
Contents

<i>Notes on the contributors</i>	vii
1 Making projects critical: an introduction <i>Svetlana Cicmil and Damian Hodgson</i>	1
Part 1 New theoretical perspectives	
2 Are projects real? The PMBOK and the legitimation of project management knowledge <i>Damian Hodgson and Svetlana Cicmil</i>	29
3 From project ontologies to communities of virtue <i>Carol Linehan and Donncha Kavanagh</i>	51
4 Conflicting and conflated discourses? Project management, organisational change and learning <i>Mike Bresnen</i>	68
5 Problematising project management <i>Janice Thomas</i>	90
Part 2 Projects within organisations	
6 Projects and prisons <i>Monica Lindgren and Johann Packendorff</i>	111
7 The contested object: on projects as emergent space <i>Manuela Nocker</i>	132
8 An Actor Network Theory perspective on IT projects <i>Anneli Linde and Henrik C.J. Linderoth</i>	155
9 Reorganisation projects and five uncertainties <i>Eamonn Molloy and Richard Whittington</i>	171

10	A tale of an evolving project: failed science or serial reinterpretation? <i>Charles Smith</i>	190
Part 3 Inter-organisational projects		
11	Understanding power in project settings <i>Nick Marshall</i>	207
12	The management of projects in the construction industry: context, discourse and self-identity <i>Stuart Green</i>	232
13	Managing projects in network contexts: a structuration perspective <i>Jörg Sydow</i>	252
14	Making the future perfect: constructing the Olympic dream <i>Stewart R. Clegg, Tyrone S. Pitsis, Marton Marosszeky and Thekla Rura-Polley</i>	265
15	Conflicting rhetorical positions on trust and commitment: talk-as-action in IT project failure <i>John Sillince, Charles Harvey and G. Harindranath</i>	294
16	Sense-making as a process within complex projects <i>Chris Ivory, Neil Alderman, Ian McLoughlin and Roger Vaughan</i>	316
	Afterword: making the management of projects critical <i>Peter Morris</i>	335
	<i>Name index</i>	348
	<i>Subject index</i>	355

1

Making projects critical: an introduction

*Svetlana Cicmil and Damian Hodgson**

Concepts developed by the academic community ... must be recovered from operational and textbook definitions and reconnected to ways of seeing and thinking about the world. In the dialectics of the situation and the talk of individuals with different perspectives, the emergence of new ways of talking becomes possible.

Alvesson and Deetz, 2000: 146

Beyond the mainstream

It is always tempting at this point in a text to ‘jump straight into defining’ (Stacey, 2000: 2) what a ‘project’ is and what it is not – and to move swiftly on to how it is therefore to be modelled and managed, as is the case with almost all seminal texts in the field. The purpose of this introduction is to show the potential problems with such haste; specifically, that it often results in the obscuring of what lies behind the definitions and prescriptions. This cautionary note at the very outset encapsulates the mission of this text: to provide space outside of the tightly defined and densely populated conceptual landscape of mainstream project management, space where other perspectives, other concerns and other agenda may be articulated and explored. In this sense, the collection continues the mission of two workshops organised and held at Bristol Business School in the UK in 2003 and 2004, with the explicit aim to ‘Make Projects Critical’. These workshops brought together a diverse community of researchers and practitioners from Europe, North America and Australasia with a common interest in considering vital issues and values which are both ignored and obscured by ‘mainstream’ project management.

* The authors wish to thank Johann Packendorff, Monica Lindgren and Janice Thomas for their helpful and constructive comments on an earlier draft of this chapter.

Framing these workshops and this text, therefore, is the notion of *mainstream* project management literature and research. By *mainstream*, we particularly mean the prescriptions related to managerial skills and competencies that are offered to practitioners in the vast number of project management texts in existence. This mainstream literature, in general, uses the language of design, regularity and control to propose models and prescriptions as a route to increasing the ability of humans to control complex worlds (Wood, 2002; Stacey, 2001), to the exclusion of other approaches or ways of reasoning. As a rule, mainstream research into projects and project management remains heavily reliant on the functionalist, instrumental view of projects and organisations, where the function of project management is taken to be the accomplishment of some finite piece of work in a specified period of time, within a certain budget, and to an agreed specification. Most mainstream textbooks and professional associations for project management promote this normative view of the field as practice, which can be summarised as the application of knowledge, skills, tools and techniques to project activities to meet project requirements.

