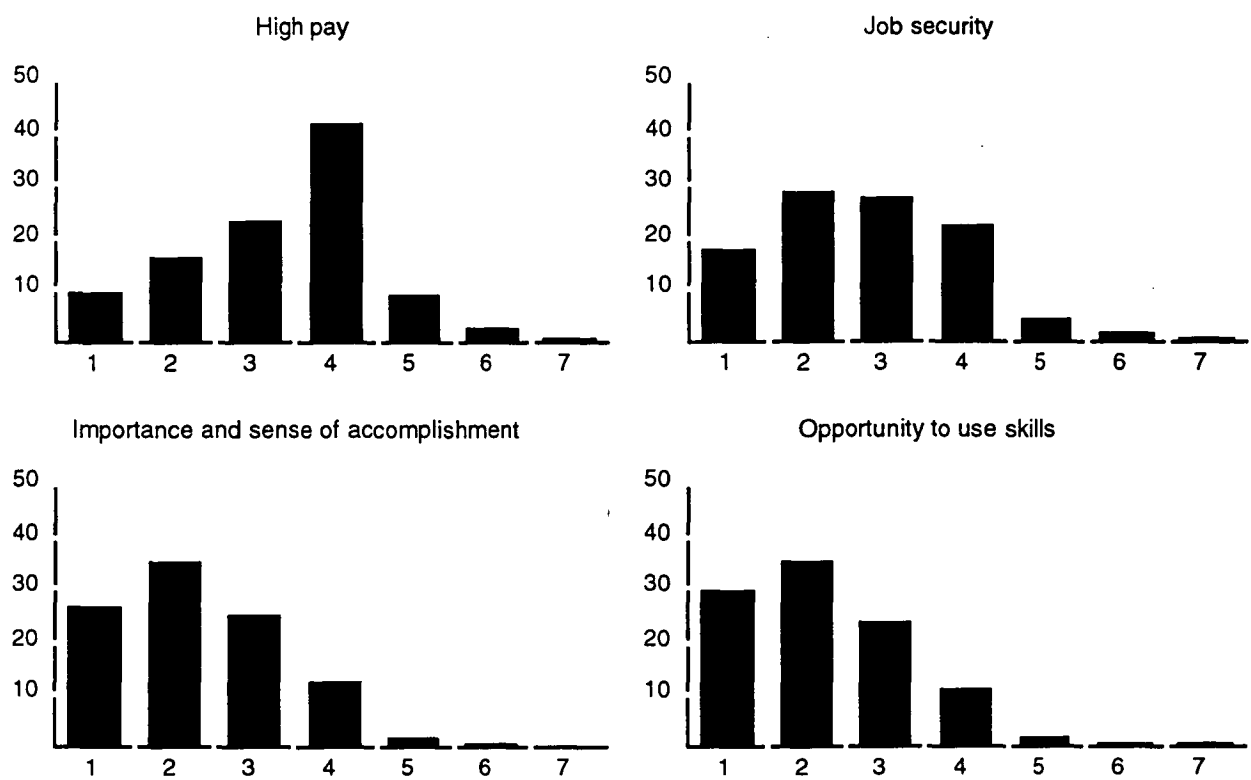

Opportunity to use skills

Fig. 5.2 Distribution of ratings of importance of four aspects of a job

A basic assumption of the theoretical development of the work orientation categories is that they are differentially affected by qualitatively different sets of factors. The factors that provoke a disposition towards an instrumental orientation, for example, are different from those producing an expressive orientation. More specifically, the argument made above is extended to a proposition that the source of an instrumental orientation lies in the individual's life situation (i.e. things happening outside work); a bureaucratic orientation derives from the organisational context; an expressive orientation is developed from opportunities presented by the work content; and a vocational orientation results from the capacity of one's occupation to provide opportunities for identification with a vocation. This does not assume, therefore, that individuals can be characterised in terms of a single category of orientation. Rather, work values result from the combination of life situation, organisational context, work content and character of the occupation.

Figure 5.3 summarises the guiding assumptions of the analysis, linking together orientations, work values, categories of independent variables and the relevant measures from the NSSS.

Orientation	Value	Causal factors	NSSS item
Instrumental	Money	Life situation	High pay
Bureaucratic	Career	Organisational context	Job security
Expressive	Respect for skills	Work content	Opportunity to use skills
Vocational	Recognition of excellence	Vocation	Importance and sense of accomplishment

Fig. 5.3 Summary of the basic analytic framework

The importance of high pay

All workers have an interest in pay by virtue of the employment relationship. Seeing high pay as an important feature of a job should indicate an 'instrumental' orientation to work. The value of pay lies in its capacity to produce gratification by spending on material consumption or by wealth accumulation. Income represents a potential to consume and so its value lies in its symbolic meaning for individuals' lives outside work because consumption or spending has meaning only in non-work contexts. However, if pay is to be understood in terms of the perceptions and interests of people at work, then it must have meaning that is perceived or embedded in the symbolic structure of work. This section examines the meanings pay can take on for workers by comparing and contrasting people in different types of situation in order to identify the determinants of high valuations of high pay.

Measures

The measure used is the NSSS item asking respondents to rate the importance of high pay in a job on a seven-point scale, with '1' indicating importance and '7' indicating no importance. The distribution of ratings is shown in Figure 5.1. The most common rating lies right in the middle of the scale. 40% of the sample rate high pay as having an importance of '4'. Less than 10% of the sample rate the importance of high pay as less than 4. A rating of 1, 2 or 3 indicates that high pay is rated more important than is typical for the sample, so the variable has been dichotomised so that a score of 3 and below indicates that high pay is important, while a rating of 4 and below indicates that it is not.

The focus of this section is on the relationship between factors that may shape lifestyle (such as stages of the life-cycle) and evaluations of the importance of high pay.

Age

Overall, the importance of high pay tends to decrease as people get older. Figure 3.2.1 shows that high pay is more important in the youngest age category (18-24 years) where 58% of respondents rate high pay as important compared with only 47% of respondents over 55 (p=0.005)[2]. There is little difference between the 25-34, 35-44 and 45-54 age groups (50%, 49% and 49%, respectively, reporting high pay as important). The graph suggests that the importance of pay is highest when people begin work, quite quickly loses its significance and becomes even more insignificant as people move towards the end of their career. This trend is consistent with the notion that the importance of high pay is related to biographical processes, but can be interpreted in two different ways. The first is that high pay is important for those who do not have it. Young people starting work tend to be more concerned with pay because it represents a source of power that is new to them, defining their autonomous status as consumers and citizens. A second possible interpretation is that young people have a more limited conception of work and pay is the most highly visible feature of it.
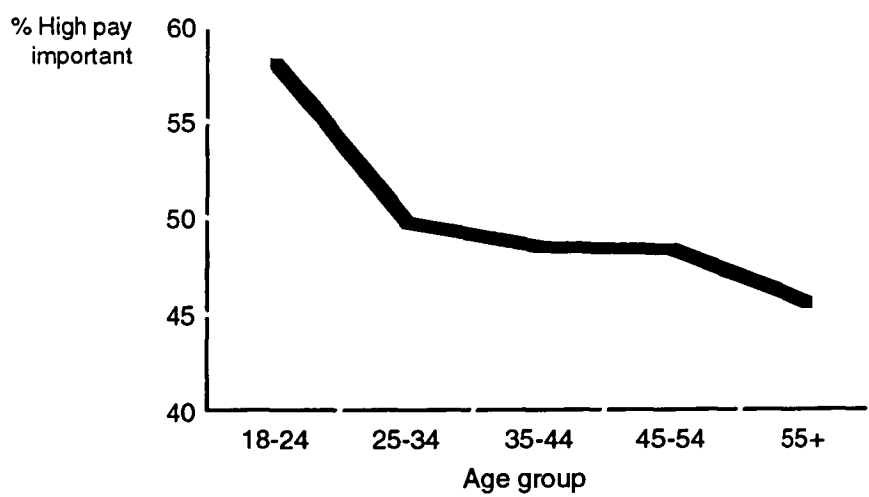

Fig 5.4 Age group differences in the importance of high pay

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[2] Chi-square tests have been used to estimate statistical significance. However, given the size of the sample, quite small differences will be significant.

There is a significant difference between men and women in the likelihood of rating high pay as important with 54% of men rating high pay as important compared with 44% of women. However, Figure 5.5 shows that much of the difference the between age groups is more apparent for women than for men. Young women (18-24) are very similar to young men (57% for women compared with 59% for men), but then pay's importance decreases much more for women than for men so that in the oldest group only 32% of women rate it as important compared with 50% of the men ($p \approx 0$).
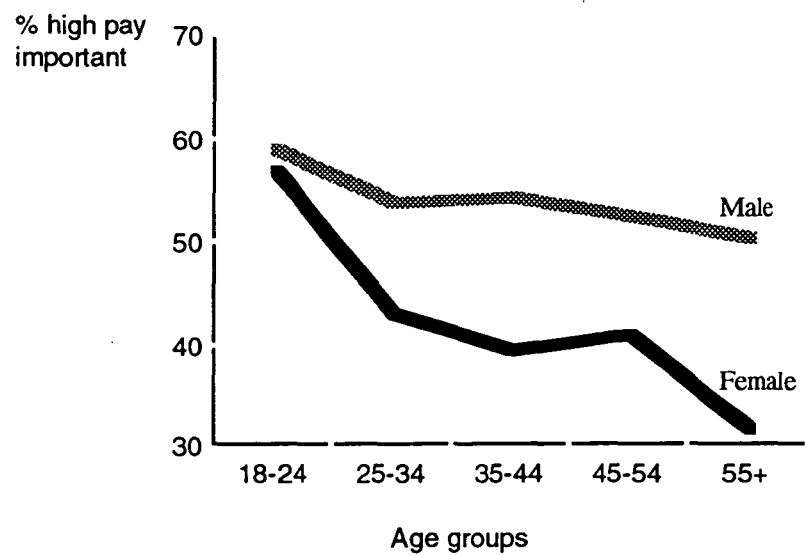
Fig. 5.5 Age differences in the importance of high pay: men and women

The similarity between young men and young women does lend some support to the idea that younger people differ from the rest in terms of having a more limited conception of work and so see pay as its most visible feature. The smaller differences between younger and older men (compared with women in the equivalent age groups) could be explained by a greater tendency for men to be responsible for family income. Men are more likely than women to see themselves as the 'breadwinner'. This is examined further, below, by looking at the effects of marital status and spouse's employment status. First, though, the question still remains of whether differences can be explained by differences in actual income.

The ratings of high pay were compared separately for those with higher than median incomes, and those with lower incomes. There are no significant differences between age groups among high income earners, but among low income earners, the same age trend is evident. This is shown in Figure 5.6.
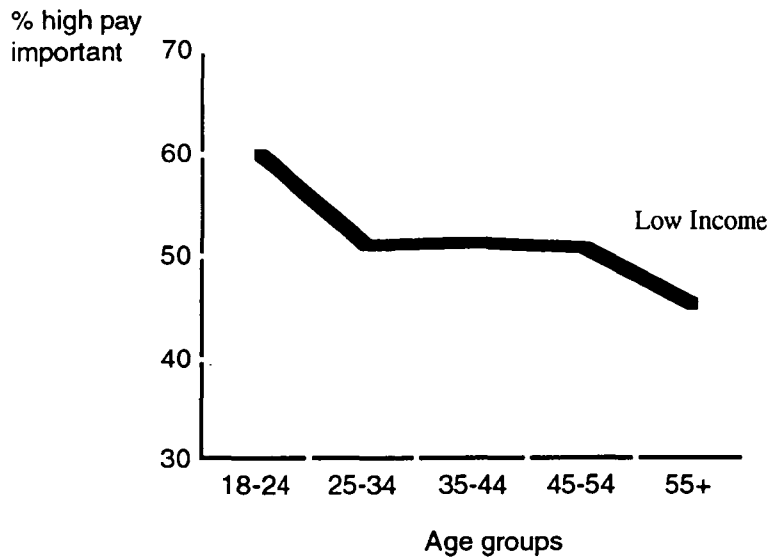
% high pay
important

Fig. 5.6 Age differences in the importance of high pay: low income earners

Of course it may be that this reflects the tendency for women to be disproportionately represented among the low income group (which they are) so Figure 5.7 compares the relationship between age and the importance of high pay, for low and high income earners, separately for men and women. This graph shows that age and income levels affect the tendency to rate high pay as important differently for men and women but, in general terms, those with low incomes are more likely than those with higher incomes to see high pay as important.
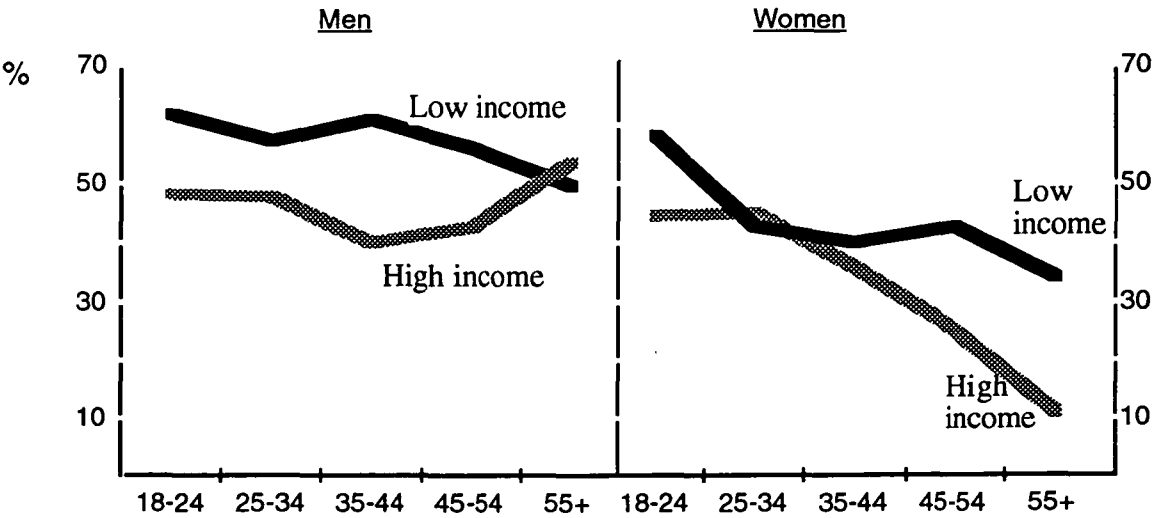

Fig. 5.7 Age differences in the importance of high pay:
men & women; high & low income earners

Obviously, income is related to the type of work one does, it reflects variability in education and a variety of other factors. But, none the less, it is possible to distinguish

independent effects for gender, age and income on the likelihood of seeing high pay as an important feature of work. These effects are shown in the causal model in Figure 5.8.
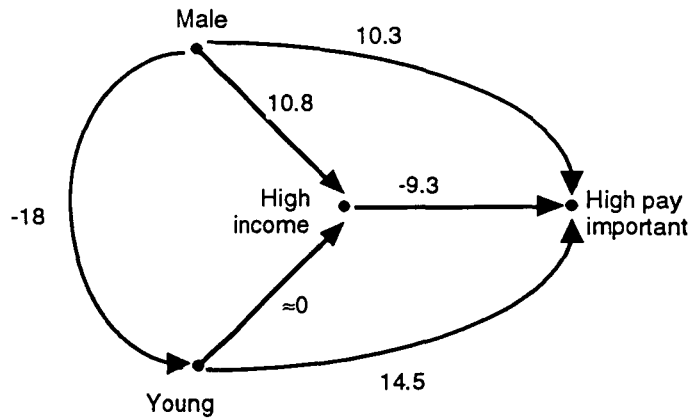

Fig. 5.8 The effects of gender, age and income on
the likelihood of rating high pay as important

This model[3] is based on a comparison between the highest age group and the lowest. It shows the 18-24 year old age group are typically 14.5 percentage points more likely than the oldest age group to rate high pay as important, regardless of gender or income level. The gender effect means that men are about 10 percentage points more likely than women (controlling for age and income); and the net effect of having a high income is to decrease the likelihood of rating high pay as important by about 9 percentage points. Men are more likely than women to be high income earners (regardless of age) and, for these two age groups, age does not affect the likelihood of having a high income[4] (controlling for gender). Obviously, men are less likely than women to be in the younger age group because their working life tends to continue to age 65, whereas women often leave the workforce to bear and raise children.

The significance of finding that being young, male and having a low income increases the importance of high pay is that it highlights the notion that perceptions and valuations of this aspect of work are linked to life situations. Differences between men and women, between different age groups and between people at different income levels can best be understood as reflections of general social differences that have

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[3] Based on Davis' system (1976) for analysing contingency tables with linear flow graphs using the decomposition of differences in proportions to quantify causal relationships.
[4] This may seem counter-intuitive, but it must be borne in mind that people reduce work levels as retirement approaches.

salience external to work itself. In fact, this evidence is suggestive of two types of factor influencing evaluations of the importance of high pay: characteristics associated with disprivilege or low social power (youth, low income) increase the importance of high pay; and the conflation of gender and economic responsibility increase the importance of high pay for men, that is, men tend to internalise the role of the 'breadwinner'. The evidence for the second proposition can be examined by comparing people in terms of their proximity to the traditional breadwinner role (e.g. married men whose wives are not employed). The effects of variables like education and skill level provide evidence about the function of power.

Marital status

Gendered work roles traditionally form a pattern in which the husband/father works in paid employment, while the wife/mother undertakes the household's domestic work. The post-War period has seen a major increase in the employment participation rate of women, particularly married, middle-class women (e.g. see Zagorski, 1984). The two most extreme types of household produced by these two institutional patterns would be a "traditional" household in which the husband is employed and the wife is not; and a "liberated" household where the wife is employed and the husband is not. Figure 5.9 shows that this is reflected in the extent to which high pay is viewed as an important feature of a job. A man with a low income and a wife who is not employed is more than two and half times more likely than a woman with a high income and a husband who is not employed to say high pay is important (64% and 25% respectively). Among high-income earning workers, men and women are equally likely to say high pay is important if both spouses are employed. Single high-income, women are *more* likely than single high-income, men to say high pay is important (42% compared with 35%), but are still less likely than single low-income, women (50%). Among low-income workers, singles are most similar to each other (50% for women and 55% for men); but high pay becomes more important to married men regardless of whether or not their wife is employed (58% for those with employed wives and 64% for those with non-employed wives).

The patterns across the different income levels are similar to each other. The slopes of the lines for men, for example, is similar for low and high income earners, but the level is higher for low income men. The most interesting pattern is for high income women which can be interpreted as hinging on the similarity between men and women in dual career families, with single status bringing men and women towards convergence (as with the low income group) and non-traditional arrangements (wife works, husband does not) creating divergence (again, as with the low income group).
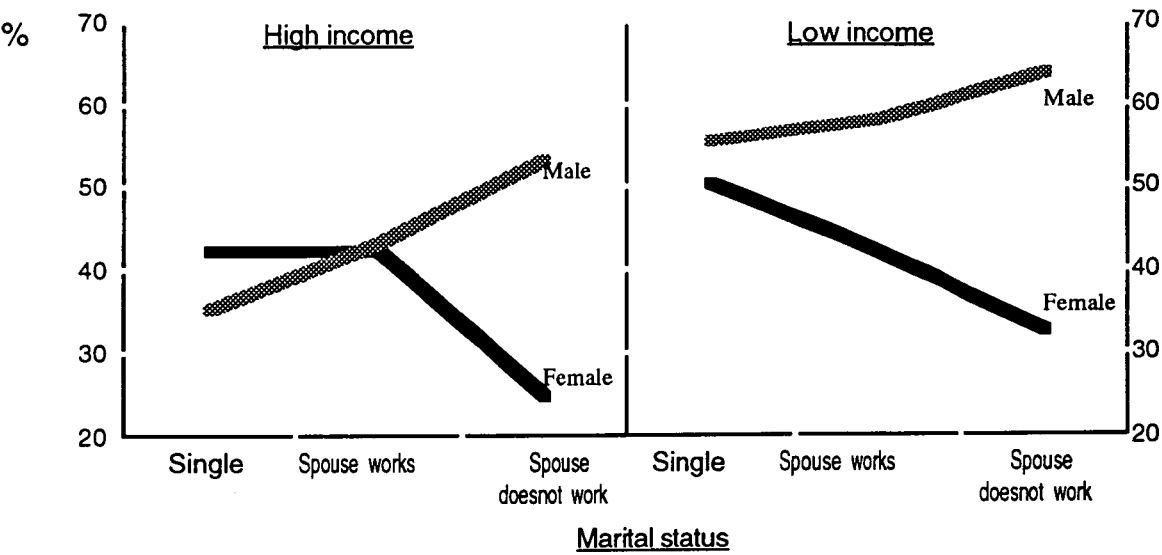
Fig. 5.9 Marital status differences in the importance of high pay:
men & women; high & low income earners

Skill level

The effect of age on ratings of high pay perhaps indicates the possibility that the importance of high pay is a function of the extent to which one is relatively powerless in society. High pay represents the opportunity of increasing power. 'Power' can refer to two different arenas of a worker's relationship to work: power within an organisation, meaning the amount of authority and/or autonomy an individual has at work; or capacities within the labour market. A concern with high pay is indicative of an instrumental orientation to work that involves seeing the salience of work in terms of rewards external to work itself. From this point of view, the young are relatively powerless in the labour market. Two other obvious characteristics of individuals that affect their labour market position are the closely related variables of levels of education and skill.