The limitations and challenges to this view of projects are widely recognised across the field, and increasingly within the mainstream project management community itself. In recent years, project management has attracted significant attention from an increasing number of researchers and practitioners, coincident with the increased 'adoption' of project-based work across industrial sectors (Kreiner, 1995; Packendorff, 1995; Cicmil, 2001; Hodgson, 2002). At the same time, the foundations and practical application of a once-glorified managerial technology, embodying the scientific achievements of operational research in work scheduling and control under specific constraints of time, cost and a unique outcome, have been seriously questioned by both the academic and the practitioner communities. Several important writers in this field maintain that little radical examination of the intellectual foundation of project management has been done within this stream of research, arguably since the 1960s (Morris, 1997; Koskela and Howell, 2002). In the same vein, writers such as Frame (1994, 1995, 1999), Morris (1997) and Maylor (1999, 2001), among others, have called for a reexamination of the dominant doctrines in project management for their failure to deliver on their promises. Nonetheless, the tendency in the field is still to treat the basic framework of project management as compelling and essentially sound. Most such efforts have been directed towards searching for *improvements* in traditional models and skills (see, for example, Young, 1999, 2003; Maylor, 2003; Meredith and Mantel, 2003) towards a model which better represents the 'true' nature of projects, and for a method of project management based on 'critical success factors' (Stallworthy and Kharbanda, 1985; Belassi and Tukel, 1996; Kharbanda and Pinto, 1996; Belout, 1998; Boddy and Paton, 2004), with the assumption that such an ideal model objectively exists in the world of practice. There is little evidence that the resulting torrent of competing streams of thought, methods of enquiry and best-practice claims and propositions has creatively contributed either to constructive debate in the field or to resolving the difficulties encountered in practice.

To readdress this situation, we intend through this text to create an opportunity to stand back and problematise that which seems known and accepted about projects. Taking this concern as its point of departure, this edited collection aims at opening up new trajectories within the research agenda in the field of studies relevant to projects, project performance and project management. The starting objective is to critically evaluate the intellectual foundations of project management as a field of study and a practising discipline, to expose and understand the key obstacles to innovative research and the creation of knowledge communicable and relevant to practitioners, and to broaden the research agenda by encouraging a more critical approach in this area of organisational life. In particular, the collection will explore the potential of critical research to enhance the intellectual basis of the project management subject area.

As a tentative starting point, therefore, we would pose some fundamental questions which might guide our reflection on how projects are conceived and how they could be conceived:

- Is there a universal explanation of what projects are and how projects evolve?
- What is the meaning behind the concepts in use, that is, the terms such as ‘project’, ‘project management’ and ‘project success’?
- What are the implications of the ‘mainstream’ definitions of ‘project’ and ‘project management’ for the nature of knowledge and the intellectual foundations of studies of project-based organising, work and management?
- What are the consequences of project organising as currently prescribed, both for project managers and project workers?
- What alternative perspectives upon projects exist beyond the mainstream?
- Whose interests are being served by the reproduction of the status quo in the field?

To understand why we have highlighted this sort of concern (and, equally importantly, why we feel such concerns are not routinely considered in the vast ‘mainstream’ literature on projects), we will need to locate our discussion within a reexamination of the evolution of project management. In doing so, we aim to underline why projects merit such serious attention, and to account for their rising popularity and importance in contemporary organisations.

A history of project management

Project management emerged as a social practice in the post-second World War development of technology and infrastructure. Despite various streams of praise and criticism, project management and projects have been accepted by many both within and outside the field as natural, self-evident and indispensable. The emergence of project management is described in some detail by Morris (1997) and Engwall (1995), highlighting its development in practice through a number of major projects which can be traced back to the Manhattan Project in the 1940s. While the US oil and chemicals

industry played a major role in this period, the majority of the groundwork was done in US defence and aeronautics in the 1950s, including widespread use in the Apollo space programmes (Harrison, 1981). As is evident from contemporary writings (Gaddis, 1959), the Cold War acted as a significant driver on project management development in the USA throughout this period. The intellectual activity in developing the field until the 1960s was based almost exclusively on quantitative techniques within operational research (OR). During the 1960s and 1970s, the predominantly technicist approach was criticised and the theoretical foundations of the field expanded (Packendorff, 1995; Winch, 1996) to encompass traces of organisational research and theories largely concerned with project organisation structures (that is, the matrix form), project leadership, the role of human resource management in facilitating project work and advice on project team-building. In the 1980s and 1990s there was a revival of the OR-based project management research driven by the developments of computer-based technology, which resulted in the creation and promotion of sophisticated expert systems for project planning, control and risk analysis, and an increased use of terminology such as project information systems, project communication networks and so on. This was in no small measure due to the awakening of public sector clients, including government agencies, in their search for robust management models and procedures to minimise disasters of budget and time overruns and questionable quality associated with the project work and outcomes delivered by contractors. A variety of project control methodologies (for example the PRINCE family) and risk management schemes have been developed against such a background. Despite the increased sophistication of these models for project planning and monitoring, researchers found that only the most basic ones are actually used by practitioners and that they are not always used as intended (Packendorff, 1995; Besner and Hobbs, 2004).

The 1990s saw an expansion of the project management field of study from its engineering heartlands into what became widely accepted as a 'multidisciplinary subject', significantly engaging business and management researchers and educators (Winch, 1996). This coincided with the promotion and acceptance of project-based work, organising and management across industries and sectors, as a powerful and universal organisational response to the challenges of managing in a complex world. As Clarke (1999: 139) states: 'In a world where change is becoming increasingly important, tools such as project management, if used properly, can provide a useful way for organisations to manage that change effectively.' It is usually based on the introduction of a set of procedures, or on a new model of administration with the strategic aim to enhance competitiveness through a more effective intra-organisational integration and optimal utilisation of scarce resources (Cleland, 1997).

The contemporary surge in interest in 'project management' is typically explained by reference to the increasing recognition of 'the project' as a versatile, flexible and predictable form of work organisation. Its image as a universal solution to organisational problems has been established through the promotion of specific techniques for planning, monitoring and control, tried and tested in the operations of traditionally

project-oriented industries such as defence, aerospace and construction (see, for example, Young, 1999; Frame, 1999; Maylor, 2001). Projects and project teams have emerged in the practitioners' and academic discourses as unique economic and social processes on which the emerging 'knowledge economy' heavily relies (Frame, 1994, 1995; Briner and Hastings, 1994; Cleland, 1997; Cleland and Ireland, 2002; Clarke, 1999; Young, 2003; Meredith and Mantel, 2003). They are promoted as universally applicable templates for integrating, by design, diverse functions of an organisation that enable concentration of flexible, autonomous and knowledgeable individuals in temporary project teams, for the focused accomplishment of goals efficiently, timely and effectively, for customer satisfaction and company benefits.

The created myth about projects and project management continues to expand as knowledge-intensive firms increasingly based on project models are hailed as the organisation of the future (Weick, 1995; Frame, 1999). Thus Frame, for example, claims confidently that the underlying reason for the projects becoming the central focus of management activity in many organisations can be stated 'in a single word: *competition*' (1999: 4, italics original). The literature of the 1990s and in the recent years has drawn attention to the centrality of project-based organising and project working in the processes of information-sharing and knowledge management in organisations (Wiig, 1997; Davenport and Prusak, 1998; Hansen *et al.*, 1999; Silver, 2000; DeFillippi, 2001). Cleland (1997) points out that as project teams evaluate new technologies and resources, they gain insights into the need for making changes. Projects supposedly provide, according to Cleland, a central point where new knowledge, skills and attitudes can be developed. The received wisdom of this kind has resulted in a widespread adoption of 'the project' in contemporary organisations as the focal unit of their operations. Not only are projects considered suitable ways to control endeavours in a turbulent environment (Ekstedt *et al.*, 1999), but, more importantly, they are regarded as the appropriate way to stimulate a learning environment and enhance creativity so as to deliver complex products (Hobday, 2000). Despite the inherent contradiction between these two arguments for project-based organising (Tjaeder and Thomas, 2000), it is precisely upon this ambitious promise to deliver both 'controllability and adventure' (Sahlin-Anderson and Söderholm, 2002) that the attraction of organisational 'projectification' is founded.