Figure 5.10 compares people aged under 35 with those aged 35 and above in terms of the likelihood of rating high pay important, controlling for income level and showing these differences separately for unskilled workers (Australian Standard Classification of Occupations [ASCO] categories of 'labourers' and 'machine operators') and professional workers (ASCO defined).
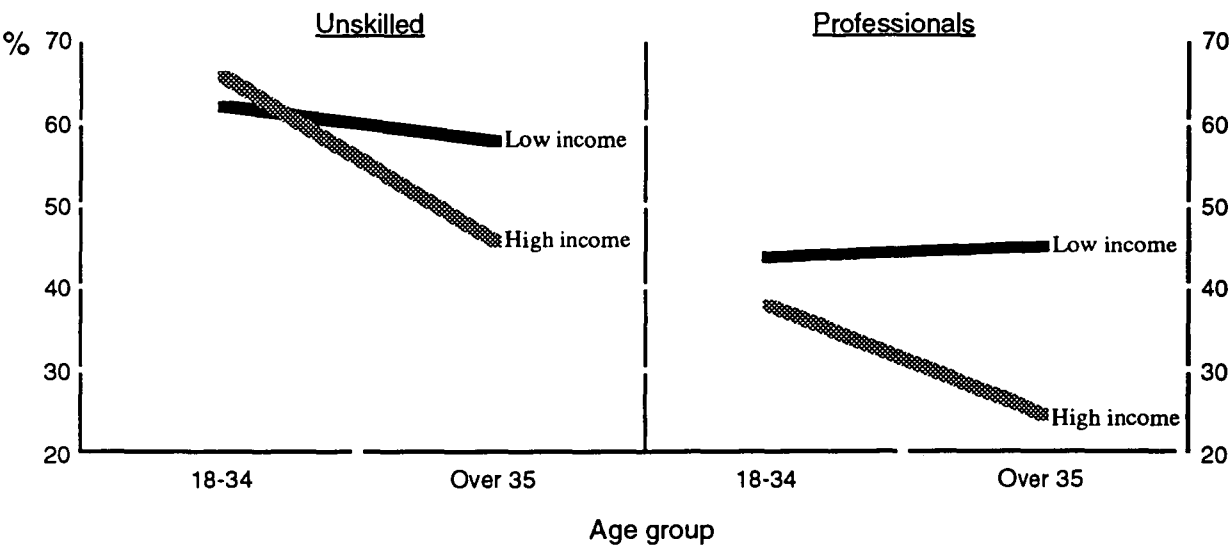
Fig. 5.10 Occupational differences and the importance of high pay:
age; high & low income earners

The graph shows that being unskilled and being young increase the importance of high pay, but both young, high-income unskilled workers and older, low-income professionals rate pay more highly than would be predicted from the general trend. The young, high-income unskilled workers are mostly male (95%) which will tend to increase the propensity of this group to rate pay highly. Controlling for gender makes no difference for the older, low-income professionals — men and women in this category are both four percentage points more likely to rate high pay as important compared all male and female older, professionals (48% and 44% men; 40% and 36% women). It is tempting to accept the most obvious explanation, that the importance of high pay to this group results from the fact that they receive relatively low incomes.

Education level

Figure 5.11 shows that generally the importance of high pay increases with decreasing levels of education. Only 29% of those over 35 years old, with a degree and a high income rated high pay as important, compared with 66% of those who are young, high

income earning and did not complete high school; and 64% of those who are young, low income earning and did not complete high school. Again, we see the gender effect increasing the likelihood for young, high income earners and did not complete high school; and the 'relative deprivation' effect for those over 35 years old, with a degree and a *low* income (which is probably also affecting the probability for older, high income earners who did not complete high school).
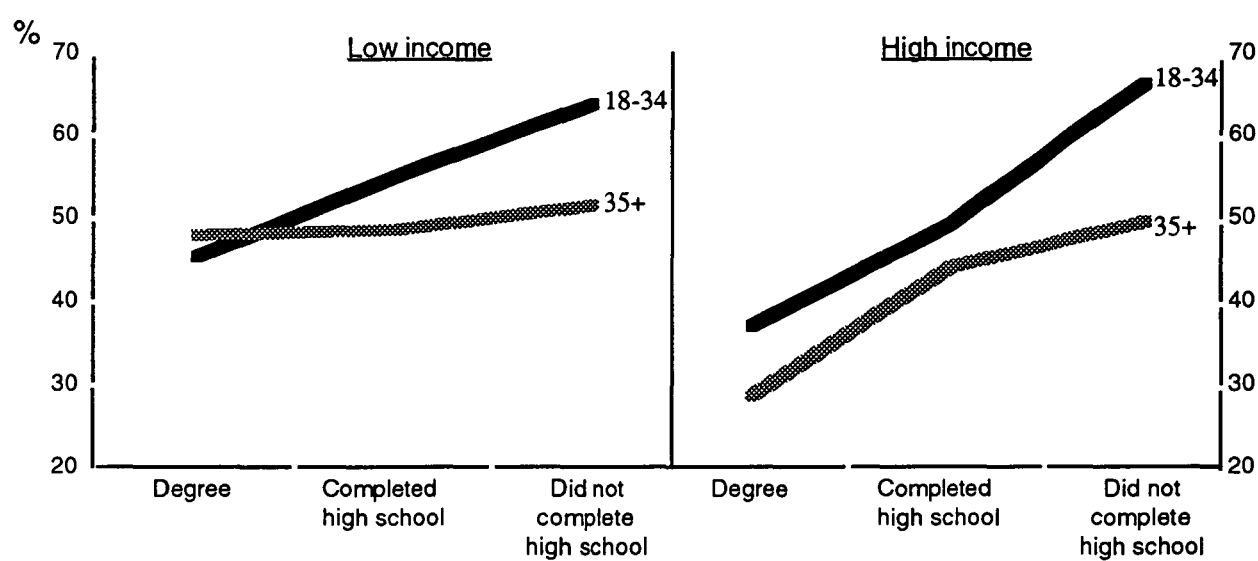
Fig. 5.11 Differences in education level and the importance of high pay:
age; high & low income earners

Summary

The proposition guiding this analysis is that an instrumental orientation is produced by aspects of one's situation that are external to the worksite. The analysis shows that being in a weak position in the labour market (being young and unskilled) and occupying the 'breadwinner' role (men with non-employed wives) increase the likelihood of seeing high pay as an important feature of a job. So, for example 24 out of 27 (89%) young, unskilled male workers with a non-employed wife rated high pay as important. By contrast, 7 out 30 (23%) professional women in the 35-44 year age group whose husbands were also employed rated high pay as important.

An orientation sustaining an interest in high pay rests on workers looking from inside their immediate work setting to external aspects of the world of work. Interest in high pay is a function of people's position in the labour market mediated through the way social roles impinge on one's experience of work.

The key principle in understanding an orientation to work that sees high pay as important is the notion of an orientation that focuses on objects that are external to the work setting itself. Four empirical findings support this view. High pay is important where:

- pay functions as a marker of 'relative deprivation' by comparison with a reference group
- workers' conceptions of job or work are vague (i.e. the example of young people beginning work), in which case pay concretises the vagueness
- work motivation is structured externally, e.g.. by the 'breadwinner' role
- people are in a weak position in the labour market

An interest in high pay features more prominently when work itself does not impinge on people. It is as though people are able to 'notice' the importance of high pay only when there are no other things to get in the way. For example, we find that people beginning work are more likely to value high pay. Obviously, one's conception of work, the reality it has for an individual, is vaguer, more diffuse and more abstract for those just beginning a career. Work takes on greater reality as it becomes more integrally part of one's life. It is then possible to 'notice' other features of work. We can infer from the data analysis that the category for whom it tends to have highest importance is traditional industrial workers, that is, men who are the household's 'breadwinner' (i.e. whose wives' are not employed) working as labourers, or machine operators. If a concern with high pay indicates an instrumental orientation to work, then such an orientation thrives among traditional male manual workers.

The importance of job security

There are two cultural variants of the 'bureaucratic' orientation: the organisation can be seen as a source of opportunities for the rewards of seniority, status and privilege and create a concomitant propensity to place high value on opportunities for advancement or promotion; or there can be a more explicit identification with and attachment to the organisation itself, so that service to the organisation and one's contribution to organisational goals become a primary source of work satisfaction. This second form is the orientation commonly used to characterise cultural differences

between work attitudes of Japanese and Western workers, with Japanese workers typically more likely to have stronger attachments to the organisations in which they work (Lincoln and Kalleberg 1989).

Fundamentally, the bureaucratic orientation values opportunities to increase one's power within organisations and so is reflected in the extent to which people prefer clearly defined opportunities for advancement through organisational hierarchies. The aspect of the orientation in which hierarchical structures of opportunity are associated with this orientation can be illustrated from a study by Lincoln, Hanada and Olson (1981) of employees of 28 Japanese firms in the US. They compared Japanese nationals, Japanese Americans and non-Japanese Americans in terms of the relationship between organisational structure and morale. They found that for Japanese employees, high morale was associated with high levels of vertical differentiation and with low levels of functional differentiation. Importantly, Lincoln et al find that this relationship was present but weaker in the Japanese-American sample and absent in the American sample. This indicates that cultural differences in conditioning of work values (and social integration) are independent of the structural characteristics of organisations. The study's importance here, though, lies in demonstrating the organisational conditions that foster such an orientation. The existence of hierarchical systems of organisational power are a necessary condition for the emergence of the bureaucratic orientation; the motivational aspect is the opportunity that authority (or, at least, seniority) provides to determine the activities of the organisation; and the orientation flourishes where there are clearly defined systems of promotion and internal career ladders.

The importance of the second cultural form of the orientation — the notion of service to the organisation or identification with organisational forms — lies in what it tells us about the salient aspect of organisational power. It is in the opportunity for people to determine how others should do things in the *organisation,* as opposed to control over one's own work.

Measurement of the bureaucratic orientation requires items that tap the extent to which people place high value on being able to move up through an organisation's hierarchies of power, privilege and prestige. Unfortunately, there is no

such item in the NSSS. The item that comes closest to reflecting this concept asks respondents to rate the important of 'job security'. This is a far from ideal substitute given its weak face validity with respect to the concept of the bureaucratic orientation, but with its connotations of continuous loyalty, its connection to the work role and its focus on organisational aspects of work (rather than work itself) the item can illustrate and indicate the sources of variation in the bureaucratic orientation.

The principal question for this section is whether a concern with job security involves a greater focus on aspects of the work setting, by contrast with a concern with high pay which results from influences that are 'outside' work. Job security is a feature of a job's location in an organisation and so reflects an interaction between work activity and the work setting. There are significant differences in the likelihood of rating job security as important both between different occupations and between different employment sectors. For example, Figure 5.12 compares professionals, clerks and machine operators (reflecting the type of work people do; $p \approx 0$); and people working for Federal, State and Local Government agencies (reflecting differences in work contexts; $p \approx 0$). There are quite substantial differences between the different occupations. Only 33% of professionals rate job security as important, compared with 44% of clerks and 56% of machine operators[5]. Similarly, even within government work, 40% of Federal government employees rated job security as important compared with 47% of State government employees and 52% of Local government employees[6].

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[5]It is important to keep in mind that it is the difference *between* categories of individuals which forms the basis of analysis rather than the actual percentages. The original ratings have been dichotomised about the median producing different probabilities within the sample for rating each item as important. For example, 50% of the sample rate high pay as important compared with 45% rating job security as important. This difference reflects the distributions across the response categories rather than the relative importance of the two items.

[6]The category least like to rate job security as important are those in the residual category 'Other sector' predominantly comprising the non-Government welfare sector and voluntary associations.
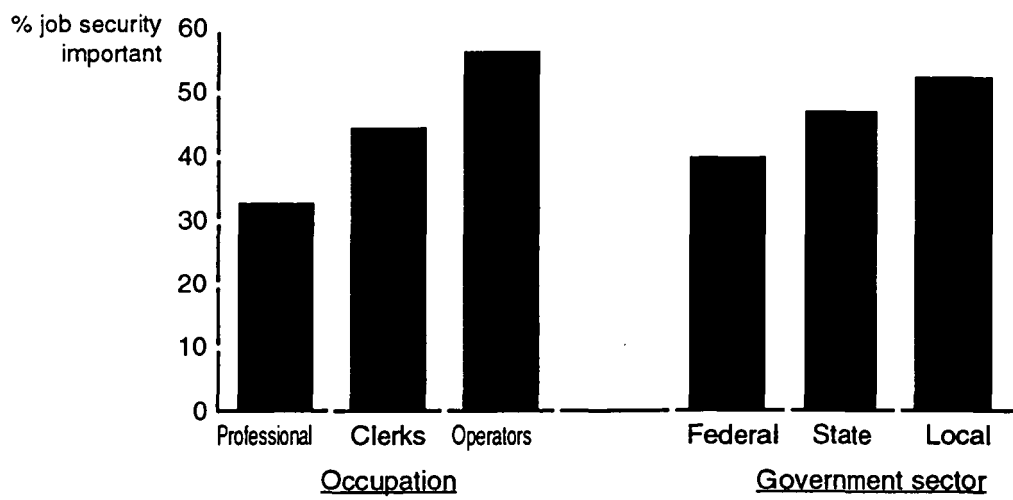
Fig. 5.12 The importance of job security:
Differences between selected occupations and Government sectors

On the face of it the data appear to indicate that a concern with job security is influenced by the type of work one does and the type of organisation in which one does it. However, to the extent that a concern with job security reflects a bureaucratic orientation, the data are not consistent with the notion that such an orientation is fostered within large, hierarchical organisations. The key to this is that it is not the organisation per se but the interaction between the type of work and the organisational context that shapes values. This can be confirmed by examining a table of the probabilities of workers in different occupations rating job security as important in different work contexts. Table 5.1 shows the variation in such conditional probability. This table reveals a wide degree of variation in the importance of job security. For example, only about 23% of professionals working in their own business think job security is important compared with 69% of clerks working in local government. Even within particular occupational categories there is wide variation. For example, machine operators working for a state government are three times as likely as machine operators working for themselves (these are mostly truck drivers) to rate job security as important.

Table 5.1 Probabilities of different types of workers rating
job security as important under different conditions

	Large (Over 100)	Small (100 or less)	Federal govt	State govt	Local govt	Private	Own business
Clerk	0.45	0.47	0.43	0.44	0.69	0.46	0.48
Labourer	0.56	0.46	0.36	0.58	0.47	0.54	0.35
Manager	0.35	0.45	0.31	0.54	0.38	0.34	0.48
Para-prof	0.52	0.48	0.53	0.52	0.38	0.52	0.33
Machine Oprtr	0.60	0.48	0.60	0.69	0.40	0.54	0.31
Professional	0.36	0.29	0.38	0.34	0.29	0.35	0.23
Sales	0.52	0.45	0.41	0.50	0.00	0.51	0.32
Trades	0.56	0.49	0.36	0.59	0.69	0.52	0.53

Given the relative crudeness of the measure, the fact that there are such large

differences gives some support to the notion that a concern with job security results

from fairly specific interactions between work activity and the work setting. The profile

for 'Local government' employees shows the most variability. This is partly a result of

low numbers (n=85 or 3% of the sample) and of distortion by an over-representation of

labourers (21% compared with 11% in the sample generally). More relevant to the

question of the interaction between type of work and the work setting are the

differences between those working for the Federal government and those who are self-

employed. These types of workplace can be expected to be polarised in terms of the

degree of bureaucratisation and the scale of operations with, obviously, Federal

government workplaces being typically larger and more bureaucratised than owner-

managed workplaces. In addition, occupational categories can be assumed to exhibit

some variation in career opportunities particularly to the extent that they reflect capacity

in the labour market (i.e. skill differences) and in organisational hierarchies (i.e.

managerial expertise).

This interaction effect is addressed in Figure 5.13 which compares people

working for the Federal government with those who are self-employed. It compares the

probability of rating job security as important for tradespeople, managers, machine and

plant operators, and professionals.
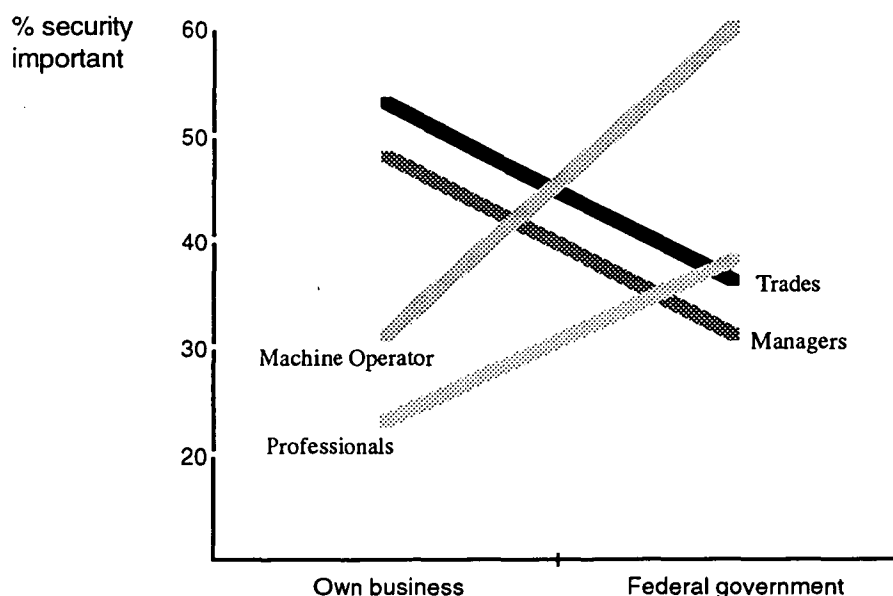
Fig. 5.13 Interactions between work setting, occupation and the importance of job security

The interaction effect is very clear in this graph. Among machine operators and professional workers, working for the Federal government increases the likelihood that job security is important. This effect is stronger for machine operators than professionals (as indicated by the steeper line for operators), and operators are more likely than professionals to rate job security as important regardless of where they work. The relationship between occupation and work setting operates completely differently for tradespeople and managers, though. In these cases, working for the Federal government *decreases* the likelihood that they will rate job security as important. Tradespeople are more likely than managers to rate job security as important, regardless of whether they work for the government or are self-employed. Skill level and managerial expertise decrease the likelihood that job security will be important.

However, it would be a mistake to see the issue in terms of what tradespeople and managers have in common, and in what way they differ from machine operators and professionals (who must also have something in common). Figure 5.13 reveals the largest difference between workers in different settings — i.e. the tendency for differences to depend on organisational context. Clerical and para-professionals show the same pattern (see Figure 5.14) with clerical workers tending to respond similarly to managers, and para-professionals similarly to professionals.

% security 60
important

50

40

30

20

Own
business

Federal government

Clerks
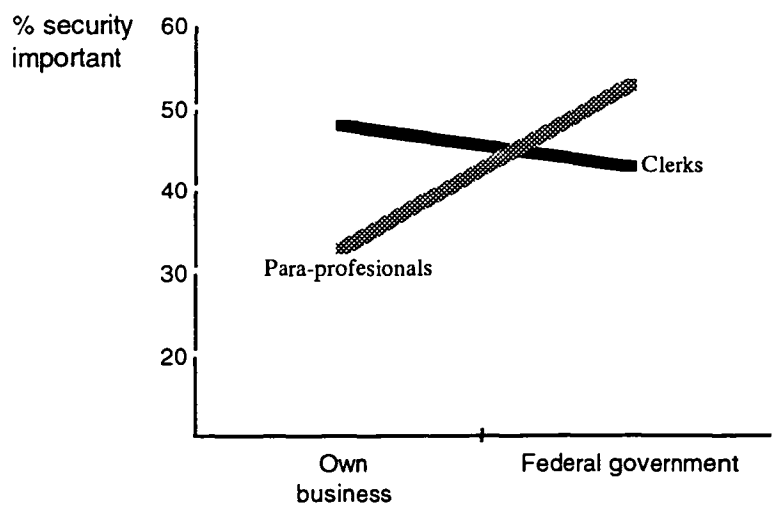
Para-profesionals

Fig. 5.14 Interactions between work setting and the importance
of job security for clerks and para-professionals

One set of relationships within this data provides some insight into the processes
conducive to attachment to job security, namely, differences between managers and
professionals. The interaction between employment context and the importance of job
security for these two occupations shows how motivation can emerge under different
conditions.

The above analysis of the importance of high pay shows that it is more
important to managers than professionals, particularly among men (and most managers
are male). So, professional workers are relatively unlikely to rate either high pay or job
security as important suggesting that professionals focus more on intrinsic aspects of
their work such as opportunities to use one's skills and doing work that provides a
feeling of accomplishment (these are examined below).

Managers although unlikely to rate job security as important are
nevertheless quite likely to rate high pay as important. This suggests that the
motivations of professionals and managers are quite different. Professionals find high
pay and job security unimportant because other features of work have more
significance. Managers, on the other hand, see job security as unimportant because such
security is incompatible with opportunities for promotion. Job security does not matter
very much if a major concern is with promotion. If this is the case, then one would
expect that job security would be less important to managers working in large,
hierarchical organisations (with more extensive internal labour markets and better

mobility opportunities) than for managers running their own businesses. This explains the interaction effect in Figure 5.14. Only about 31% of managers in Federal government organisations rated security as important compared with about 48% of managers in their own businesses. By contrast, only 23% of professionals in their own businesses rate security as important, but in Federal government organisations the probability for professionals increases to 38% — higher than managers in Federal government organisations.

We can now ask why are professionals in Federal government organisations more likely than those in their own businesses to want job security. One explanation is that people who want job security choose to work in the Federal government precisely because it offers such security. An alternative argument might be that it is experience of a bureaucratic work-setting that produces a concern with job security. That is, it is working in a bureaucracy that has an homogenising effect. If this is the case, it can be predicted that the longer professionals work in the Federal government, the more likely they would be to see job security as important. Figure 5.15 confirms this effect, using age differences as a surrogate measure of experience of working in the Federal government (i.e. it assumes that older age groups will have a larger proportion of people who have spent a long time in the organisation). The differences are not statistically significant here, but the graph shows a trend that is consistent with this hypothesis, i.e. among professionals in the Federal government, those over 34 years old are more likely than younger people to see job security as important. This cannot be attributed to an age effect, because the trend is reversed for the self-employed.
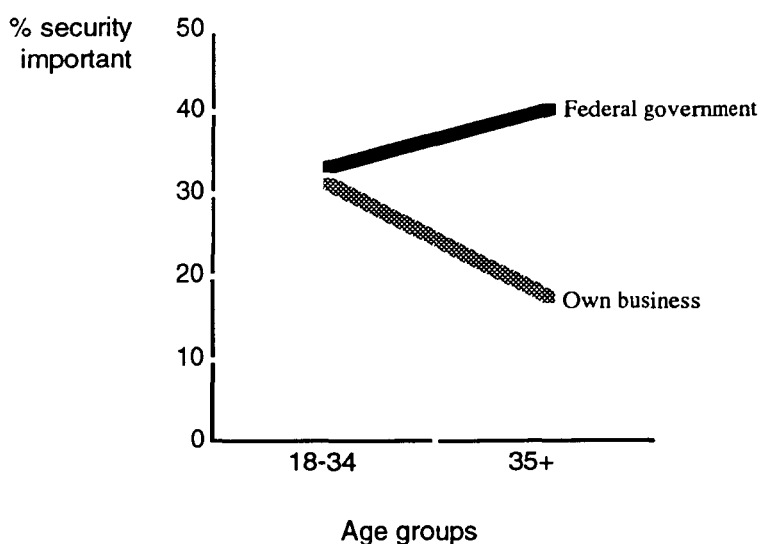
Fig. 5.15 Age effects on the importance of job security:
self-employed or federal government professionals

This increased concern with job security among professionals working in Federal government organisations shows how an increased engagement with bureaucratic work activity is related to the likelihood that characteristics of the organisation (actual job security) become a feature of the work motivations of those embedded in it. The bureaucratisation of professional work entails not only the circumscription of professional judgements but the internalisation of work values typifying employees in bureaucracies.

The data tell us two things so far. Firstly, the determinants of an interest in job security are not to be found specifically as a feature of organisations, nor as a feature of the type of work one does. An interest in job security results from the interaction between these two sets of features. At first sight, this interaction suggests that the critical determinant is the actual job but this is disconfirmed by the relationship between job security and the degree of security associated with one's employment status. Evidence for this can be found by comparing the ratings of the importance of job security for those in temporary work with those in permanent full-time work. In fact, there are small but statistically significant differences between part-time workers, temporary workers and full-time workers who provide probabilities of rating job security as important of .40, .45 and .47 respectively (p = 0.029).

Secondly, the data show that employment in such an organisation is not related to a concern with job security. Employment by the Federal government provides high job security. By contrast, a low level of job security must be one of the most striking features of self-employment. Tradespeople, managers and clerks in a secure setting (the Federal government) are indeed less likely than those in an insecure setting (self-employment) to say that job security is important, but machine operators, para-professionals and professionals in an insecure setting are less likely than those in a secure setting to say that security is important.

Education level

All this suggests that certain types of work in certain settings bring job security into prominence, thus increasing the probability that it gets noticed as a desirable feature of a job. However, a possible alternative argument would suggest that occupational differences reflect educational differences that, in turn, relate to one's position in the labour market and that this is the source of a concern with job security. That argument would be that job security will be more important to those with least power in the market — a similar argument to that tested, and found to hold true, for a concern with high pay. This argument can be examined through an analysis of the way in which educational differences affect the importance of job security for people in different employment contexts.

Figure 5.16 compares people with different levels of education in terms of the probability of rating job security as important. The trend is clear. People with higher levels of education are less likely to rate job security as important and, particularly, those with degrees are much less likely than others to claim that job security is important ($p \approx 0$). Differences between the categories of credentials — 'trade qualification', 'certificate' and 'degree' — indicate that improved position in the labour market is associated with lower valuations of job security.

Possesion of trade qualifications locates people more in terms of their years of schooling than any effect of having a credential. As we have seen, self-employed tradespeople (compared with those working for the Federal government) tend to rate job security as important, and it may be that a trade qualification is an established route into

one's own business whereas a degree operates most effectively in markets in which credentials have high value. A trade qualification constitutes a right to trade, a degree signifies expensive labour.
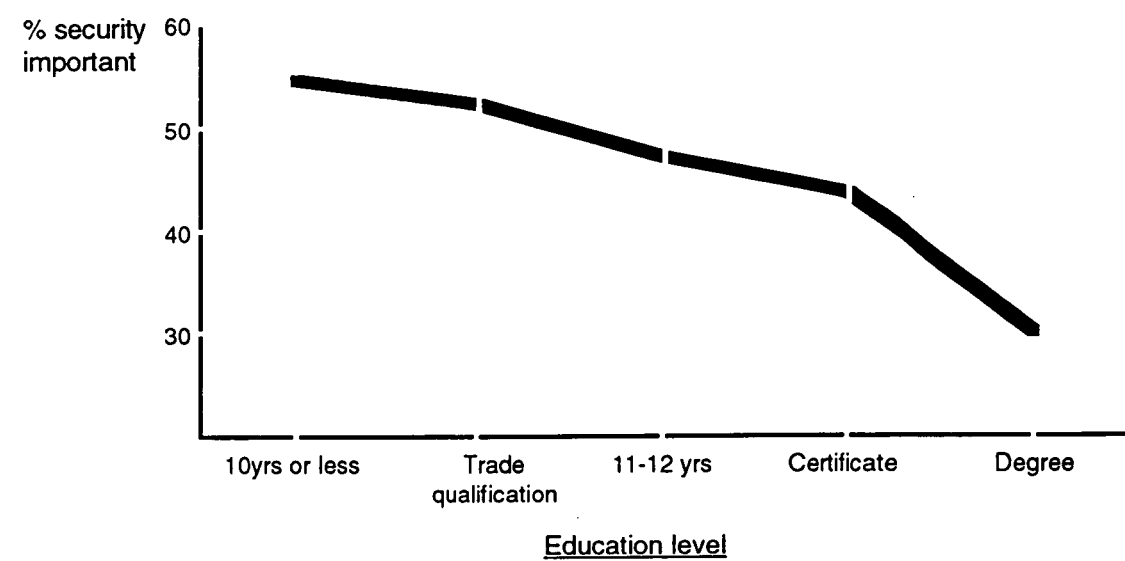
Fig. 5.16 Education level and the importance of job security

Self-employment

The differences between people with trades qualifications and those with degrees actually increases marginally (from a difference of 24.6% to one of 25.1%) when the effect of self-employment is taken into account — that is, when differences are compared separately for employed and self-employed. Figure 5.17 shows the difference between degree holders and trade-qualified people in terms of the probability of rating job security as important. There is a difference between graduates and the trade-qualified, whether or not they are self-employed, but this difference is greater among the self-employed.
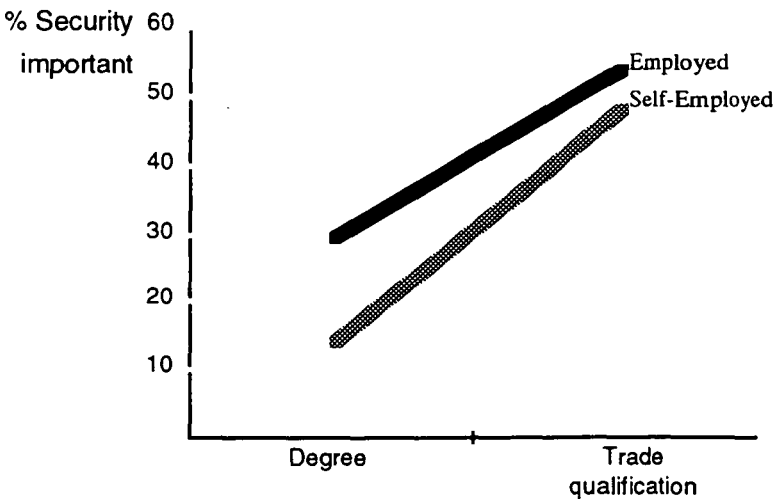
Fig 5.17 The effect of self-employment on valuation of job security, controlling for qualification

In fact, self-employed people tend to evaluate job security less highly than employees. Again, the graph reveals the interaction between the variables, with the differences between employees and the self-employed being greater among graduates.
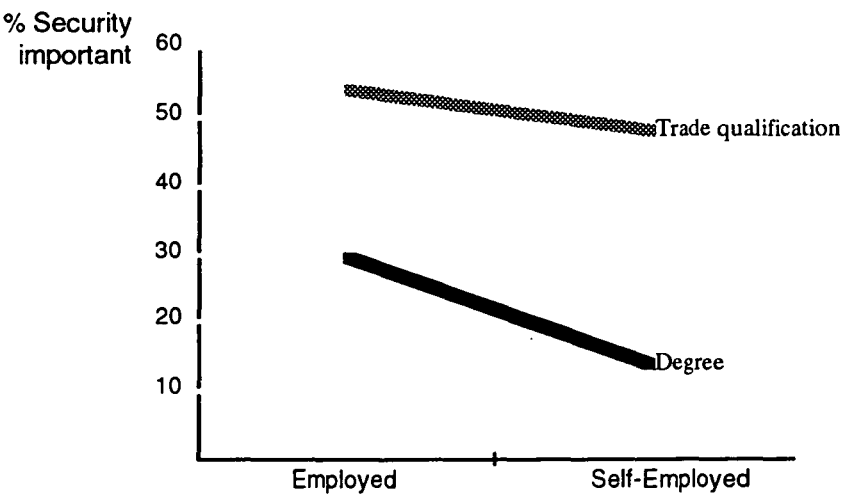
Fig. 5.18 The effect of self-employment on valuation of job security, controlling for qualification

However, the trades-qualified *are* more likely than graduates to be self-employed. About 8.3% of tradespeople are self-employed compared with 2.6% of graduates. So tradespeople are about two and a half times more likely to be self-employed, lending weight to the notion that a trade qualification is a more typical route into self-employment while the value of degree tends to be realised more in organisational, particularly bureaucratic, settings.

This means there are two separate effects relating qualifications to the importance of job security. There is a direct effect in which tradespeople are about 25%

points ahead of graduates in seeing job security as important. There is also an indirect effect, with tradespeople being more likely than graduates to be self-employed (about 5% points more likely), and a suppressor effect with the self-employed being *less* likely (about 11% points) to see job security as important. Figure 5.19 re-organises these effects into a 3-variable causal model.
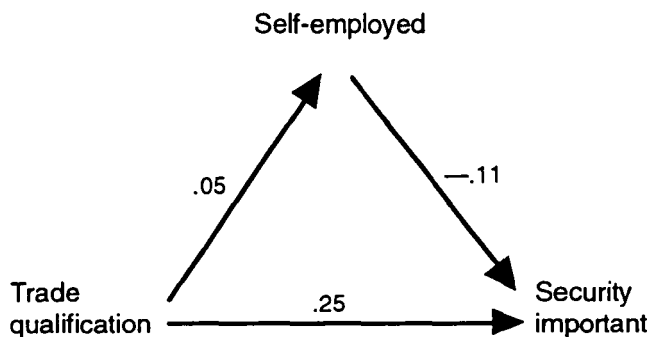
Fig. 5.19 Association between qualification, self-employment and valuation of job security

This effect of self-employment lends further support to the claim that valuation of job security is a feature of workers' experience of jobs. Self-employment implies an experience of work in which work activity is more likely to involve relatively informal routines and minimal procedures (compared with jobs in the Federal government, for example). It is tempting to see in this a polar opposition between an interest in autonomy and a concern with job security. Culturally, self-employment is associated precisely with terms of independence and autonomy, embodied in the notion of a desire 'to be one's own boss'. This is consistent with the second effect in the model, that highly-qualified people are relatively unlikely to find job security important. We know that higher levels of education increase the probability of individuals occupying positions of power and responsibility in organisations and we have just seen that a higher level of education reduces the probability of finding job security important. Both effects in the model lend weight to the idea that a concern with job security is inversely related to the degree of control over one's own work. This is consistent with the idea that the bureaucratic orientation flourishes when organisational hierarchies impinge on workers' consciousnesses. This can be tested further by examining differences between workers in terms of the relationships between the extent to which they supervise others, their income and trade union membership

Authority

Supervisors are less likely than non-supervisors to rate job security as important. About 42% of supervisors say that job security is important compared with 50% of people who are not supervisors, a difference of about 8% (p ≈ 0). This suggests that an increasing degree of formal authority in an organisation is associated with a lower probability of rating job security as important. To test this, people at the bottom of organisational hierarchies can be compared with those at the top. This involves comparing people who are not supervisors and who are supervised by people who are also supervisors ('juniors') with people who have no supervisor and who supervise people who are themselves supervisors ('seniors'). Seniors are much less likely than juniors to rate job security as important. About 37% of seniors rate job security as important compared with 52% for juniors (p = 0.007).

Income

The data include no variable that can be used to estimate control people over own work. However, if it is accepted than those with the capacity to make decisions and exercise judgement in their work will command higher salaries, then income can act as a rough surrogate measure. Comparing income effects, we find that well-paid people are less likely than lower income earners to rate job security as important. About 43% of high income earners rated job security as important compared with 49% of lower income earners (p = 0.007).

However, supervisory work itself demands higher levels of control over one's own work. Given that supervisors are less likely than non-supervisors to rate job security as important, it is necessary to test that the effect of income differences on ratings of job security do not simply reflect differences in position in the organisation. This can be accomplished by examining each relationship while controlling for the other.

Firstly, and not surprisingly, we find that supervisors are much more likely than non-supervisors to receive higher incomes (69% compared with 38% of non-supervisors). More interestingly, when we look at the relationship between being a supervisor or not and ratings of the importance of security we find that differences are

affected by one's level of income. Supervisors (as is indicated above) are less likely to rate job security as important than non-supervisors but, as Figure 5.20 shows, the difference is greater between higher-income than lower-income earning supervisors.
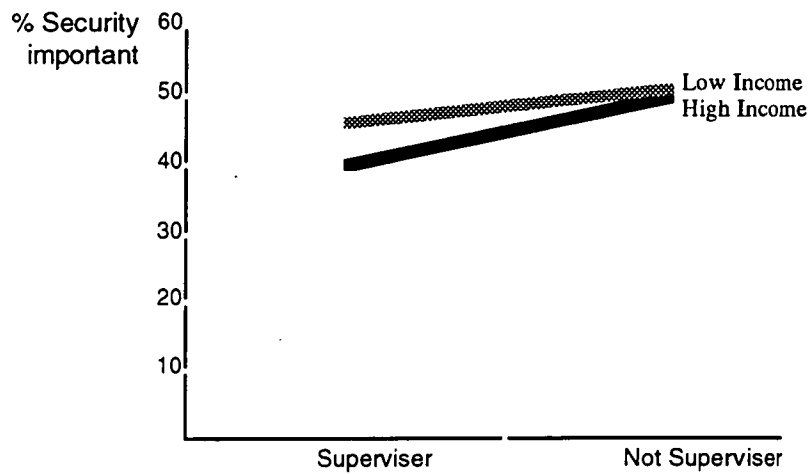
Fig. 5.20 Supervisory level effects on valuation of job security, controlling for income

We can inspect this more closely if we interrogate the difference between high and low income earners. Figure 5.21 shows that low income earners are more likely than high income earners to rate job security as important, but this is particularly the case among supervisors. In fact, it almost appears that the relationship between income and job security applies to supervisors but not non-supervisors. Among non-supervisors, about 50% of high income earners rate job security as important compared with 51% of low income earners, whereas among supervisors, about 40% of high income earners rate job security as important compared with 46% of low income earners.
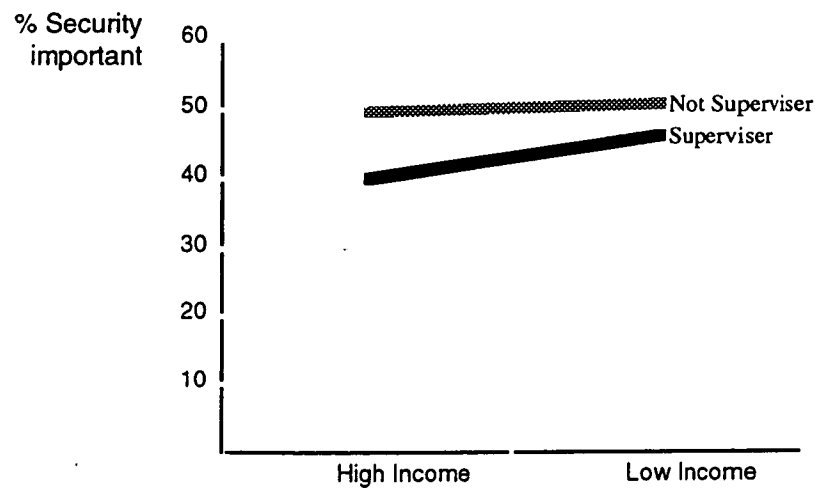
Fig. 5.21 Income effects on valuation of job security, controlling for level of supervision

People on high incomes whose work involves supervising others are precisely those who are most likely to have a high degree of control over their own work. These people are relatively unlikely to rate job security as important.

Trade union membership

Lastly, with respect to job security, trade union members are more likely than non-members to rate security as important. About 44% of non-members rate job security as important compared with 50% of members (p = 0.005). It seems plausible to suggest that union membership will be more appealing to those with least control over their own work.

Summary

The data are consistent with the argument that a concern with job security reflects an aspect of the experience of work deriving from one's location in a work organisation and the characteristics of that organisation. More specifically, the data suggest that job security derives from the interaction between the organisational context and the type of work one does. In particular, the data suggest that a concern with job security is inversely related to the degree of control one has over one's work.

The importance of opportunities to use skills

So far, the data have shown that the importance people attach to high pay and to job security represent different features of work and the ways in which they become prioritised. High pay, as a value, is associated with aspects of lifeworlds that are external to the individual's specific work setting and work activity. An interest in high pay is associated with particular career trajectories and the interplay between work and the experience of roles outside employment.

Job security reflects the way in which the interaction between the type of work and the work setting bring certain priorities to the fore. Concern with job security appears to be tied closely to choices that present themselves at work, rather than things that people bring to work, as is the case with pay. The data indicate that job security emerges as a priority under specific work conditions produced through an interaction between the type of work and the work setting. This suggests that pay is *more* external to the work setting than is job security. The focus of this section is an examination of

evidence for the case that a positive valuation of opportunities to use one's skills at work represents a more intensely intrinsic motivation than is represented by high pay or job security. In other words, individuals' work priorities can be described in terms of the extent to which their focus is specific to situations outside of work or that represent more general values that are actualised through work. This reflects the single dimension underlying work values posited in the introduction to this chapter.

The opportunity to use one's skills connotes intrinsic motivation, in that it is performance of the work itself that is the source of gratification through, for example, feelings of pride. Conceptually, however, skill is more complex than this because its capacity to generate gratification is partially dependent on external objects. In traditional terms, skill is both a feature of individuals and a set of cultural objects especially shared by occupational categories and crafts. That is, skill defines both crafts and craftsmen, or both the medical profession and doctors. Therefore, the referent of the skill variable denotes two different capacities for gratification: skill as an expression of vocationality and occupational identity implying dependence on objects external to the individual; and skill as the expression of selfhood actualised through creative (expressive) work.

There is some indirect evidence that skill constitutes an expression of selfhood in the relationship between the salience of religion and the importance of opportunities to use skills at work. Respondents were asked about the personal importance of religion as a part of a battery of questions on religion and religious belief. Four responses were offered — no importance, little importance, some importance and great importance. Figure 5.22 shows that the more important religion is to a person, the more likely they are to say that opportunities to use their skills constitutes an important feature of a job (p = 0.045). There are statistically significant relationships between the importance of religion and some of the other work priority variables (negative for high pay, positive for job security and friends at work), but the relationship with skill is the only one approximating monotonicity.
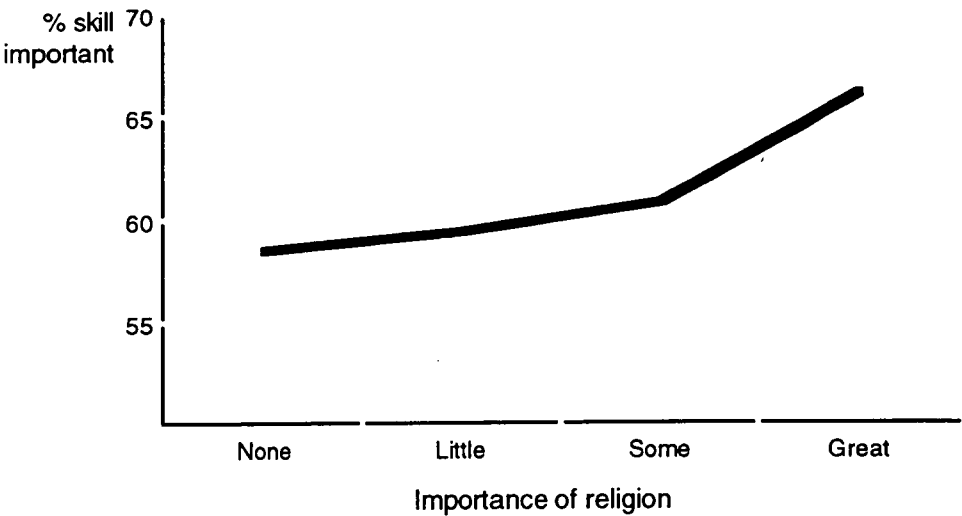
Fig. 5.22 Relationship between importance of religion and importance of skill

Gender

A surprisingly large number of people claim that religion is important to them. About 57% of the sample claim that religion has great importance (22.3%) or some importance (34.4%) to them. A critical point is that women are more likely than men to say that religion is of some or great importance to them.
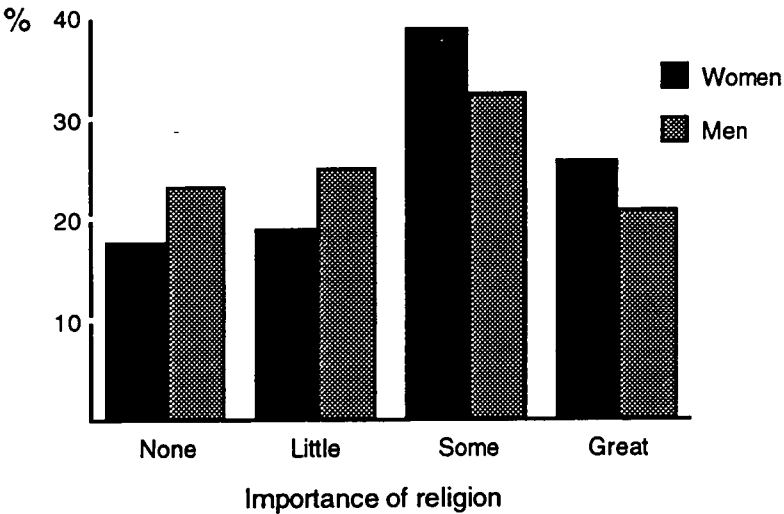
Fig. 5.23 Gender differences in the importance of religion

This difference between men and women is repeated in valuations of the importance of skill. The opportunity to use skills at work is more to women than men. About 62% of men say that skill is important, compared with 67% of women (p=0.004). There is a strong and consistent gender effect in the determinants of the propensity to value skill,

but this is independent of the relationship between gender, religious importance and the skill variable.