In certain academic circles, the expanding influence of 'project-based work' has been referred to as the *projectification of society* (Midler, 1995; Lundin and Söderholm, 1998; Jessen, 2002; Sydow and Staber, 2002). In essence, this notion attempts to capture the growing colonisation of all quarters of life by project-related principles, rules, techniques and procedures, aspiring to form a new 'iron cage' of project rationality (Hodgson and Cicmil, 2003). As more and more organisational members are consequently being redefined as *project workers* and *project managers* across industrial sectors, both scholarly and practitioner communities are experiencing the implications of this shift for employees and organisations (Packendorff, 1995; Hodgson, 2002). The emerging concerns are related to the impact on identity, reshaped intersubjective interaction,

and increased control over the individual through ideologies of efficiency and performativity (Fournier and Grey, 2000). These mechanisms are actualised in a number of 'project-related' contemporary tendencies including the use of information technology (IT) in business process restructuring, the promotion of self-managing teams, the ideology of 'knowledge society' and 'knowledge worker', and the emergence of project-based organisation. The resulting drive towards the professionalisation of the project management discipline has been accompanied by the struggle and the tensions involved in conceptualising, promoting and agreeing on the universally acceptable document which should outline the formal body of project management knowledge. This struggle reflects and encapsulates the competition between the nationally embedded professional associations of project management, with distinct bodies of knowledge proposed by the (US-based) Project Management Institute (PMI), the (UK-based) Association for Project Management (APM), the International Project Management Association (European in origin) and the numerous corporate models such as Ericsson's 'PROPS' model (see Linde and Linderoth, this volume).

Accounting for the failure of project management

Concurrently with these developments encompassing the management of projects, project management as an innovative method of effective organising and efficient operation and the phenomenon of 'projectified society', mainstream research into projects and project management continues to rely heavily on the prescriptive and the instrumental. Despite a high level of research enthusiasm against the background of instrumental rationality in decision-making and control, it is increasingly apparent that accepting and applying such orthodoxy does not eliminate project failures, nor does it guarantee project success (Williams, 2004). Although the project management body of thought has been substantially modified since the 1990s, the core concerns continue to shape academic enquiry and practitioners' discourses about projects and project management. Simultaneously, a growing body of literature, as well as a growing body of empirical evidence and the voices of numerous practitioners, supports the view that the very reason for using projects and project management as a methodology for organisational innovation and change is at the heart of project failures (Clarke, 1999; Thomas, 1999, 2000; Maylor, 2001). These concerns will be discussed in more detail below, as they are central to the aims and the approach taken in this collection.

In the closing decade of the twentieth century, project management was challenged more seriously than in any previous period. Contemporary studies of project performance continue to indicate the disparity between the maturing body of project management know-how and the effectiveness of its application (Baker *et al.*, 1983; Williams, 1995; Belassi and Tukel, 1996; Atkinson, 1999; Morris *et al.*, 2000), as an increasing visibility is being given to the claims about project and project management failures, and about dissatisfaction with project performance and outcomes by affected stakeholders.

A glance at the content of recent public reports and those recorded in previous studies (for example, Morris and Hough, 1987; Standish Group, 1995; Winch, 1996; Ewusi-Mensah and Przasnyski, 1997; Williams, 1999; Atkinson, 1999; Flyvbjerg *et al.*, 2002, 2003) provides an insight into frequent cost overruns, delays and underperformance in terms of quality and user satisfaction, which seem to have become the rule and the reality of contemporary projects. In 1995, for instance, it was estimated by the Standish Group that American companies and government agencies spent \$81 billion on cancelled IT projects (Ewusi-Mensah and Przasnyski, 1997). In addition, the same source reports that, in total, 31 per cent of IS/IT projects were deemed complete failures, 53 per cent were late, over budget and did not meet expectations, that only 9 per cent of IT projects are delivered on time or within budget, and a mere 16 per cent in total were considered successful. The average time overrun has been identified as being 222 per cent of the original estimate. The question often raised in public about this issue is, generally, how the IT/IS project risk (both financial and service risk) is shared and transferred among the public sector and private sector participants.