Figure 5.24 shows the relationship between the importance of religion and the importance of skill controlling for gender. The question is whether the tendency for women to see skill as important is because they are more likely to say that religion is important to them given that those for whom religion is important are more likely to say that skill is important. The graph clearly shows that for men, if religion is important then skill is important (63% compared with 57%, p = 0.012). However, for women, the importance of religion makes no difference to the importance of skills. This indicates two different effects. A gender effect and an effect of religious orientation that applies only to men.
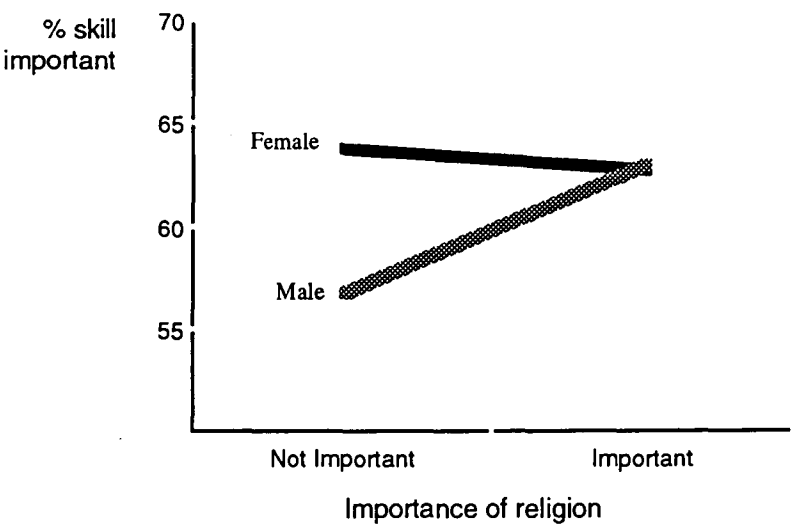
Fig. 5.24 Gender differences in the relationship between the importance of religion and skill

The fact that, among men, those who claim that religion is important to them are also more likely to say that the opportunity to use skills at work is also important suggests that skill is associated with values that are central to the individuals' life and that transcend specific work situations. The religion variable is important because it highlights an association between the work value variable and a variable that is external to work itself, but external in a different sense from the externalities we found associated with an interest in high pay.

This difference is reflected in the way in which age and an interest in opportunities to use skills interact. Overall, the importance of high pay tends to decrease

as people get older (see Figure 5.4). Figure 5.25 shows that skill works in the other direction and the importance of skill increases as people get older. It is suggested above that people just entering employment lack concrete conceptions of work or of jobs and that pay concretises this vagueness. The relationship with age suggests that skill increases in importance as the complexity of such conceptions develop with experience of work.
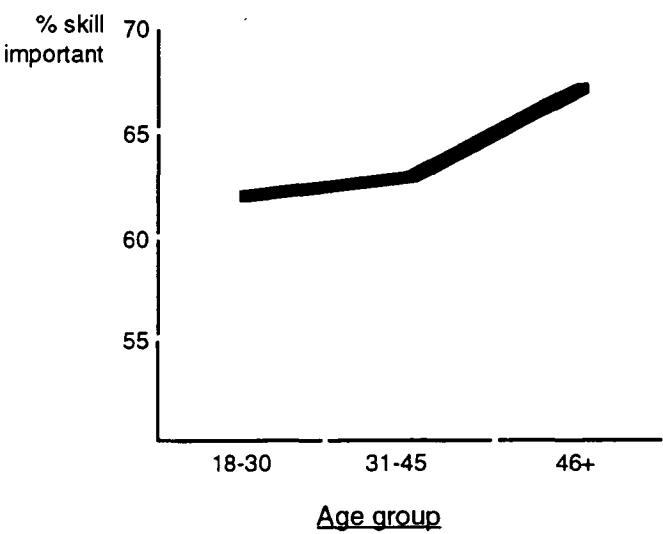
Fig. 5.25 Age differences and the importance of skill

Unlike the importance of religion, the relationship between age and the skill variable work similarly for men and women. Figure 5.26 shows that for women, the importance of skill increases evenly over the three cohorts. For men, there is no difference between the two younger groups, but a substantial increase for those in the over 45 age group (from 60% to 66%, p=0.038).
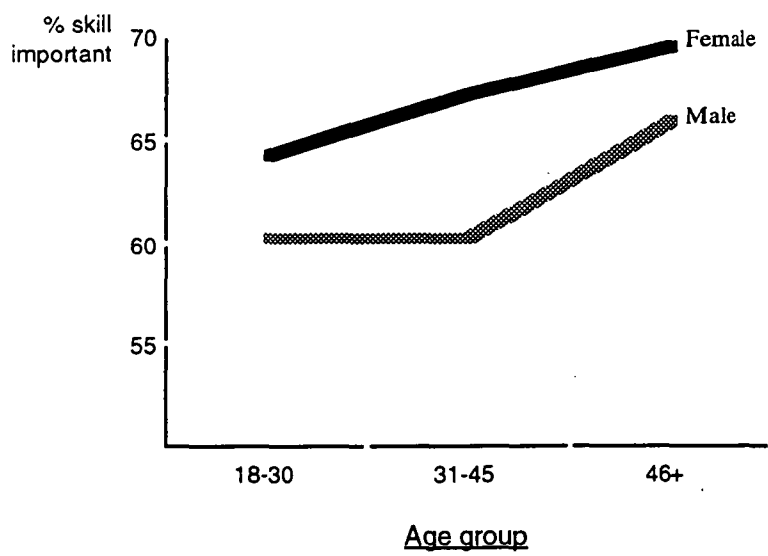
Fig. 5.26 Gender differences in the relationship between age and the importance of skill

Marital status

In examining the importance of high pay, marital status as a proxy for life-cycle differences, yields no significant difference between married and single people. For the skill variable, however, marital status does make a difference, for women at least. About 62% of single women find opportunities to use skills important, compared with 68% of women who are married (regardless of whether their husbands work). By contrast, there is very little difference between single men and married men whose wives are not employed (approximately 60% for both categories), while 65% of those whose wife is employed find skills important. In examining the importance of high pay it is shown above that women with non-working husbands tend to be in employment for non-financial reasons. Figure 5.27 suggests that skill is more important when financial motivations are less important. This interpretation finds support in the data for men, with those furthest from the traditional breadwinner role (those whose wives work) being most likely to find skill important.
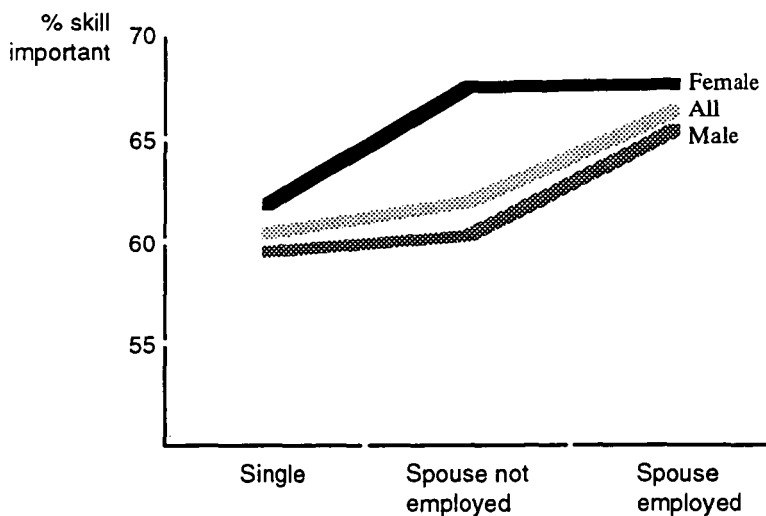
Fig. 5.27 Gender differences in the relationship between
marital status and the importance of skill

Education

The examination of the determinants of an interest in high pay and job security above

tests the argument that people will value aspects of work that are 'missing'. It looks at

the relationship between income and the importance of high pay, and the relationship

between employment situation and the importance of job security. This form of

argument would need to be modified to make sense of the skill variable. It is a

contradiction to suggest that opportunities to use skills will be important to those who

have no skills. One would predict that the importance of opportunities to use skills

would increase as a function of one's skill level because individuals invest in skill.

Figure 5.28 uses qualification as a proxy for skill level to examine the relationship

between qualification and the importance of opportunities to use skills comparing men

and women separately ($p \approx 0$). The graph shows an additive effect of qualification for

women, with those with certificate-level qualifications (67%) finding skill more

important than those with no qualification (62%), while those with degrees most likely

to find skill important (77%). The effect of trade qualifications (with 74% claiming skill

is important) is discussed in more detail below.

The situation for men is quite different. Having a credential does make a

difference to the probability of men evaluating opportunities to use skills as important

— but there is no difference between types of credential. Among those with no

qualification, 57% rate skill as important compared with about 67% for those with trade qualifications or other certificates, and 65% for those with degrees.
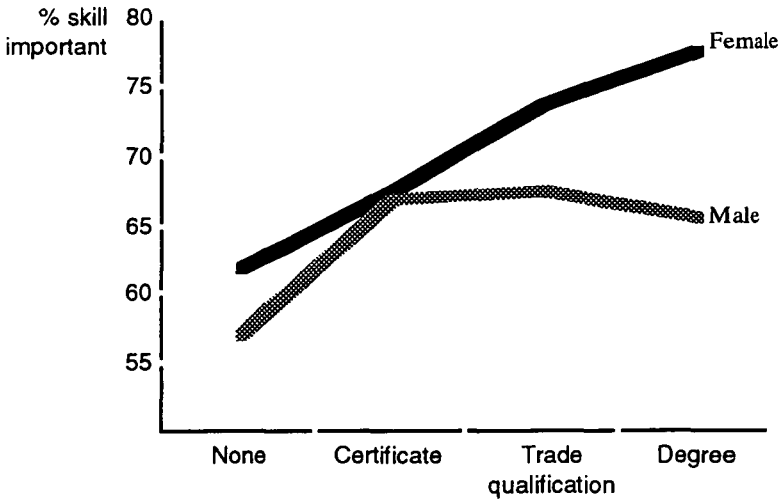
Fig. 5.28 Gender differences in the relationship between qualification and the importance of skill

Age, gender and education

A clearer picture of the pattern in the relationships between skill levels and the importance of opportunities to use skills at work can be seen by simultaneously comparing differences between men and women of different age categories. Figures 5.29, 5.30 and 5.31 display the variability in the relationship between four demographic groups: women under 46; women 46 or over; men under 46; and men 46 or over. This categorisation shows substantial variability in the relationship between qualification level and the importance of skill, with about 82% of older women with degrees rating skill as important compared with 54% of young, non-credentialled men (p<=.01 for all relationships).

Figure 5.29 compares young women and older men who show a similar profile with respect to evaluations of the importance of skill at different qualification levels. For both groups, those with trade qualifications are most likely to rate skill as important (79% of women, 74% of men), and certificated people are least likely to (62% of women, 60% of men). The curious feature of these groups is that in each of them, graduates are less likely than trade-qualified people to claim that opportunities to use skills at work are important (75% of women, 69% of men). At the same time, unqualified people, while less likely than graduates to rate skill as important, are more

likely than certificated people to value skill opportunities (63% for women, 61% for men).
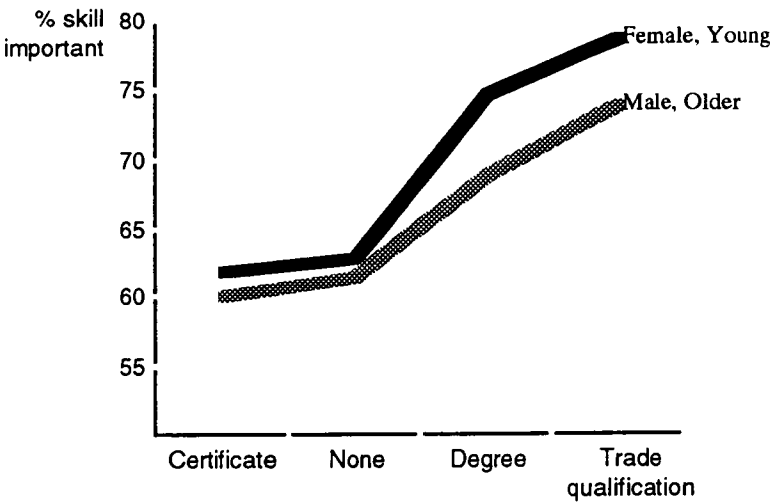
Fig. 5.29 Relationship between qualification and
the importance of skill for specified sub-groups

Among older women, graduates are more likely than any other group to rate opportunities to use skills at work. About 82% of older female graduates place high value on skill, compared with 77% of those with other certificates, while the trade-qualified and unqualified rate skill similarly (60% and 61%, respectively). Overall, about 67% of women rate skill important, so actual skill level, as indicated by qualification, makes quite a difference to older women.
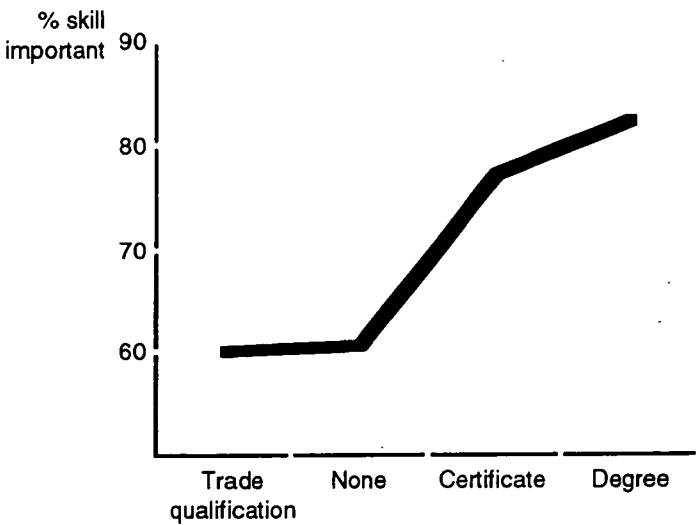
Fig. 5.30 Relationship between qualification and the importance of skill for older women

Young men with no qualification are the group least likely to rate skills as important. About 54% of this group place high value on opportunities to use skills at work. The

trade-qualified and graduates are equally likely to rate skills highly (63%), while those

most likely see skills as important are the certificated (72%).
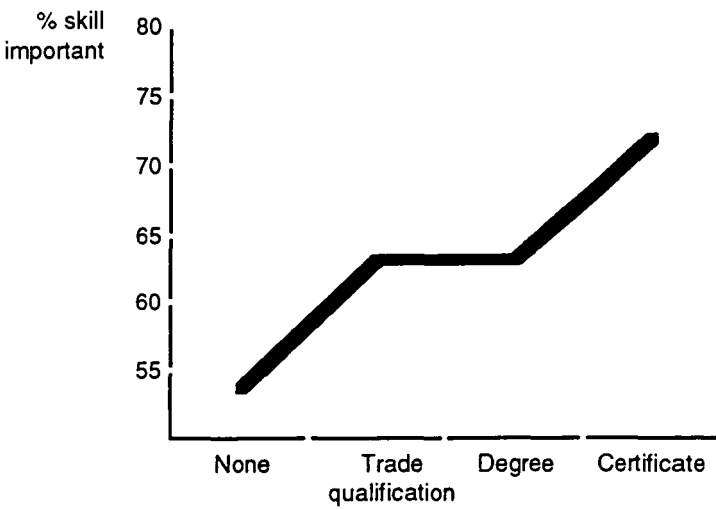
Fig. 5.31 Relationship between qualification and the importance of skill for young men

We can now seek an explanation of these variations in the interaction between age,

gender qualification and valuation of the opportunity to use skills. Among younger

people, trade-qualified women and certificated men are most likely to rate opportunities

to use skills as important. These qualifications are general categories that can be

examined at finer levels of detail. In fact, the most common trade qualification for

women is in the area of hairdressing and beauty therapy, while for men the most

common areas are fitting and turning, carpentry, plumbing and so on.

Similarly, comparing differences within the category of 'other certificates',

the most common qualification for women is a nursing qualification, while for men it is

in the fields of electronics, computing and specialist electrical work. We saw earlier that

about 67% of certificated women saw opportunities to use skill at work as important,

while the figure was 74% for the trade-qualified. Figure 5.32 compares women in terms

of the relationship between qualification and the importance of skill for selected fields.

Nursing and secretarial qualifications account for most fields with certificate level

qualifications for women — about 31% of women with certificate level qualifications

have nursing qualifications while 43% have secretarial qualifications. All those with

trade qualifications are in the area of hairdressing and beauty therapy. A comparison of

these three fields of study shows quite wide variation in terms of the importance of

skill. Figure 5.32 shows that those with nursing are most likely to rate skill as important, with 78% of these women placing high value on skill. This compares with a similarly high value for those with hairdressing qualifications (74%), while only 51% of those with secretarial qualifications rate skill as important (p = 0.001).
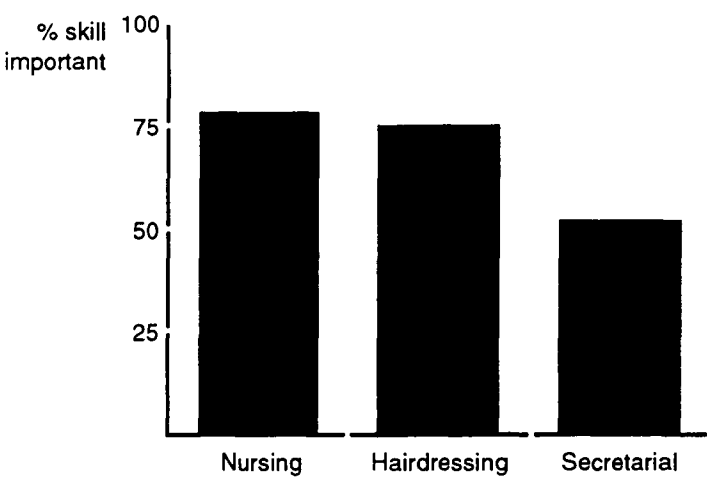
Fig. 5.32 Differences in the importance of skill for women with selected qualifications

Women with secretarial qualifications, at 51%, show a lower than the average probability of rating skill as important (67% is the average for women). On the other hand, those with both nursing qualifications and hairdressing qualifications have a higher probability. However, the nature of the work of nurses and hairdressers suggests that opportunities to use skills at work has different meanings for these types of respondent. The gratification derived from the use of skills for hairdressers is immediate and intrinsic to the work. The use of skill for hairdressers is, from the point of view of the client, almost identical with the service being purchased. The client's appreciation of the service is an appreciation of the exercise of the hairdressers skill. The hairdresser experiences feedback from that exercise as intrinsic to the work itself and consequently skill constitutes the core of actual work activity. Working conditions, relationships with employers and co-workers, facilities and so on may all affect the experience of work. But work activity for the hairdresser is almost entirely made up of discrete blocks of work in which she exercises a clearly identifiable set of manual skills and aesthetic judgements. This results in a recognisable product that is evaluated immediately by the consumer of that product.

The work of nurses is not like this though. In the main, the work of nurses involves the implementation of routines and procedures embedded in hospital practice. Skill, as it features in the work of hairdressers, is not a prominent component of nursing work. This is not to say that nursing does not involve the exercise of complex, technical skills but that in the day to day work of nursing these are more remote than the skills of the hairdresser. Skills, though, are centrally important in defining nursing as a profession in which the notion of vocation and the sense of the work activity itself has meaning relative to values that transcend the day-to-day activity of the nurse's work.