In January 2000, the *Financial Times* (FT, 2000) reported, for example, on the 'fiascos' of the major government information technology projects in the UK 'stemming from basic project errors' which 'highlighted the need for greater professionalism in project management ... The government's track record in project management has been, to say the least, poor.' Here, the blame was attributed to a lack of specialist project management knowledge among some civil servants and ministers, and to different approval systems, which have, according to some observers, resulted in unrealistic project deadlines. A growing body of evidence shows that similar observations and conclusions have been made in relation to IT/IS in other sectors and types of organisations. It is not only the poor performance of IS/IT projects that has come under public scrutiny. Bowen *et al.* (1994) reported that nearly 30 per cent of product development projects never live up to business objectives. According to Winch (1996), UK government-procured construction projects ranging from hospitals to roads, suffer from, on average, 14 per cent cost overrun and 11 per cent time overrun. More recently, the £214 million refit project of the Royal Opera House in Covent Garden resulted in a cancelled opening performance, and the remaining shows being run at huge technical risks associated with the operation of newly installed but not properly tested and learned backstage equipment (FT, 1999). The Jubilee Line extension project for the London Underground, for example, has been characterised as having been 'a long saga of overshot deadlines and overspent budgets' (Winder, 1999: 8). In the USA, the belated opening of Denver International Airport after four embarrassing postponements, various scandals and a final cost of \$5 billion against the budgeted \$1.5 billion, has been held up as another yet example of project failure (Dempsey *et al.*, 1997). More recently, the much-derided construction of the Scottish Parliament Building was described by the Fraser Report in September 2004 as being two and a half years behind schedule with costs running approximately ten times more than the original estimate of £40 million. The conclusion drawn about the destiny of such

projects as a rule inherent in their very nature is simple: 'These projects never go according to plan' (*FT*, 1999b).

In light of this, it is unsurprising that governments are taking a greater interest than ever before in project management, in an attempt to address this apparently perennial failing of project management techniques. As noted above, governments, and in particular the US government, have been closely involved in the development of project management models and techniques for over half a century. The UK Office of Government Commerce (OGC) within the British Treasury, for example, has developed and promoted the well-established PRINCE and PRINCE2 models, and is currently taking the lead in setting up Centres of Excellence for Project and Programme Management throughout the UK. Similar initiatives by government agencies in North America and elsewhere indicate the seriousness with which project management models and practices are now considered in the public sector. Meanwhile, the ongoing professionalisation of the field of project management, and the increased influence of professional associations through accreditation of training and credentialism, draws significant support and gains moral legitimacy from this perceived role in protecting public interests and ensuring the effective use of public funds.

Diagnoses and prescriptions

While the existence of a crisis of some kind in the field of project management is recognised in many (although not all) quarters, the diagnoses in the field are unsurprisingly varied. For many established project management writers, the failings of project management are to be expected in a maturing field – as techniques are further honed, and models are perfected through longitudinal and cross-sectoral research, it is assumed that the field will one day settle upon a reliable and basically effective model and array of techniques. Others, both within the mainstream and beyond, see the problem as far more deeply rooted in the fundamental principles upon which the field of project management has been established. In this section, we will look at each of these accounts in turn, considering first the attempts by the mainstream of project management to confront the very real failings in the discipline, before turning to a more critical diagnosis of the current state of project management.

It is not our claim then that project management as a disciplinary area is unaware of or unconcerned by the limitations and continued failings of project management models and methods. There is a long-standing debate on the international scene about the formulation of the formal, professional project management body of knowledge, in which important questions are posed by the proponents of mainstream project management about the boundaries of the project management subject area, its purpose, practical application, and relationship with other aspects of organisational and managerial reality (Meredith and Mantel, 1995, 2003; Walta, 1995; Wideman, 1995; Frame, 1999; Morris *et al.*, 2000, among others). Despite the significant presence

of project-based working and organising across industrial sectors and the problematic qualifications of project outcomes as success or failure, a number of authors note that the development of project management knowledge remains unstable and fragmented. As a consequence, the dream of establishing project management as an exemplary field of management science is becoming increasingly remote. Questions have been raised about the underlying belief system which exhibits a strong bias towards functionalist/unitarist tradition, reductionism, operational research and 'how-to-do' prescriptive forms of intellectual output (Kreiner, 1995; Packendorff, 1995; Buchanan and Badham, 1999; Thomas, 1999). It was mainly in the 1990s that critical analysis of social and political power associated with projects as organisational and social arrangements, and project management as a practice and as a social grouping emerged in an explicit form (Buchanan and Boddy, 1992; Kreiner, 1995; Packendorff, 1995; Thomas, 1997; Lundin and Midler, 1998; Buchanan and Badham, 1999; Lundin and Hartman, 2000).

In summary, as a result of the assumptions that have guided the development of project management over the decades, its knowledge system has evolved to now encompass a variety of popular concepts following (at some delay) trends in the broader field of management studies:

- *Controlling the performance of projects* – that is, enforcing the particular set of actions project actors are required to undertake in order to produce the desired outcome by managing the motivations and the actions of people
- *Managing relationships among people* – that is, managing the whole 'system' of interrelated roles and tasks and their interconnectedness
- *Managing the project team culture through project leadership* – that is, designing and controlling the system of values and beliefs in order to motivate people to subscribe to identified project goals
- *Designing and managing the learning process of project members*
- *Capturing, managing and transferring knowledge in project environments.*

Nonetheless, the response to this crisis has so far been a yet greater emphasis on technicist solutions, quantitative methodologies, positivist methodologies and a stronger reliance on instrumental rationality. In one attempt to move the field forward, Atkinson (1999) asserts that it has become an impossible, and, most likely, non-'value-adding' endeavour to define project management in terms of the traditional 'iron triangle' principles, emphasising the achievement of time, cost and quality objectives as the major justification of the role of project management. According to Atkinson, the attention should be refocused from these efficiency measurements, which are being questioned as appropriate measures of project success (see also Belassi and Tukel, 1996; Baldry, 1998; Chapman, 1998; Maylor, 2001), to the nature of the project as a complex organisational arrangement, the 'good management of which is a flexible attribute which could be a strength for achieving project success' (Atkinson, 1999: 339). Exploration of performance characteristics of public initiatives such as

large-scale engineering projects expanded these performance measures to include a discussion of the role of institutions, risks and governance in project success (Miller and Lessard, 2000). For others, it is paradoxical feedback which hinders the effective adoption of project-based working and organising as a structural innovation in complex business environments. Where project management has been mobilised as a blueprint for structuring and coordinating organisational change, according to Clarke (1999), 'People often do not see project management as something to help them but rather something which is mandatory, serving little useful purpose' (Clarke, 1999: 144). Clarke identifies the following as problematic in the application of project management as a vehicle of change: the rigid 'standardisation' of project management as the mode of change management which often causes cultural clashes; project management, or 'managing by projects' or becoming a 'project-based' organisation, is often regarded as another control mechanism, a 'corporate reporting' tool; the inadequate formal completion of change projects; project overload syndrome; individual resistance to imposed procedures and practice; and a lack of confidence and motivation. It becomes obvious that the very principles of the effective, structured project management methodology are simultaneously seen as its major causes of failure.

Another influential attempt to address the malaise comes from what is known as the 'Scandinavian School' of project studies (Lundin and Söderholm, 1995; Lundin and Midler, 1998; Ekstedt *et al.*, 1999; Lundin and Hartman, 2000; Sahlin-Andersson and Söderholm, 2002; Söderlund, 2004). In the 1990s, Packendorff succinctly summarised the concern shared by a group of Scandinavian scholars, arguing that contemporary propositions for the improvement of project management knowledge and practice were ill-conceived, reflecting fundamental misconceptions within the field. He identified three major deficiencies which are ingrained, maintained and reproduced across the research field through certain ontological, epistemological and methodological assumptions: (1) the assumed universality of project management theory, (2) the lack of empirical studies of projects, and (3) the lack of alternative representations of 'projects' (summarised in Table 1.1).