This implies that nurses and hairdressers find distinct and separate meanings in the question of the importance of opportunities to use skills at work. Hairdressers respond to the question specifically in terms of a conception in which skill is a characteristic of themselves that defines their competences and worth as a capacity to produce a quality product. For nurses, though, skill at work does not have the same immediacy. Rather, nursing skills are bound up with a definition of nursing as a category that has a significance that transcends the mundane routines, asocial hours and tiring tasks of the job. The 'opportunity to use skills' marks out participation in an occupational group perceived as motivated by values highly esteemed in society. A positive response to the skills question indicates commitment to the vocationality and devotion to credo embodied in the profession rather than a description of what is important about a specific job, work setting or set of tasks.

This explains why secretarial qualifications do not produce a high valuation of skills at work. In general, the skills that secretarial credentials indicate provide access neither to participation in an occupational collectivity nor direct gratification from the exercise of explicit, significant identifiable skills. In addition, secretarial work occurs in settings contextualised by cultural systems that deprecate work traditionally performed by women in positions where they are routinely adjuncts to the 'important' work of men. By comparison, for nurses, also typically subordinate to men, skill is objectified external to the worksite; and female hairdressers are likely to be either self-employed or employed by women.

The discussion so far has blurred distinctions between qualifications as markers of skill level and occupations as generic situations in which skill is exercised. In fact, there is a fairly tight link between the two. Figure 5.33 compares occupations in terms of the differences in the importance of skill, showing a pattern that is consistent with the argument outlined above.
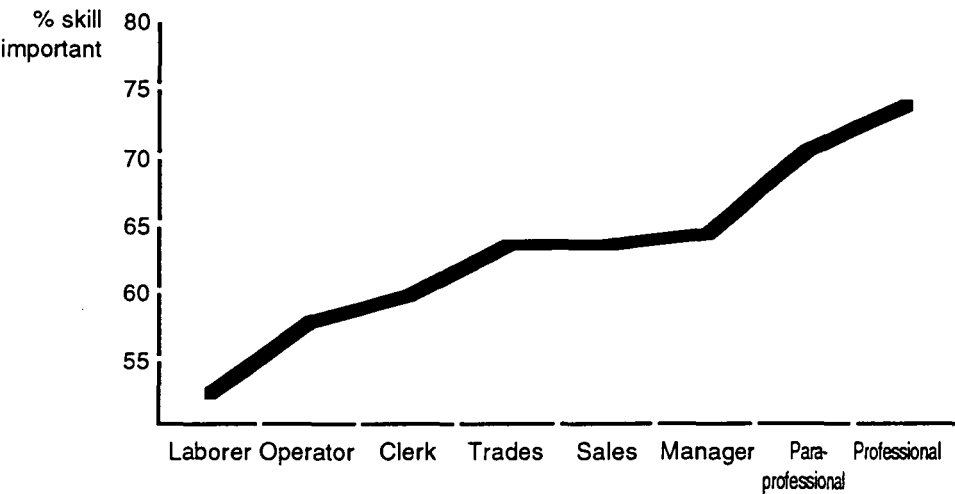
Fig. 5.33 Differences in the importance of skill for different occupations

This overall pattern conflates some important differences between men and women. Figure 5.34 shows the relationship between occupation and the importance of skill separately for men and women ($p \approx 0$ for women, 0.007 for men). Differences between male and female clerical workers, para-professionals and professionals can be explained in terms of the processes identified in the discussion of the effect of educational qualifications. There are some notable anomalies where the gap between men and women is larger or smaller than might be expected simply from gender differences. The most striking example is among unskilled workers ('Labourers') where men are actually more likely than women to find skill important (55% of male labourers compared with 49% of women. Unskilled female workers were not particularly interested in high pay or job security. This seems to indicate that work tends not to be a particularly important feature of the lives of unskilled women.
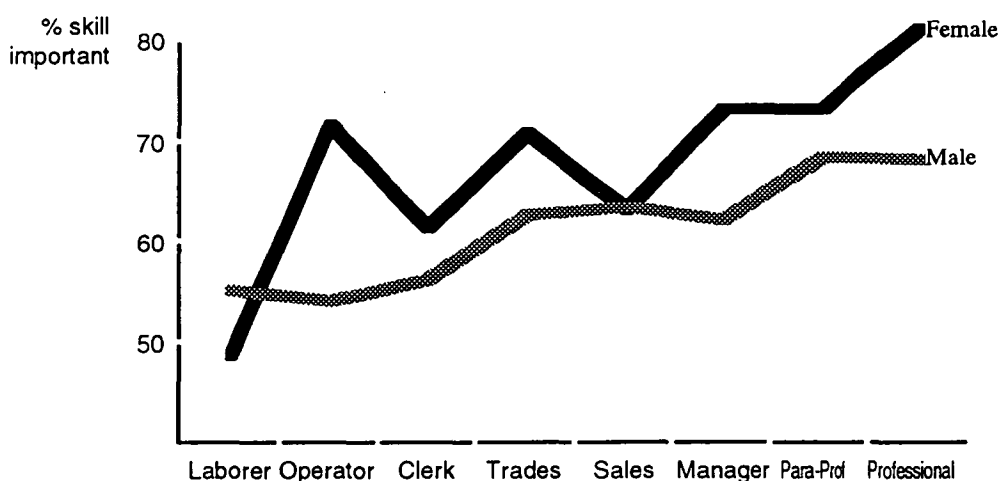
Fig. 5.34 Gender differences in the importance of skill for different occupations

The difference between male and female machine operators, on the other hand, is much greater than the simple gender difference. An examination of occupational differences at a finer level of detail gives some indication of the source of this difference. Firstly, there is only a very small number of female machine operators — 46 compared with 175 men. For women doing 'women's work' skill is not important — for example only 8 of the 14 (57%) textile sewing machinists rate skill as important. What produces the relatively high percentage for the general category of machine operators is the tendency for women who do work that is normally performed by men to rate skills highly. For example, there are only three female truck drivers, but all three say that the opportunity to use their skills at work is important. By contrast, there are 59 male truck drivers of whom 54% see skills as important.

The general implication of these specific examples is that it is not the type of work per se that leads a high valuation of the opportunity to use skills. Rather, there has to be something intrinsic to work that brings the significance of skill to recognition; either by socialisation into the values defining an occupational collectivity (e.g. nursing); or where the exercise of skill is a conspicuous feature of the production of the good or service (e.g. hairdressers); or where skill impinges on the worker because exercise of skill denotes specialness (e.g. female truck drivers or computer technicians).

The importance of a sense of accomplishment

The last measure of work values is responses to the item "work which is important and gives a feeling of accomplishment". The work value measures up to this point delineate attachment to work in terms of a relationship between a worker and the way aspects of work constitute a symbolic environment. Specifically, a concern with high pay represents an attachment to components of lifeworlds that are entirely external to the work setting. A concern with job security inserts itself into the consciousness of work as an interaction between characteristics of the type of work and characteristics of the work site. An interest in the opportunity to use skills at work is primarily a function of the type of worker independent of the work site, setting or other features of people's lives.

So, the three items examined so far depict the objects of motivation as experienced by workers in terms of a symbolic distance such that pay is remote and external, the exercise of skill is close and concretises the sense of vocation, and job security is intermediate between these. This dimensionality implies the existence of symbolic objects that are entirely internal to the worker and that constitute a link between work on one hand and selfhood and identity on the other. This section will show that an attachment to work that is valued in terms of its importance in providing a sense of accomplishment represents such a symbolic object.

The first point is that the accomplishment item behaves exactly as would be predicted from the above argument when compared to the other measures of work values. Figure 5.35 compares high valuations of accomplishment with high valuations of the other work values. The graph shows clearly that people for whom accomplishment is important are unlikely to find skill important, less likely to find security important, and least likely to find high pay important.
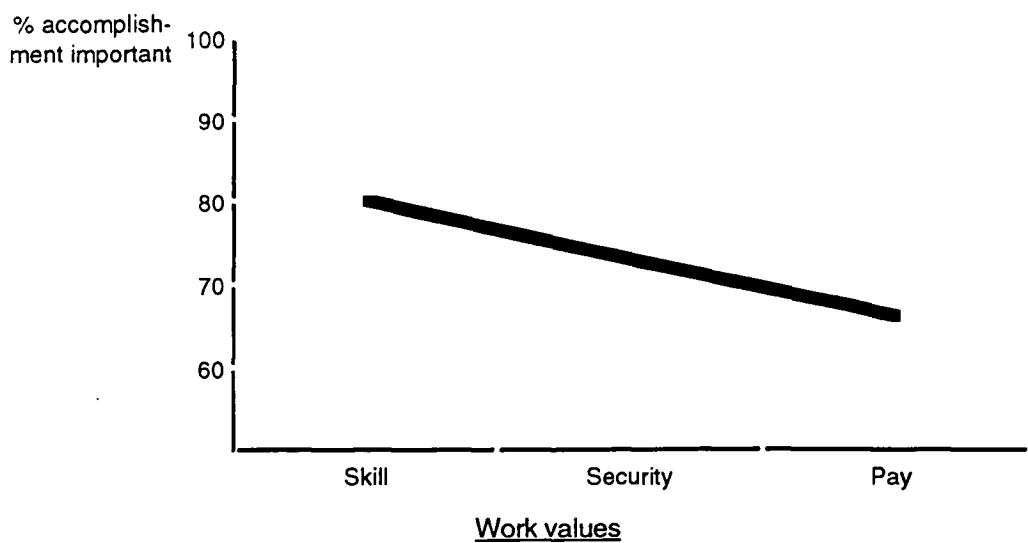
Fig. 5.35 Relationship between accomplishment and other work priorities

This pattern implies an ideal-typical worker who ranks values in the order displayed in the graph above — that is, accomplishment is more important than skill, which is more important than security, which is more important than pay. The original variables used an ordinal scale from 1 (the most important) to 7 (not important at all). Using the original variables it is possible to identify workers who approximate this ideal-type by selecting those who have responded to the four items by rating accomplishment as more important than the other items, pay as least important, and security and skill rated in between and in the appropriate order. It is then possible to compare these workers (referred to as 'vocational') with the rest of the population. The comparison produces a pattern that is similar to that revealed by the skill variable, but with clearer differences. The key differences are a gender difference, an effect from qualifications, and differences in work activity.

Vocational workers are more likely to be female. Figure 5.36 shows that 55% of vocational workers are women and 45% men. This compares with the rest of the sample that comprises 37% women and 63% men.
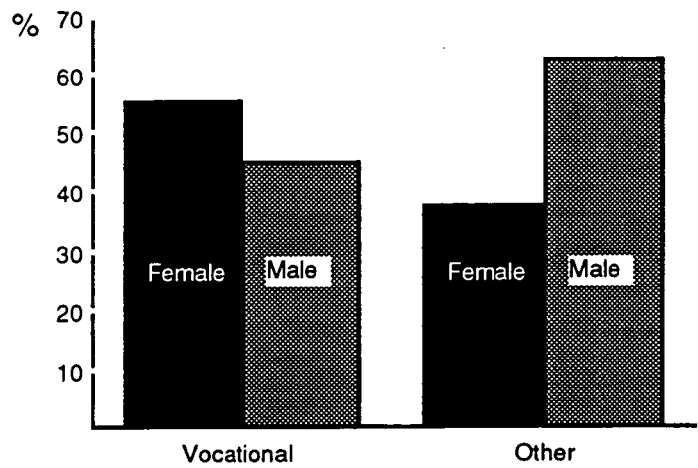
Fig. 5.36 Gender differences in the ranking of accomplishment

Figure 5.37 compares the educational profile of the vocational sample with the general sample. It shows that vocational workers are much more likely than the general sample to have either a degree or a certificate level education. More generally, the critical difference is that the higher the level of theoretical training in one's education the higher the probability of being a vocational worker. Among the general population the most common qualification level was to have no qualification at all — 50% of the general population had no qualification. In an extreme contrast, the most common qualification for the vocational sample was a degree, with 45% of this sample having a degree.
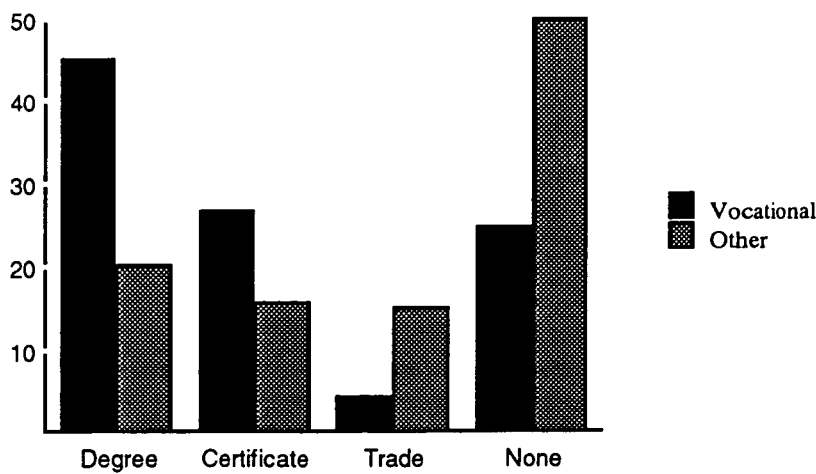
Fig. 5.37 Qualification differences in the ranking of accomplishment

Vocational workers are more likely to being doing high-skilled high status work. The most common occupational category for vocational workers is professional. They are also more likely to be para-professional workers or managers than the rest of the

population, and none at all are machine operators. The general population is more likely to be doing clerical work, in sales, trades or to be in low-skill level work.
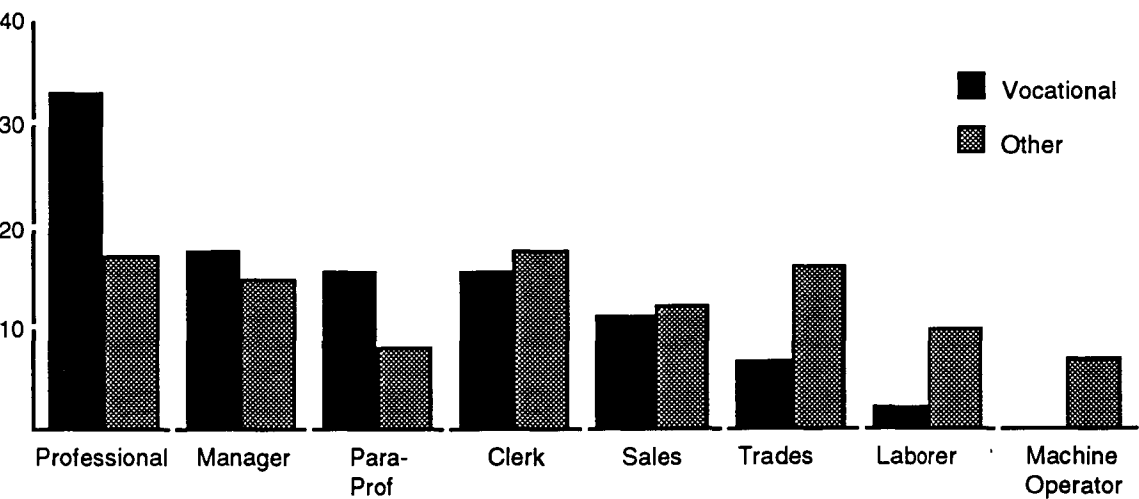
Fig. 5.38 Occupational differences in the probability of
ranking accomplishment as most important work value

There is no significant difference between the two samples with respect to any of the other variables used in this analysis (e.g. employment sector, age, marital status etc.). However, it is clear that highly educated, professional women tend to exemplify an orientation to work in which the key element is a strong preference to be doing work that expresses selfhood and identity rather than instrumentalism or access to extrinsic material rewards.

Conclusion

The measures and categories used in this analysis show a relatively small capacity to discriminate between individuals in terms of their work priorities. It is also the case that much of the difference between categories does not represent main effects, but interaction effects. For example, the relationship between income level and the importance of job security partly depends on whether or not one is a supervisor. This has produced an increasingly microscopic specification of differences and suggests that work values need to be understood in terms of the interaction of multiple factors that are situationally specific.

The main pattern in the data is consistent with the notion that there is a uni-dimensionality to work values with a concern with high pay and an interest in a sense of accomplishment at the poles. However, there is also some support for the claim that the

factors that determine work values originate in multiple spheres of social life. The tendency to evaluate the significance of work in terms of extrinsic rewards is associated with characteristics that describe generic components of life situations — age, gender and marital status and various life-cycle indicators. Job security is affected more by differences in interactions between organisational characteristics, the type of work people do and their positions in organisational hierarchies. Placing high value on opportunities for using skills is affected by the immediate work situation. The relationship between religiosity and the importance attached to opportunities for using skills at work does lend support to the claim that this reflects a diffuse orientation where work provides an opportunity for the expression of identity. That the final orientation, the vocational, seems to be associated most with highly-educated, professional women poses some interesting questions about social integration in the future. Given that this represents a growing category in the labour force, perhaps we might find the expansion of collegial work settings as an increasingly successful response to the problem of managing social integration with work systems.

The next chapter returns to the theoretical framework established in Chapter 4 in order to locate work activity in terms of the processes of system integration and adaptation to the exigencies deriving from the capitalist system of production.

Chapter 6: System integration and the organisation of work: The information and management sub-systems

Chapter 4 presents two components of a conceptual system describing the fundamental structure of the social integration of work, the pattern-maintenance (work orientations) and goal-attainment (modalities of work settings) subsystems. Parsons' highly general conceptual scheme, based on the relationship between the pattern-variables and the functional exigencies, is there re-specified in terms of categories that fit what people want from work with what is provided by work settings. The degree and quality of this fit defines both satisfaction with work (at the individual level) and the bases of incentive schemes (at the level of the system); while the 'work setting' describes the organisation of work at a micro-level.

Chapter 4 also suggests that these categories can describe mechanisms that survive in work systems because of their capacity to produce stability for inherently fluid and dynamic motivations, commitments and performances. In addition, Chapter 5 shows how work values are shaped and reinforced through the interaction between life situations, organisational contexts, work contents and characteristics of occupations. However, work activity is embedded in production systems that shape the way different configurations of roles, routines, work groups and workflow systems become established as work settings; and produce a variety of contexts that differ with respect to the extent that the motivations underlying the various orientations to work can be translated into commitment to work.

In this chapter, the relationship between individuals and organisations is contextualised within the functional problems of adaptation in relation to the more general processes of change within the material mode of production and the problem of system integration that is inherent in complex, dynamic systems. This is elaborated by an application of the AGIL scheme in order to describe work as an interaction system where order is achieved to the extent that the system is capable of resolving uncertainty with respect to risk and trust (the system integration problem); and motivation and performance (the social integration problem). Last, processes of change are described in

terms of the dynamics of interchanges between the elements of the system; and tensions between the system and the elements of its environment.

The critical aspects of the management function lie in two types of organisational problem. The first is the issue of managing the tension involved in the internal dynamics of organisational activity (integration). The second is the problem of taking into account changes to systems and objects external to the organisation and translating these changes into organisational tasks or projects (adaptation). These are management functions defined with respect to system 'needs', not in terms of the type of work carried out by managers (e.g. Fayol, 1949; Mintzberg, 1973; Kotter, 1982)[1].

The rest of this chapter argues that integration processes are responses to the problem of the normative uncertainty associated with (1) defining boundaries for inclusion within the system and (2) establishing bases for discriminating between elements within the system. This is achieved by reference to a set of normative standards for co-ordinating social relationships within work and which can establish bases of trust. Particular management *styles* reflect the priorities given to different elements within the set of normative standards. The integrative sub-system of the system of work can therefore be described as the 'management sub-system'.

A second aspect of system integration is located in the relationship between the adaptation and integration sub-systems and the need to produce decisions in response to demands from the environment. These demands can be referred to as the 'exigencies of capitalism', conceptualised as forms of 'risk'. Adaptation depends on establishing bases for characterising sources of risk originating in the environment. This characterisation occurs through informational categories that make it possible to re-define the environment as an organisational problem. Risk information is categorised by two dimensions: a temporal dimension (current-future); and a proximity dimension (foreground-background). The characteristic interpretations and responses to demands from the environment connote a typical strategic orientation.

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[1]The work roles and activities of *managers* are subsumed by general relationships between orientations and work settings in that managers themselves are also workers facing the same requirements to translate effort into appropriate activity within the work site.

To summarise, management activity varies with respect to (1) dispositions to interpret and respond to information in particular ways and (2) typical bases for mobilising trust. The normative basis for this variability is described by a 'management orientation'. The management orientation produces a tendency for decisions relevant to the external environment to develop into a characteristic strategic orientation; and for decisions relevant to internal dynamics to develop into a characteristic management style. Thus, the management subsystem comprises a flow decisions and a set of underlying normative assumptions. The relationship between management orientations, strategic orientations and management style are displayed in Figure 6.1, below.

```
        External —                    |              Internal —
     to the environment               |         to the production process
                                      |
                                      |
                                      |
     Characteristic                   |              Characteristic
        strategic      ◄───────  Management  ───────►  management
       orientation    flow of decisions  orientation  flow of decisions   style
                                      |
                                      |
                                      |
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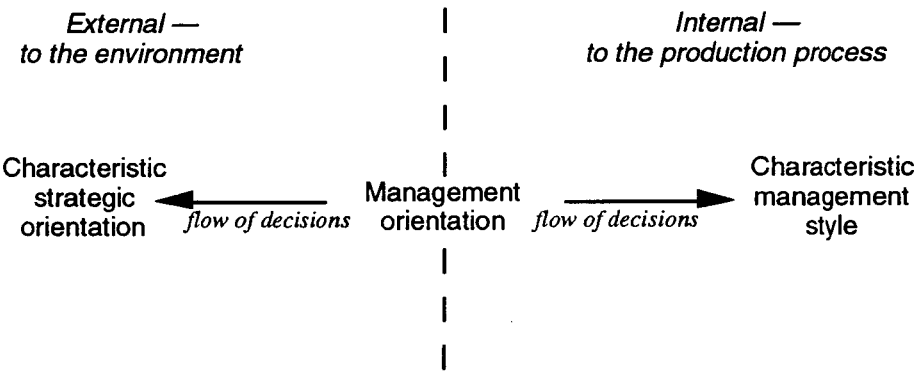
Fig. 6.1 The relationship between strategic orientation,
management orientation and management style

These various concepts are elaborated and the links between them established in the course of the chapter. But first the case study can be used to provide a preliminary illustration of their interrelationship.

Change at PPM was a response to external pressures ('exigencies of capitalism'). These pressures were organised within the company as the need to respond to competition within a market. Competition was interpreted by means of 'informational categories' enabling the problem to be constructed and defined as a stimulus to which the company needed to adapt. The training manager's report represents an initial response to the stimulus originating within the management sub-system. Before a decision to implement the strategy could be made, the proposal was established as consistent with: relevant definitions of the situation (i.e. it 'made sense' in terms of existing informational categories); operating assumptions about the

appropriate range of strategies and decisions applicable to the company's situation ('management orientation'); and the pattern of decisions aimed at improving the company's competitiveness, such as the recent technological upgrading, reflecting a focus on process innovation rather than product innovation ('strategic orientation'). Initiation and implementation of the proposal involved a variation from established patterns of expectations ('management style') regarding employees relationships with their work. The variation from established patterns disrupted the management sub-system's capacity for reproducing trust leading to an unwillingness of employees to release commitment to the company, evidenced by the lack of acceptance of corporate goals.

The project also involved an intervention into the structure of the work setting, attempting to re-constitute it in a form that optimised an 'expressive' orientation to work. In particular, this required an identification with the work group and the exercise of skill, rather than with roles, and an interest in the workflow system rather than routines. Employees began the project with predominantly instrumental orientations to work. The attempt to re-organise the work setting created a threat to social integration, manifested as dissatisfaction and declining morale, primarily because conditions did not foster a solidaristic work group and because the instrumental orientation proved to be relatively robust, given established conceptions of work. At the level of the problem of social integration, employees were unwilling to release commitment to work, given their calculations about the probability of receiving adequate returns ('gratification' or work satisfaction).

The system integration problem also involves a (yet to be determined) 'judgement' by the environment about the appropriateness of the self-directed work team. Internally (i.e. with respect to the control and co-ordination of labour), there is evidence of a failure of leadership — in the management subsystem's failure to generate decisions which foster conceptions of work values adequate for the formation of alternative work orientations; and of failure to establish appropriate boundaries around the work setting, thus adversely affecting opportunities for cohesiveness to develop.

This illustrates and exemplifies the meaning of the relationship between the core concepts, and their relationship to concepts formulated earlier, especially in Chapter 4 with respect to the social integration of work. It must be borne in mind that the purpose here is the development of concepts for 'adequate description' (Parsons, 1954), rather than for analysis. A formal specification of the relevant concepts and their relationships follows. This involves defining the adaptive and integrative components of the model introduced in Chapter 3. The general model is presented in Figure 6.2 (showing the outcome of Chapter 3).

Adaptation   *Goal-attainment*

Adaptive exigencies represented by 'symbolic' meanings of objects		The work setting	
Performance/ Neutrality	Particularistic/ Specificity	Roles	Routines
Cognitive symbolization	Expressive symbolization		
Universalistic/ Diffuseness	Quality/ Affectivity		
		Work flow	Work groups
Existential interperation	Moral-evaluative categorization		

Performance

Quality

Orientations to work		Integrative standards for orientations	
		Universalistic/ Specificity	Performance/ Affectivity
Instrumental	Bureaucratic	Adaptation	Goal-attainment
		Quality/ Neutrality	Particularistic/ Diffuseness
Vocational	Expressive	Pattern-maintenance	Integration

Specificity

Diffuseness

Pattern-maintenance   *Integration*

Fig. 6. 2 The adaptation and integration components of action systems defined by the combinations of the pattern variables, with latent-pattern maintenance and goal-attainment components specified for a system of work

The integration problem

The function of integrating the elements of the work system is enacted primarily through decision-making. Decisions involve evaluating the state of elements in the work system relative to some general aims (or specific objectives) and then making changes. These decisions take into account knowledge or understandings of the state of

the containing environments, the workforce and the capacities and limits of the work setting. Most importantly, such decision-making processes are characterised by a high degree of uncertainty about outcomes, future conditions, control over means and the rights and obligations underpinning work relationships. This chapter is concerned with two forms of uncertainty[2]: uncertainty of the risk in not responding, or of responding ineffectively, to environmental exigencies. This is a problem of external uncertainty, by contrast with the uncertainty of trust associated with the lack of specificity of normative standards which is internal.

External uncertainty derives from environmental complexity and the partiality of perspective inherent in organisational roles. The environment largely comprises such invisible structures markets, and such unpredictable events as technological innovations. In a commercial context, firms often have an incentive to ensure that some of their activities are kept hidden from other firms. In addition, complex organisations are differentiated into functionally discrete roles. Such roles provide a particular perspective into an environment (the perspective of 'human resource manager', or 'production team leader', for example) as well as tending to select individuals who have been socialised into particular dispositions to notice some things and be blind to others (economists and engineers, for example, may have different conceptions of what is important and noticeable). The organisation does not have a mind to integrate these perspectives, but instead must rely on status systems (seniority and professional expertise, especially) to weight the relative truthfulness of different interpretations. Consequently, evaluations of both the form of external stimuli and the probable effectiveness of the response risk the incurrence of cost (actual or opportunity costs) or, ultimately, insolvency.

Internal uncertainty can be exemplified by professional relationships such as that between a doctor and a patient. The doctor mobilises trust to bridge the 'competence gap' in order to persuade the patient to allow him or herself to be controlled by the doctor, and to accede to procedures and practices on the premise of his

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[2]Two forms have already been described in Chapter 4 — uncertainty with respect to motivation and to performance

or her presumed commitment to patient welfare (Johnson, 1973). The relationship
depends on trust, because the patient lacks the training to know whether the doctor's
activities are appropriate to the circumstances. Similarly, Coleman (1990) points out
that formal organisations are special cases of trust systems where trust is dispersed
downwards hierarchically through supervisors (trust invested in the supervisor's ability
and willingness to organise the services of its employees according to the appropriate
normative standards of merit, fairness etc.); whereas the employee invests trust in the
prospect of compensation, not in the supervisor, but directly in the employing
organisation.

As a consequence of these sources of uncertainty, concrete decision-making
needs to be understood as being 'boundedly rational' (Simon 1957; 1961). Decisions
always involve imperfect information (Stinchcombe; 1990); usually involve the
implementation of the first satisfactory solution rather than the optimum solution
(Simon 1955); and are commonly the outcome of organisational politics (Pfeffer 1981).
The emergence of management as an occupation is based on the organisation of
knowledge (derived from organisational research, management training, reflection on
prior successful strategies and debate) into a set of public conceptual frameworks.
These sets of beliefs structure the way managers understand strategies available to them
by providing a set of operating assumptions that are mobilised to manage the
uncertainty inherent in decision-making (Reed 1989).

The decision problems that emerge generate a set of organisational
pressures. Response to these pressures make up much of the work of managers that will
be experienced as a series of more or less ad hoc and chaotic tasks and decisions.
However, decisions will vary in terms of the extent to which they are appropriate to the
organisation's problems, culturally consistent, balance short- and long-term needs, and
have legitimacy both internally and outside the organisation. Consequently, managers
will tend to develop and use a set of decision heuristics based on cognitive templates
that integrate external problems and organisational activities by enabling the complexity
to be categorised into types of problem. As specific and identifiable sets of decision-

making heuristics emerge, the organisation can be characterised as having a particular 'management orientation'.

Sources of uncertainty

The sources of these problems are inherent in organisational processes. The organisation, or its agents, is constrained by external conditions. It is embedded in a set of relationships with competitors and other organisations and it depends on market activity for access to the factors of production. These sources of uncertainty are associated with the functional problem of *adaptation*.

In addition, the general goal of production has to be translated into combinations of specific, concrete activities that produce an optimum (but unknowable) combination of available technology and skill that links the organisation's productive capacity to actual production. This is the uncertainty deriving from the *goal-attainment* function. Braverman's analysis (1974) focuses on managing the uncertainty of the goal-attainment function. Braverman's work has been criticised precisely because he posits a single management strategy for controlling the production process. Friedman (1977), in particular, argues for the existence of managerial strategies that allow for discretion by employees ('responsible autonomy'). This variation in strategy reflects a third source of uncertainty deriving from the *integration* of work.

Integration problems for the management subsystem originate in the need to control the differentiation of work from non-work. In a sense, this refers to the assumptions mobilised to construct the ontological status of the worker. Friedman's critique of Braverman lies in the claim that managers develop strategies that recognise that workers bring beliefs and values to the work site that are not specific to production but rather reflect social norms independent of the organisation. The Hawthorne studies (Roethlisberger and Dickson, 1939) demonstrate that the norms carried by work groups reflect beliefs about work that originate outside the work site, but are specified and concretised by relationships and interactions within the work setting. Braverman (1974), by contrast, describes management strategies as based on the assumption that workers can be treated as identical with the category of labour.

Underlying all this is a source of uncertainty inherent in capitalist relations of production — the implicit or explicit employment contracts between the employee and employer. This is the uncertainty deriving from *pattern-maintenance* problems (in Marxist terms, the problem of the cultural reproduction of labour power). Where systems are based on the appropriation of labour, the parties to the exchange are involved in a fundamentally conflictual relationship. The purchaser of work time is faced with uncertainty about the extent to which a worker might be 'keeping up their end of the bargain'. The worker, on the other hand, is faced with uncertainty about what he or she owes the employing organisation, either in terms of the quantity and quality of effort they must supply or in terms of how little they can get away with and still be fulfilling their obligations. This uncertainty can only be resolved through institutionalised forms of trust because the activity from which the uncertainty derives takes place when the parties to the relationship are not in contact with each other (in fact, the parties are 'invisible' to each other, given that workers are individuals while organisations are abstract entities). This requires management of the uncertainty about the terms of trade involved in the appropriation of labour through the establishment of systems of trust.

In terms of the analysis of work presented in Chapter 4, this aspect of integration represents the solution to problems of uncertainty by the establishment of normative systems that can provide a basis for connecting orientations to elements in the work setting. This can be illustrated by a hypothetical example, a medical practitioner whose primary orientation is vocational. The most important feature of work settings for the vocational orientation is the work-flow process. In this example, this means that the source of interest for the doctor lies in the non-routinisable aspects of the work problem confronting her, and her capacity to apply theoretical knowledge and professional judgement to the case. Her capacity or willingness to see work in terms of professional service to the patient rather than as a problem of finding the most efficient way of processing patients (or on maintaining organisational integrity through the appropriate routines and procedures) depends on a particular form of commitment and set of motivations. However, the form of commitment (to service), her motivations,

are not publicly accessible and so have to be taken on trust. The problem here is how this trust can be established at an institutional level. In this particular example, it is by a system of medical certification, the collegial organisation of the profession and professional reputation.

In Parsons' general theory, the need to respond to uncertainty and the development of systems of trust to manage this uncertainty, would be treated as the *integration* function of systems of action, the one he describes as '...the modes of internal *integration* of the system, that is, of the interrelations of the elementary actor-object units ... the normative standards on the basis of which such relations can be said to be stable' (1954, p. 473). In the context of work, integration can be understood as the normative assumptions that regulate work relationships and make co-ordination and control possible.

The characteristics of the integration system (management subsystem)

The four functional imperatives provide the conceptual categories for the sources of uncertainty that are managed through the normative assumptions on which integrative activity is based. The problem is to develop conceptual categories relevant to the normative assumptions that define management orientations.

Parsons (1960a) identifies the underlying categories of the integration function by linking combinations of the pattern-variables characterising the orientations —specificity and diffuseness; affectivity and neutrality — and the modality sets —quality and performance; universalism and particularism (see Figure 6.3). He presents the problem of defining the normative patterns that constitute the integration system as requirements for the suppression of some potential meanings in order to focus on others; and the exclusion of some features of relationships between objects, again, in order to bring others to the fore.
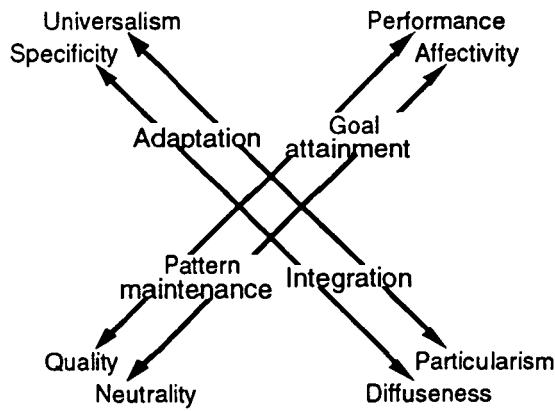
Fig. 6.3 The pattern-variable combinations for the sub-set of integration problems.

The integration issue can be viewed from inside or outside the system being analysed. The management of uncertainty through institutional forms of trust relates to the integration of relationships *internal* to the system of work. This implies a distinction, between work and non-work relationships. This is achieved by the suppression of some meanings and judgements in order to establish what belongs inside the system (e.g. work) by excluding what belongs outside the system (e.g. within the family). So people can be conscious of norms appropriate to organisational life through their understandings of how the mobilisation of *in*appropriate assumptions constitutes a transgression. Consequently, the expression of assumptions inappropriate to the situation defines various forms of deviance or corruption. For example, in a case where a supervisor and subordinate were involved in an office romance, a request by the subordinate for unwarranted time off or easier tasks requires the suppression of the romantic aspects of the relationship and a focus on the norms governing rights and obligations associated with the job. Nepotism is also an example of a breach of the norms that distinguish appropriateness for familial relationships compared with those for work relationships. Similarly, Waters uses the example of an academic choosing affectivity, particularism, quality and diffuseness[3] (Waters 1994). Waters suggests dire consequences unless the academic 'chooses' an orientation of specificity-neutrality and defines the student in a universalistic/performance modality. This is the perspective of

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[3]Waters also includes the self/collectivity orientation pattern-variable, later dropped by Parsons. He also uses the terms ascription/achievement, now usually referred to as 'quality/performance'.

the actor. The system's perspective involves the specification of a generalised norm (independent of which actor's orientation to objects — student or academic) and this involves the *suppression* rather than choice from each of the sets of pattern-variables. So in this case, the relevant standard is defined by the specificity/universalism combination, suppressing diffuse involvement and particularistic meanings (why diffuseness and particularism, rather affectivity and performance, are to be suppressed is explained below).

The problem is to conceptualise the normative bases on which integrative activity is founded. Parsons' general model does this through new combinations of the pattern-variables (Parsons 1960a). First, the AGIL scheme can be reproduced in each cell cluster so, for example, the four cells that make up the modalities of objects can be thought of as Ga (roles), Gg (routines), Gi (work groups) and Gl (the work flow). Ga is the combination of universalism and performance, Gg is the combination of particularism and performance and so on.

Second, the integration problem involves the relationship of orientations to modalities, and so requires the pairing of a pattern variable element from the G (work setting) cluster with an element from the L (orientations to work) cluster. Third, the integrative subset uses only one component from each set (orientations and modalities). Fourth, because the integrative subset concerns the relation between the two sets pairing occurs diagonally. So the universalism-particularism variable is horizontal in the modality set (Ga, Gg) and diagonal in the integrative set (i.e. runs from the Ia and the Ii cells). The performance-quality axis is rotated on the other diagonal (see Figure 6.3). The same procedure is then applied to the pattern-variables that make up the orientations (the L cell cluster) to yield pattern variable combinations for the whole scheme that are exhaustive, and which 'integrate' combinations from the L and the G cells.

Parsons' solution is to match the possible combinations of the pattern-variables to the possible types of integrative problems derived from the four functional problems of systems — adaptation, goal-attainment, integration and pattern-

maintenance described above. This entails seeing sources of normative uncertainty as problems of trust associated with the functional exigencies (see Figure 6.3).

In the context of the organisation of work, the institutionalisation of trust with respect to uncertainty concerning problems of adaptation involves the suppression of particularistic meanings and the exclusion of diffuseness from relationships, that is, the establishment of understandings about the universalistic and specific nature of the rights and obligations comprising work relationships. In other words, it is the type of trust underpinning market relationships via contracts. This is the legal or quasi-legal basis for invoking commitments to carry out the duties of office (or the tasks of the job) and the rights to compensation and remuneration, the 'contract'. It is the normative aspect underpinning the work system that makes the emergence of scientific management possible because it allows the work relationship to be negotiated in terms of the rights of the organisation to maximise benefits to it from the labour of workers given 'appropriate' remuneration. While the normative base here is the contract, the structural component of the organisation is the job or position.

The opposite basis of trust, relevant to problems of integration, involves locating trust in relationships based in common membership and de-coupling it from the contingencies of specific performances. This is the form of trust implicit in Goldthorpe et al's (1968) 'solidaristic' work orientation in which work relationships are linked to loyalties originating in the residential or occupational community. Trist and Bamforth (1951) have shown it to be the critical basis for the capacity of coal-miners working in teams to maintain morale and manage interpersonal friction. The institutional basis of this form of trust, then, is the 'work community' as distinct from the set of contractual relationships between organisational members. In 'Australian culture, this is what is often meant by the term 'mateship'.

The distinction between these two institutional bases reflects a fundamental dimension opposing market and community forms of integration. In the organisational context, the distinction reflects the thinking underlying work in the socio-technical systems tradition with a technical view of integration involving treating work relationships as specifications of exchange relationships, by contrast to seeing working

relationships as constituting social systems into which people invest affect (e.g. see Trist and Bamforth 1951; Herzberg 1968; McGregor 1960).

This distinction stands in contrast to a second dimension contrasting normative bases produced by linking affectivity to performance on one hand and neutrality to quality on the other. Where the uncertainty problem concerns goal-attainment (affectivity-performance), the establishment of trust is achieved through linking performances relevant to organisational goals (i.e. 'doing good work') to the reward system. This requires the suppression of the possibility of imputing qualities to people on the basis of ascribed characteristics and requires ignoring features not relevant to organisational purposes. The normative base here is the merit principle and it is institutionalised through 'responsible' performance appraisal systems, equal employment opportunity policies and incentive schemes that focus on the value an individual's work contributes to organisational goals.

The final source of uncertainty is the pattern-maintenance problems. This can be understood by treating the L-G axis within the integration system as representing a 'discrimination' dimension. The performance-affectivity combination (goal-attainment problems) states the normative bases for the avoidance of discrimination that is inconsistent with the rational selection of means to achieve organisational ends. By contrast, the quality-neutrality combination (pattern-maintenance problems) is the requirement to establish appropriate bases for discrimination in favour of 'what the organisation stands for'. This aspect of discrimination is most important for establishing the bases of trust for professional activity. As Parsons points out in an early essay, the capacity for trust on which professional work depends is based on imputing disinterestedness ('neutrality') by virtue of an individual's occupation ('quality'): 'The professional man is not thought of as engaged in the pursuit of his personal profit, but in performing services to his patients or clients, or to impersonal values like the advancement of science' (Parsons 1954 [1939]: 35)

These two dimensions summarise the integration system as the normative bases for treating members of a system as members (the A-I axis: contract vs. community) and the bases for discriminating between members (the G-L axis: merit vs.

reputation) and produce four logical categories of normative standards of management orientation. As argued earlier, these provide the bases of trust that allow the possibility of internal stability.

All four integrative standards will be invoked in any organisation. However, in different contexts certain management orientations are likely to predominate as decision problems become interpreted as characterising typical challenges for the specific organisation. For example, where organisations are faced with fluctuating demand for labour the management subsystem develops towards a focus on adaptation as the primary uncertainty. Consequently, the management subsystem will be characterised by a typical uncertainty response, namely, to optimise the organisation's capacity to respond to external change by establishing all relationships as market relationships underpinned by the capacity to invoke contractual obligations as the primary form of trust. If this typical response becomes part of members' public definitions of the organisation's situation it begins to constitute a general managerial style. As the assumptions underlying responses to uncertainty extend to other aspects of decision-making and processes within the organisation can be said to take on an objective *form* that reflects the predominance of a management orientation[4]. This is particularly the case with what is usually described as the organisational 'structure'.

In terms of the frame of reference presented in Chapter 4 and this chapter, the usual meaning of the concept of an organisational structure is too monolithic in that it implies an organisation is characterised by a single structural pattern. Rather, organisational structure needs to be understood as a two-level concept. At the first level it describes the specific patterns of roles, routines, cultures and work-flow of a work setting. At the second level it describes the specific structural configurations of an organisation in terms of its constituent work settings. This would mean an organisational structure would be described in terms of, for example 'a preponderance of highly interconnected bureaucratised settings' and would require measurement of the

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[4] As was indicated above, organisational form is an outcome of the relationship between internal, organisational processes and actual environmental conditions.

extent and type of variation between settings and the interrelations between settings in the form of a network analysis.

However, different organisational forms will support different normative bases and, therefore, emphasise different mechanisms for institutionalising trust (or provoking distrust). For example, work systems based on sub-contracting, or on piece-work, emphasise the contractual obligations underpinning work as an economic exchange; bureaucratic systems focus on linking competence to seniority through performance appraisal; work teams rely on commitment to the team, elaborated as the reciprocity of rights and duties of organisational citizenship; and collegial systems are built on the presumption of credentials as signals of expertise.

The relationship between the pattern-variable combinations, the normative bases of management orientation, the mechanisms for institutionalising trust and typical organisational forms associated with these management orientations are shown in Figure 6.4.

Pattern-variable combination	Type of uncertainty problem	Normative base of management orientation	Mechanism for institutionalising trust	Typical organisational form
Universalism-specificity	Adaptation	Fair exchange	Employment contract and duty statement	Contract system
Performance-affectivity	Goal-attainment	Merit principle	Career structure and performance appraisal system	Bureaucracy
Particularism-diffuseness	Integration	Responsible autonomy	Organisational citizenship	Work team
Quality-neutrality	Pattern-maintenance	Professional status	Credentialing and certification systems	Collegial association

Figure 6.4 Bases of integration in systems of work

Last, this relationship between management orientation and organisational form provides a link to the analysis of workplaces carried out in Chapter 3. Figure 6.5 re-interprets Figure 3.2 in relation to the organisational form characteristic of the four system problems. The logic of interpretation for the other populations and sites would predict that this space would be occupied, substantively, by populations comprising largely administrative workers and placid-random niches (in Emery and Trist's terms [1965]). The relation of the empirical communities and the theorised organisational

forms is depicted in Figure 6.5 by labelling each quadrant with the system problem associated with the characteristic organisational form.
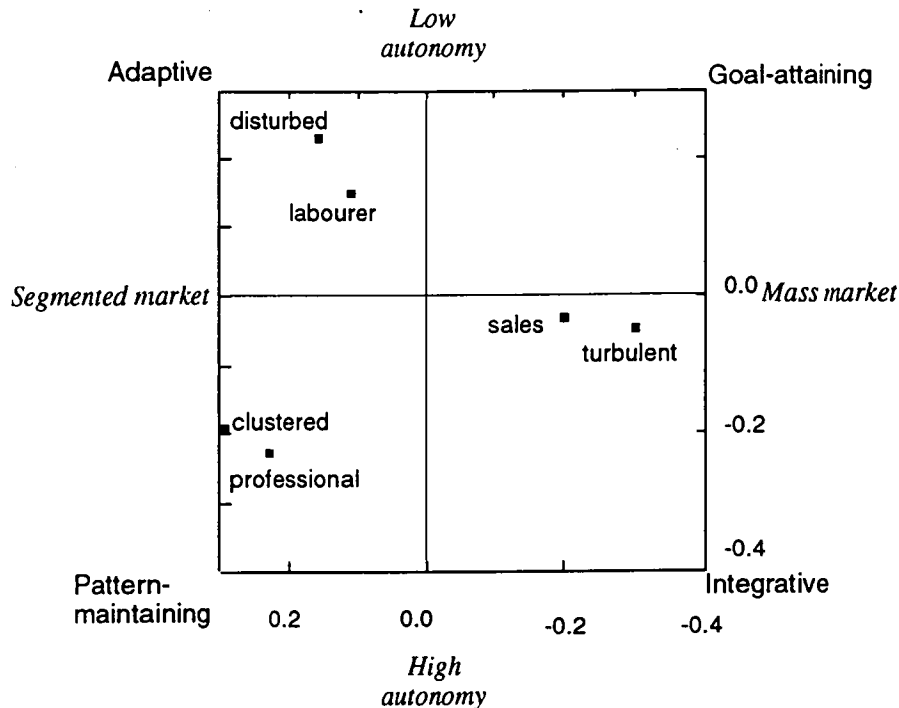
Fig. 6.5 Correspondence analysis plot of sites-populations associations

Whereas management 'style' refers to typical ways of responding to events *internally* to the organisation (the co-ordination and control of the internal division of labour problem), the concept of managerial 'strategy' refers to the flow of decisions oriented to problems originating *externally* to the organisation. An organisation's managerial strategy refers to its typical relationship between management orientation and predominant definitions of problems originating in the organisation's environment, i.e. involving variables outside the control of the organisation. In the context of commercial organisations, such problems originate in the system of capitalist production, penetrating systems of work as exigencies to which they need to adapt. Consequently, such pressures will be referred to as the 'exigencies of capitalism'. The focus in the next section is on how these exigencies of capitalism are interpreted as requiring action within work systems.

The exigencies of capitalism

Systems of work do not simply represent the technical requirements of the system's production processes. In particular, organisations face environmental exigencies to

which they adapt. It is now commonly claimed that organisations operate in increasingly rapidly changing environments (e.g. Barnett et al 1989; Leydesdorff and Van den Besselaar 1994). This rapidity of environmental change requires a capacity for reaction that, in turn, is contingent upon environmental change being noticed, interpreted, evaluated and acted upon. However, organisations themselves do not have 'minds' to perform these sorts of cognitive or mental processes. Rather, organisations comprise people who make decisions. It is the aggregation of these decision-makers' actions, and the activities that flow from them, that constitute the organisational response to pressures from the environment. What gets noticed in the environment is a function of the information channels available to occupants of a particular position in an organisation; individual decision-makers' interpretations of the organisation's aims; and the guiding beliefs and principles of the individual decision-makers themselves.

This implies that the 'environment' is signified within the organisation effectively as symbolic representations (e.g. beliefs and interpretations) that enter the organisation via channels (categories) of information. For example, a company marketing package holidays may shift from low-cost, high-volume 'mass' packages to customisable packages aimed at exploiting market niches as a result of decision-makers' perception of changing market conditions. Even the response to a policy decision by a head office depends, to some extent, on beliefs about the legitimacy, appropriateness and feasibility of implementing the decision; and the risks, costs and benefits associated with executing the decision. It is these 'beliefs' or perceptions, rather than 'objective' environmental conditions, that shape the internal processes of the organisation because it is on the basis of these beliefs that decisions are made and enacted.

This means that an organisation's capacity to respond to changing conditions depends on how information about those conditions is processed and translated into decisions. This processing is analogous to individual cognitive and decision-making processes except that at the organisational level it needs to be understood as an average of the cognitive schemas of those responsible for organisational decisions. Individual decision-makers will vary both with respect to

schemas of the environment and with respect to the relevance of specific elements of the environment to the aspects of the organisation for which they are responsible.

This section presents and applies Parsons' elaboration of the adaptive subset to develop a set of conceptual categories that define the general categories of the environment that may act as stimuli for organisational change. It argues that the environment impinges on organisations as information coming into decision making processes. Further, it argues that managers, as decision-makers, interpret symbolic representations of their organisation's environment to define and construct collective understandings of aspects of decisions over which they have no control (the conditions of the decision). In this sense, the environment can be understood as existing inside the organisation as 'facts'.

The pattern-variable combinations in the adaptive subset are the opposite to those used in the integrative subset (see Figure 6.6). The integrative subset categorises relations internal to the system. That is, it defines the bases for ordering the relationships between members of an organisation and so differentiates between sets of relationships that are defined particularistically. The environment, on the other hand, involves categorising objects that are not part of the system and therefore, to quote Parsons '...must be conceived as ways of categorising objects universalistically, that is, independently of their actual or potential inclusion in a given system...' (1960a: 475). From the perspective of an organisation, this means the objects that are external to the organisation but which meaningfully define the relationships that make an organisation a member of a population. To qualify still further, the subject of this analysis is work within the capitalist mode of production. This means that the relevant categories of meaning will be aspects of relationships between enterprises competing in markets.

Given these qualifications, the categories of symbolic meaning representing the environment can be described in terms of Parsons' pattern-variable combinations. These are shown for the adaptive subset in Figure 6.6.
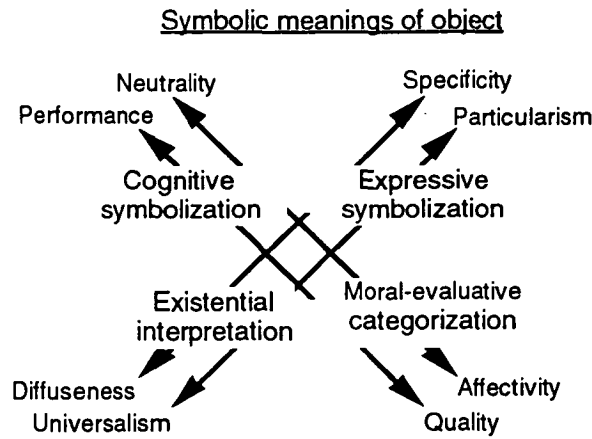
Symbolic meanings of object

Fig. 6.6 The pattern-variable combinations for the sub-set of adaptation problems.

The market system

Understanding the *adaptive* significance of objects in the environment of an action

system requires seeing them in terms of how they work (performance), independently of

their relationship to the organisation (neutrality). In the context of commercial

organisations this involves interpreting the environment in terms of the 'the market

system'. This means beliefs and perceptions of the way markets constitute external

conditions to the organisation. So the market exists as a set of 'laws', for example, laws

of supply and demand or the tendency for the rate of profit to fall. It does not matter

whether these laws are valid but that they are taken into account in decisions about how

work is organised, in devising marketing strategies, making changes to the production

process and so on. They are real to the extent that they contribute to definitions of

situations that have real consequences.

Local conditions of production

The opposite category of the environment refers to the need to categorise 'distortions'

of the market in the typical forms of government regulations, monopolies, the welfare

system and so on. These reflect the way norms affect market operations and require

categorisation as defining the 'texture' (quality) of the commercial environment in

terms of its meaning to the enterprise. That is to say, organisations cannot act as though

the market operates like a perfect market system but must take into account the

normative constraints on 'free enterprise' that affect it. Production is differentially

affected by variations in local conditions. These may be: regional differences that

produce competitive advantages (e.g. regional variations in the distribution of skills); industry differences (e.g. variability in the value of patents); and differences between polities (e.g. the extent to which the market of a national economy is regulated). Together, these constitute the 'local conditions of production'.

Again, these 'opposites' (performance-neutrality and quality-affectivity) describe a dimension of the conceptual categories. In this case, it is a dimension of information defining what the environment is presently like, differentiating the dimension in terms of figure-ground differences, or the depth within the environment of the origin of the exigency. The 'market system' refers to exigencies originating in the background to economic activity and 'local conditions of production' describe exigencies originating within the enterprise's immediate surroundings. The second dimension discriminates between information categories that describe what the environment will be like in the future. The figure-ground distinction contrasts the economic climate (background) with opportunities for innovation (foreground).

Opportunities for innovation — entrepreneurship and commodification

Categorising objects according to their significance for goal-attainment, involves a focus on their potential for the enterprise's competitiveness (specificity), with respect to the specific sources of competitive advantage of the enterprise (particularism). In the context of capitalism, this means categorising objects in terms of their potential opportunities for innovation with respect to new combinations of the factors of production or the exploitation of new markets — 'entrepreneurial opportunities'. Parsons describes the general category 'expressive symbolisation' as '...the generalization of particularistic meanings to a universalistic level of significance' (1960a: 476). In Marxist terms, at the level of the mode of production, this refers to the process of commodification. At the enterprise level it refers to getting new products to the market or products to new markets. Innovation opportunities are the foreground characteristics of the dimension of what the environment will be like in the future. The background characteristics describe the 'economic climate'.

Economic climate

The economic climate refers to the configuration of general economic, social and
political trends that is relevant because of its capacity provide a picture of the state of
commercial activity in the future. It requires information categories applicable to any
feature of the economy regardless of particular relationships with the enterprise
(universalism) and independently of the enterprise's specific commercial goals.

As with management style, any organisation may use all four informational
categories to interpret and represent environments. However, organisations will vary
with respect to the extent that different features of the environment get 'noticed'
depending on the extent to which they institutionalise mechanisms for monitoring
different aspects of the environment. In addition, the characteristic strategic orientation
establishes the priorities for deciding the stimulus to which the organisation needs to
react. The evaluation of what gets noticed with respect to what is important results in
the selection from a variety of courses of action, combinations that constitute strategies
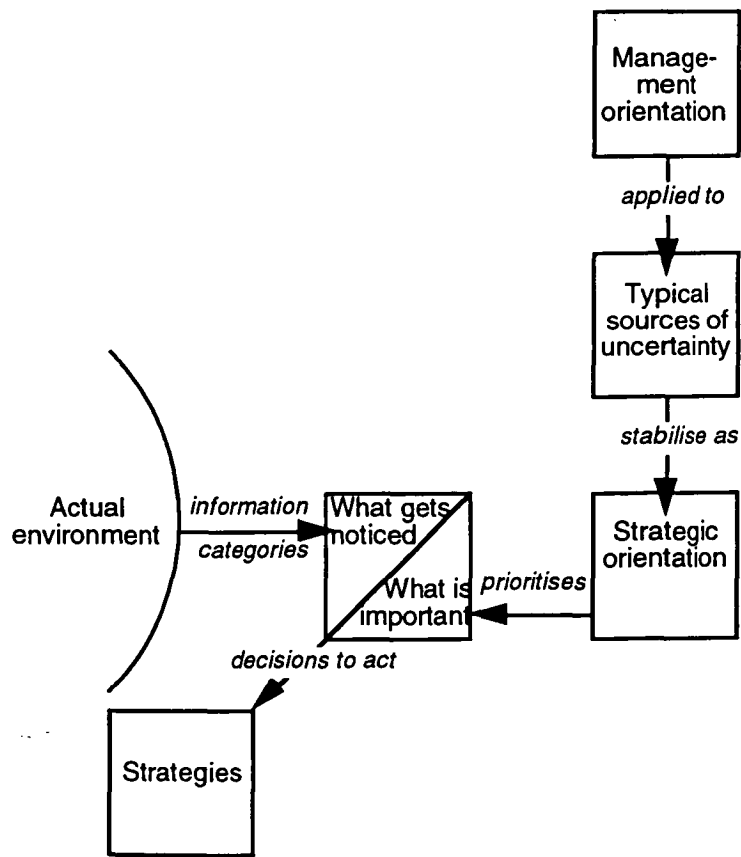for responding to environmental conditions. Figure 6.7 summarises this process.

Figure 6.7 Strategies as structured responses to environmental exigencies

The cross-classification of the categories of the exigencies of capitalism and management style suggests four ideal-typical dominant strategies for mobilising organisational resources in response to perceived environmental change:

- an adaptive orientation emphasising environmental information framed in terms of the market system (current, background conditions) produces a strategy geared to cost minimisation and a focus on undercutting competitors' prices. Examples would include supermarkets and fast-food chains.

- a goal-attaining orientation emphasising information in terms of opportunities for innovation (anticipated, foreground conditions) produces a strategy aimed at product innovation. The focus is on exploiting the temporary monopoly advantage gained from the superiority of the innovator's production performance compared with imitators. Examples would include mass-production in the computer industry and mass-produced consumer durables.

- an integrating orientation emphasising information in terms of local (current, foreground) conditions produces a strategy aimed at the exploitation of niche markets. The focus is on reaching segments of the market willing to pay a premium for specialised products. Examples include prestige-car manufacturers and the production of luxury goods.

- a pattern-maintaining orientation emphasising information in terms of economic climate produces a strategy aimed enhancing the firm's corporate image. The focus is on exploiting the economic advantage of consumer's confidence or trust. Examples include 'Big Eight' accounting or legal firms.

These four types of management strategy are shown in figure 6.7, below. Also shown are the set of complementary elements in the relationship between management style and the exigencies of capitalism. As with the relationship between work orientations and the components of the work setting, these are repeated on each side of the diagonal.

Informational categories	Management orientation			
	Adaptive	Goal-attaining	Integrating	Pattern-maintaining
Market system	**Cost minimisation**	Process innovation	Pricing strategy	Cartelisation
Opportunities for innovation	Process innovation	**Product innovation**	Divisionalisation	Customer loyalty
Local conditions of production	Pricing strategy	Divisionalisation	**Niche marketing**	Product differentiation
Economic climate	Cartelisation	Customer loyalty	Product differentiation	**Corporate image**

Fig. 6.8 Four ideal-typical management strategies

The off-diagonal elements need some interpretation. The logic of these categories can be explained by treating the strategy formulation process whereby inputs from the environment (exigencies) provokes decisions derived from problem-solving heuristics (management orientation). The probability of applying one of the four assumptions (adaptive; goal-attaining; integrating; or pattern-maintaining) is non-random because 'orientation' is learnt from previous experience (either because strategies which have succeeded in the past are repeated, or organisations which use ineffective strategies do not survive).

The management subsystem interprets stimuli from the environment categorising it in terms of the four information channels and attempts to solve it on the basis of the assumptions characterising management style. Adaptive assumptions applied to exigencies interpreted as originating in the market system are 'solved' by the development of a cost minimisation strategy. Goal-attaining assumptions applied to problems originating in perceived opportunities for innovation produce product innovation strategies. Integrating assumptions applied to problems in local conditions produce strategies to exploit market niches. Pattern-maintaining assumptions applied to exigencies in the economic climate produce a strategy oriented to enhancing or maintaining corporate image. Each of these cases represent programmed decisions in the sense that the definition of the problem is consistent with the assumptions underlying the decision process.

The heuristics are adapted to solving some types of problem better than others because of the consonance between the pattern variables defining the symbolic meanings of the exigencies and those defining the normative assumptions among the equivalent integrative standards (e.g. between performance-neutrality and universalism-specificity — the 'A' cells of the adaptation and integration sub-systems respectively). However, more information is required where there is inconsistency between the definition of the exigency and the strategic orientation because the informational category lacks sufficient meaning to comprehend the problem. The resolution to this is to seek more information by contrasting the exigency with the opposite information category as a reference point. For example, the adaptive style (universalism-specificity) responding to a perceived exigency originating in opportunities for innovation (particularism-specificity) is consistent with respect to specificity. The tension lies in the universalism-particularism variable and emphasises the exigency in terms of its potential meaning for 'belongingness', i.e. with respect to a reference group of similar competitors. By contrast, the goal-attaining style (performance-affectivity) responding to an exigency originating in the market system (performance-neutrality) adds information in terms of the affectivity-neutrality variable. It specifies that the meaning of the problem can be understood in terms of a goal defined outside the origin of the exigency.

Most inconsistency occurs when the exigency and the dominant style originate in opposite cells within the respective sets. For example, the pattern-maintaining style responding to an exigency defined as originating in opportunities for innovation. While there is more inconsistency, the opposite information category in the exigency set also provides a greater increase in meaning because it defines the problematic information in the context of the category to which the style is best adapted. In this case, strategies for responding to exigencies originating in opportunities for innovation can be redefined in terms of the significance of corporate image.

The basic logic for interpreting 'inconsistent' style-exigency matches is to treat the meaning of the problem as requiring clearer definition. This is achieved by contextualising the problem in terms of the opposite information category. The

problems with the greatest degree of inconsistency (between the A and G cells, and the I and L cells) also have the largest amount of contextual meaning because the dominant strategy lies in the opposite information category.

Process innovation

Process innovation refers to improvements in the efficiency of the production system, a change in the ratio of inputs to outputs resulting from improvements in the production process. It is important both when the adaptive style focuses on opportunities for innovation and when the goal-attaining style focuses on the market system. However, the meaning and purpose of the strategy is important in both cases. In the first case, the question management asks is what opportunities there are to reduce costs of production by increasing the efficiency of the process. A strategy, in this case involves, for example, the calculation of the costs of technological upgrading compared with the higher costs of maintaining old equipment. The focus is on improvement relative to competitors and typically involves reduction of the cost of labour. Scientific management and the introduction of the assembly line are examples of process innovation typical of process innovation. By contrast, in the second case, the question is how process innovation can enable the firm to exploit a temporary monopoly advantage gained from product innovation. The focus here is on improving the 'learning curve' relative to imitators as unit costs decline with the number of units produced. For example, Stinchcombe (1990) reports that for aircraft the manufacturing cost of the second plane is roughly 75-80 per cent of the first, the fourth roughly 75-80 per cent of the second and so on, so that cost per unit reduces about 20-25 per cent at each doubling of production. This occurs because of what Stinchcombe describes as '...a set of innovations associated with the initial product innovation that improve the efficiency with which the innovation itself can be produced ...' (1990: 180). The aim of process innovation is to increase the learning rate in order to maximise the advantage of product innovation. This is demonstrated in figure 6.9. This compares the advantage of product innovation at two rates of learning. A comparison of points a and b shows that advantage to the innovator is greater when the learning rate is higher even if the learning rate of the imitator is faster than the innovator.
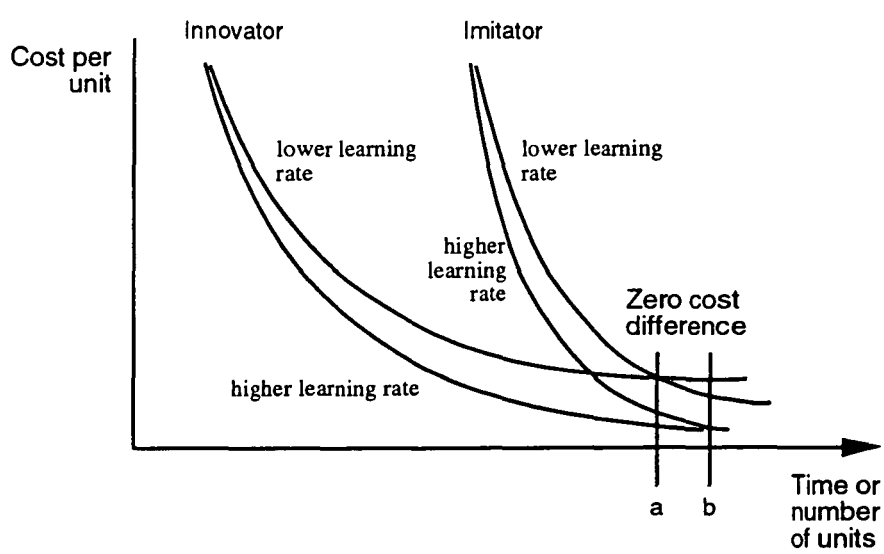
Fig. 6.9 Advantage accruing to innovator from faster learning rates
Source Stinchcombe 1990 (adapted)

Pricing strategy

Pricing strategies differ between the adaptive style focused on local conditions and the integrating style focused on the market system. The purpose of the pricing strategy in the first case is to capitalise on price fluctuations and to maximise the volume of flow of products. This requires a strategy that ensures that the enterprise achieves the maximum price under conditions of scarcity and that costs are recouped, or products held back, during gluts. From the perspective of the adaptive style, the critical exigency deriving from local conditions is the continuous maximisation of the price of each unit. By contrast, for the integrating style the focus is on a pricing strategy that optimises unit cost over the life of the product.

Cartelisation

For the adaptive style, a strategy oriented to cartelisation focuses on reducing instability in anticipated, background conditions by restricting competition and increasing the predictability of the market. Cartels enable a small group of large producers to set prices and to establish prohibitive costs of entry into their markets. For the pattern-maintaining style, cartelisation is a strategy focused on maintaining control of current background conditions.

Divisionalisation

When the integrating style focuses on opportunities for innovation (anticipated, foreground conditions), divisionalisation involves the creation of new

business ventures within the enterprise with the aim is to link core competences to emerging market niches. By contrast, for the goal-attaining style responding to local conditions (current, foreground conditions), divisionalisation is a strategy oriented to managing the introduction of new products into existing markets. For example, Chandler (1962) in his analysis of the emergence of the divisional structure, quotes from a Du Pont committee report analysing a strategy for its dye production business:

> [Dyes should have one] individual in control of both production and sales, because the relation of the product and its qualities is so mixed up with the demands of the market for the product that to divorce them and segregate the business into a clearly defined production department and an independent sales department, would be detrimental to the business. Later on when the production of dyes becomes standardized it will no doubt follow the evolution of other portions of the business. (Chandler 1962: 70).

The implication here is that divisionalisation is a response to local conditions with anticipated incorporation into the bureaucratic structure as conditions develop into more 'normal' market conditions. Again, Chandler quotes the recommendations of a senior executive in Du Pont that articulate this view of the strategy:

> It may be that it would be better for a few years to carry on the dye business as a separate entity. I think it would because it is a developing, unstandardized industry and should merit independent attention just as the Parlin chemical mixtures business was better by itself until standardized — when it was merged with the regular sales and operating departments (Chandler 1962: 68).

The distinction between the two forms of divisionalisation strategy is that for the goal attaining style responding to exigencies originating in local conditions of production, divisionalisation is a stop-gap strategy that assumes that local conditions will be absorbed into the broader market system in which the enterprise operates. By contrast, divisionalisation in response to opportunities for innovation aims at establishing a product in anticipation of future demand, given expectations deriving from interpretations of the economic climate.

Customer loyalty

For the goal-attaining style, responding to economic climate (anticipated, background conditions) a strategy aimed at building or maintaining customer loyalty derives from the need to ensure a ready market for innovations. As Stinchcombe points out '...companies can market their secondary innovations relatively easily because the links they have with their customers have induced those customers to trust the vendor .... Put

another way, companies that have innovated successfully in the past are most likely to have access to that part of the market that will buy innovations' (1990: 185).

For the pattern-maintaining style, responding to opportunities for innovation requires the evaluation of opportunities in terms of its consequences for maintaining customer loyalty. For example, a university whose 'market' has been built on a reputation for high standards, scholarship and selective entry might increase its market by lowering standards, introducing vocational programs and lowering entry requirements. This would risk ruining that reputation and means that innovation opportunities are constrained by customers' perceptions of the enterprise's existing qualities.

Product differentiation

For the pattern-maintaining style responding to local conditions, a strategy aimed at product differentiation involves establishing a coherent identity for the product, i.e. establishing a distinctive 'brand name', relative to the products of identifiably similar competitors. For the integrating style, responding to the economic climate, a strategy of product differentiation aims to establish a unique identity for a product within the enterprise's product range.

Organisational processes

Chapters 2 and 4 outline a conceptual framework for analysing work as a system, proposing four subsystems: the exigencies of capitalism, managerial orientation, the work setting and work orientations. These structural categories also provide the basis for defining the components of processes within the organisation and relations between the organisation and the wider social system. The internal process can be understood as relations of exchanges between the subsystems of the system of work. Figure 6.10 organises these processes as two-way flows between the subsystems.

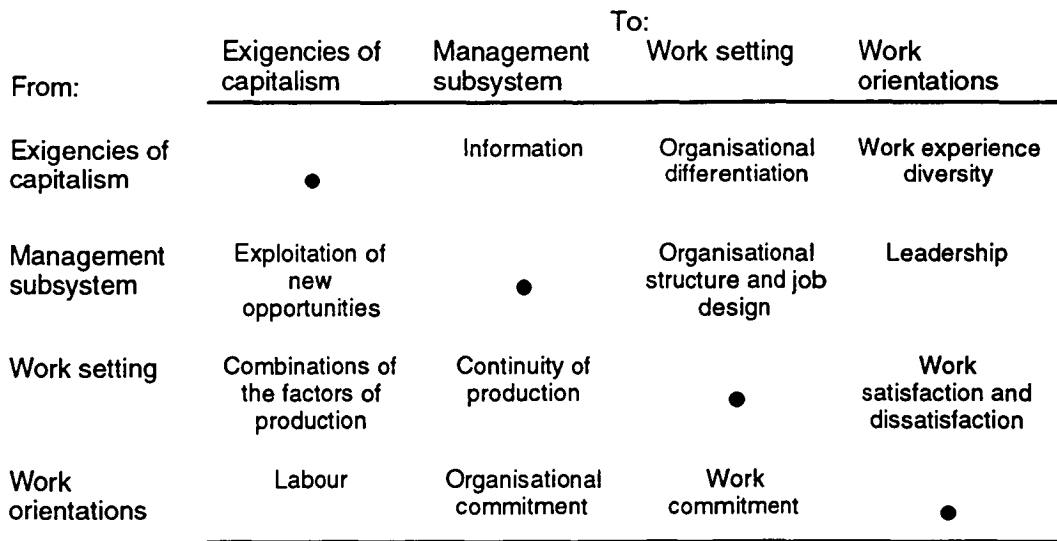| From:	To: Exigencies of capitalism	Management subsystem	Work setting	Work orientations
Exigencies of capitalism	●	Information	Organisational differentiation	Work experience diversity
Management subsystem	Exploitation of new opportunities	●	Organisational structure and job design	Leadership
Work setting	Combinations of the factors of production	Continuity of production	●	Work satisfaction and dissatisfaction
Work orientations	Labour	Organisational commitment	Work commitment	●

Fig. 6.10 Categories of organisational process

The exigencies of capitalism feed information into the decision-making processes managed through management subsystems that, in turn, generate courses of action enabling the exploitation of new opportunities within the production system. Responses to exigencies lead to a differentiation of work settings within organisations as a result of selection and adaptation processes. Work settings, in turn, move resources through organisations, combining factors of production as inputs into other settings or, eventually, as goods and service consumed externally. The exigencies of capitalism give rise to a division of labour thus providing a diversity of opportunities for work experiences.

Management subsystems provide the understandings for planned attempts to shape organisation structure, the operations of work settings and job design principles. The structural components of the work setting provide some guarantee of continuity of production in the face of fluctuations in the environment and in motivations. Management subsystems establish mechanisms for responding to failures of social integration processes by providing leadership in terms of mobilising value-commitments, specifying norms, clarifying collective goals or invoking role obligations. Work orientations supply the possibility of commitment to the organisation, or loyalty, as opposed to commitment to work.

Commitment to work results from the compatibility of the needs expressed through work orientations and translates into a willingness to invest effort into the components of the work setting. From the other side, the particular configurations and organisation of the work setting define opportunities for satisfaction and dissatisfaction with work. Figure 6.11 is the complete Parsonian model specified for a system of work with 'management subsystem' represented by 'organisational form'.

Adaptation   *Goal-attainment*

Exigencies if capitalism (informational catgeories)		The work setting	
Market system	Opportunities for innovation	Roles	Routines
Economic climate	Local conditions of production	Work flow	Work groups
Orientations to work		Management subsystem (organisational form)	
Instrumental	Bureaucratic	Contract system	Bureaucracy
Vocational	Expressive	Collegial association	Work team

Pattern-maintenance   *Integration*
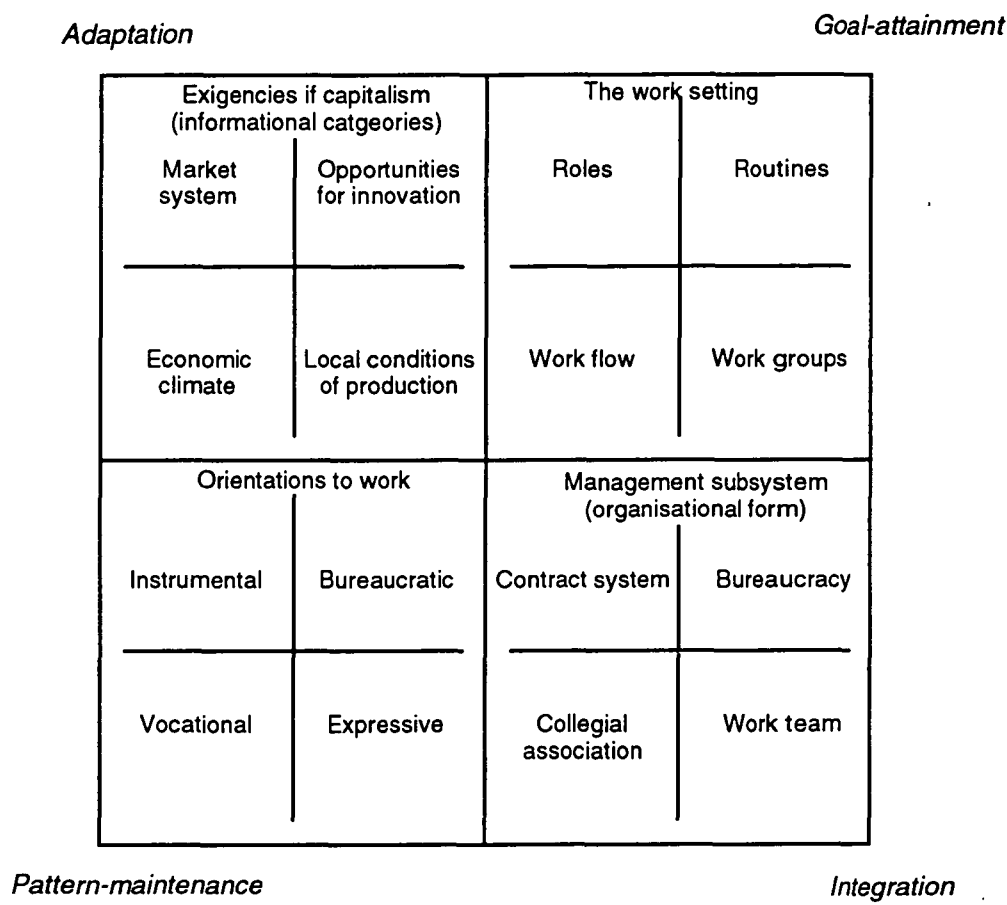
Fig. 6.11 The system of work
Source: Parsons1960a (adapted)

The model is intended to apply to various populations. It may be used to describe a system containing a single work setting, or a large, complex organisation. However, at the other extreme of scale, the model also defines the structural elements of the global systems of production as it constitutes a system of work. Social and system integration are the outcome of the pattern and distribution throughout the system of orientations, settings, organisational forms and collective representations of the environment.

Conclusion

This thesis addresses the issue of how stability and order are achieved within work activity, given the conditions characterising modern, complex production systems. It discusses several threats to stability and draws the implication that the conditions that frame the system of work are the result of complex interactions between structures and processes at several analytically distinct levels. These range from the meaning that work has for people to the general economic conditions characteristic of the capitalist mode of production. In response to this, 'work' is conceptualised as a system of action connecting the microsocial structures and processes of lifeworlds to global economic structures.

The institutionalisation of the practices on which order and stability are achieved is the outcome of the system's capacity to respond to uncertainty at the environment/system interface, decision-making processes, and work performances and motivations. The thesis identifies two levels at which such responses to change should be analysed: the integration of elements in a system of production; and the relationship between the system and the activities of workers — system integration and social integration, respectively. It argues that stability is the outcome of the extent to which institutionalised responses to problems of system and social integration develop.

System-integrative activity responds to the tensions deriving from the development of an increasingly global social division of labour that foster geographical variation in the forms of work and functional differentiation within regional economies. This, in turn, generates and reproduces a need for the co-ordination and control of a complex technical division of labour associated with occupational role differentiation within organisations. Thus, system integration refers to the degree of stability and order given continuous change at the level of the mode of production. The thesis argues that changes at this level generate new conditions to which the system is forced to adjust and it is through these adjustments that system integration is achieved. Two general types of adjustment are proposed: the way firms organise themselves to respond to external conditions by the use of information to manage risk; and the co-ordination and control of the intra-organisational division of labour by the reproduction of trust. System

integrative activity is constituted by a flow of decisions: decisions based on collective representations of the exigencies of capitalism, and constituting strategies in response to such exigencies; and decisions that define and reproduce patterns of labour-management relations through the control and coordination of labour. System integration thus represents a response to the tension between conditions and norms in the system (the A-I axis, within the Parsonian framework).

The problem of social integration concerns the relationship of workers to the system. This is the issue of linking motivation to production, given both increasingly diverse motivations and differentiating sites of production. The social integration problem derives from the tension inherent in the employment relationship. The system 'needs' to channel workers' labour power into productivity while workers seek from work the opportunities to gratify diverse, idiosyncratic motivations. The accomplishment of social integration depends on two developments: first, the institutionalisation of orientations and practices that can stabilise motivations and performances, respectively; second, the development of rewards and incentives that can reflect work values that are consistent both with what workers want from work and with what the system provides. Social integration thus represents a response to the tension between ends and means in the system (the L-G axis, within the Parsonian framework).

The logic underlying the theoretical model developed in the thesis (see Figure 6.11) implies four basic forms of system stability. These four forms are presented in Figure 7.1. The figure shows the consistent combinations of informational categories, work setting, organisational form and work orientation. These combinations are developed by matching the relevant elements from each of the categories of informational categories, work setting, organisational form and work orientation. For example, the top left hand cell comprises Aa, Ga, Ia and La combinations of the cells in Figure 6.10. Conversely, the bottom right cell comprises Ai, Gi, Ii and Li combinations of the cells in Figure 6.11.

Market system	Roles
Instrumental	Contract system

Opportunities for innovation	Routines
Bureaucratic	Bureaucracy

Economic climate	Work flow
Vocational	Collegial association

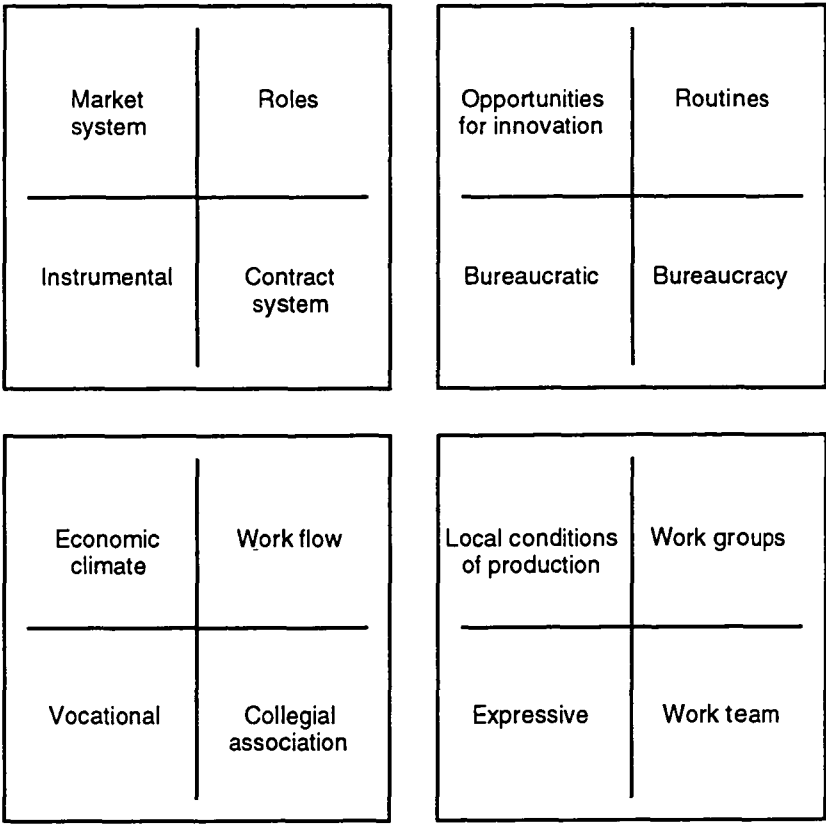| Local conditions of production	Work groups
Expressive	Work team

Fig. 7.1 Four theoretically stable types of work system

A major aim of this thesis is to contribute to the substantive question of stability in modern systems of work. In the process, it generates insights into more general theoretical issues. The theoretical model reflects an attempt to theorise a link between an objective 'factual order' and the structural dimensions of subjective experience and the link between actors and a system. The first of these is elaborated especially through the idea of system-integration processes being the outcome of the effectiveness of strategies based on socially constructed information about the environment. The effectiveness of such subjectively constructed strategies is determined by objective, ecological processes.

The relations between actors and system is best exemplified in the proposed solution to the problem of social integration. In this formulation, there are two levels of 'connectedness'. First, the orientations to work and the components of the work setting define constraints that limit the range of motivations and performances supported by the system. Both aspects constitute *institutionalised* forms that enable or coerce actors to interpret work in certain general ways and thus to conform to certain general practices.

Such institutionalised forms are to be understood as bases for stability, which does not deny the possibility or pervasiveness of 'malintegration' (see below). The second level is exemplified in the linkage of Parsons' evaluative mode of orientation to 'work values'. This application establishes a theoretical connection between systems of incentive and the aspirations of workers as a relationship mediated by patterns independent of both.

The model does not address the question of malintegration. With respect to social integration, this is the failure of the realisation of value-patterns capable of linking motivations to performances — for example, in linking promotion in universities to academic output. Integration, here, would require a focus on the importance of career within an organisation rather than the interest in recognition proposed as the value characterising the vocational orientation. Other examples might include the failure of the work-setting components to resolve uncertainty about performance, or insufficiency of orientation as is the case with the need for 'guest workers' where there is insufficient instrumentalism for the performance of unpleasant work.

System malintegration can result from the outcome of the gap between strategies and the objective conditions of the environment (ecological fitness) and would be indicated by increasing insolvency. It will also result from failure in normative patterns regulating management-labour relations to achieve solidarity. Malintegration here would be indicated by industrial unrest. More generally, though, it might be suggested that the issues covered by the thesis imply a need for further research that focuses specifically on sources of instability. Attention to integrative mechanisms should not be taken as a claim that stability is normal, nor that coercion, conflict and dissensus are not pervasive aspects of modern systems of production. Rather, these features are taken as given in order that the question of the achievement of any degree of stability might sensibly be posed.

At a conceptual level, the thesis offers an extensive review of the concept of integration within action systems. Its development within the Parsonian framework enables the concept to be defined within a more general conceptual system. Its

application to the substantive issue of work allows a degree of conceptual refinement through the specification of the flows of activity through that integration is accomplished. In addition, the thesis is able to link the concept to data, thus providing a general indication of the empirical events and objects denoted by the concept.

An attempt is made to indicate how some of the core concepts might be operationalised. At a general level, the thesis presents the basis of a measurement model for empirical investigation. More specifically, the application of cluster analysis to workforce profiles takes an initiative in the measurement of organisational forms. The components of the work setting offer a potentially useful measurement model for the analysis of the work environment — Chapter 4 focuses the measurement problem on relevant ways in which roles, routines, work groups and work flow systems can vary.

The thesis makes specific contributions to some aspects of data analysis. In particular, it demonstrates the use of correspondence analysis in providing a logic for the analysis of the relationship between organisational forms and ecological niches drawing on the evolutionary metaphor of population ecology models of organisational change. The data analysis procedure in Chapter 3 outlines a method for problems of multi-level analysis by using correspondence analysis to specify contexts within which models of systems of causal relations can be constructed that take context into account. Chapters 3 and 5 represent an attempt at progress towards a style of analysis in which the interpretation involves finding a balance between uninterpreted reportage of the associations or correlations between variables, and the production of statistics, such as regression co-efficients, that reflect the extent to which variability in the data fits an arbitrary mathematical model and hence describes an error structure. In order to achieve this, the style of analysis integrates three developments: the tradition of exploratory data analysis developed by Tukey (see Barnett 1981) with its concern for the "...manipulation, summarisation and display of data to make them more comprehensible to human minds..." (Barnett 1981: v-vi); Davis' use of linear flow graphs to analyse contingency tables (Davis 1975; 1980; Hellevik 1984); and work on the psychology of graphical perception (Spence and Lewandowsky 1990).

Finally, while the main aim of the thesis is to produce a contribution to a sociological theory of work, the results have applications in other disciplines and to a variety of substantive issues. At the core of the theoretical framework is a theory of the management of complex organisations and so has implications for both management theory and organisational theory. The analysis complements psychological theories of work satisfaction and organisational decision-making. The logic of the relationship of worker to work can be applied to other issues — most obviously in the relationship between the consumer and lifestyle to capture the two roles through which the household and economy are linked.

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