Emerging from this school are a number of vital themes which move beyond traditional understandings of projects and their management: the conceptualisation of projects as temporary organisations (Lundin and Söderholm, 1995), the recognition of the historically embedded nature of projects (Kreiner, 1995; Engwall, 2003) and the shift in focus from single to multiple project management (Engwall and Jerbrant, 2003). While this introduction of sociological perspectives to the field of projects is clearly welcome, indeed long overdue, the more conservative current work in this tradition remains strongly wedded to a functionalist viewpoint, focusing upon improving project performance through attention to social (that is, human) factors. Equally, within this perspective, the inclusion of power and power relations tends to be limited to the introduction of a form of micropolitics, separated from the larger power differentials inherent in modern, capitalist society. While there is much to be drawn from the Scandinavian School, and much which improves upon the narrow mechanistic

Table 1.1 Common and alternative assumptions on project management

	Common assumptions	Alternative assumptions
Project management theory	General theory for all kinds of projects, generic concept collecting different theories applicable to projects under one umbrella	Middle-range theories on different sorts of projects, classified according to different selection criteria
Aim of research on projects	Prescriptive, normative theory, grounded in ideal models of project planning and control. Research undertaken as survey studies of large samples of projects	Descriptive theory, grounded in empirical narrative studies on human interaction in projects. Research undertaken as comparative case studies
Research metaphor for the project	A tool, a means for achieving higher-level ends	A temporary organisation, an aggregate of individuals temporarily enacting a common cause

Source: Adapted from Packendorff (1995: 326)

instrumentalism of traditional project management, we would argue that the school remains too conservative in its ambitions and does not take its argument to its logical conclusions. It does, however, open the space of project studies to more explicitly ‘critical’ currents, and some of the strongest critical work on projects to have emerged so far has its roots in the advances made by the Scandinavian School (see, for example, Lindgren and Packendorff, 2001, 2003).

Critical perspectives on projects

Governed by the tradition of ‘natural sciences’ (for example, systems theory), the project management body of knowledge emphasises the role of project actors and managers as ‘implementers’, narrowing down their role to the issues of control (time and cost) and content (planned scope of work) and marginalising their wider potential role as competent social and political actors in complex project-labelled arrangements. Dissemination of ‘best practice’ carries a message about the possibility of the progressive rationalisation of action and a belief in the progressive and cumulative character of knowledge. This typically assumes rationality, universality, objectivity and value-free decision-making, and the possibility of generating law-like predictions in knowledge.

More recently, work has emerged which takes a more fundamentally critical position towards mainstream project management, its nostrums and methods (see, for example, Packendorff, 1995; Bresnen, 1996; Metcalfe, 1997; Thomas, 1997; Lindgren and Packendorff, 2001; Bredillet, 2002, 2004; Gill, 2002; Hodgson, 2002; Buckle and Thomas, 2003; Cicmil, 2003; Hodgson and Cicmil, 2003; Hodgson, 2004; Cicmil and Hodgson, 2004). The belief system underpinning the definition and reification of the

'project', project organising and project work in contemporary organisations is reproduced and sustained in most of the mainstream literature through a set of assumptions which emphasise certain problems and voices and silence others. Propositions to 'project manage' a particular business affair, strategic problem, political issues or change initiatives imply invoking a 'technical' solution through *expert* management. Project managers are thus depicted as having privileged knowledge of the *real world*. Their managerial status is legitimised on such ontological and epistemological grounds. Consequently, the normative/rational prescriptions offered to practitioners about managing projects and creating managerial knowledge tend to dominate organisational discourses.

Critical authors suggest the need for a wider picture of what goes on in projects and project management by focusing on who is included in and who is excluded from the decision-making process, analysing what determines the position, agendas and *power* of different participants, and how these different agendas are combined and resolved in the process by which the *decisions* are arrived at. Much of this work derives from the diversity of positions collectively referred to since the mid-1990s as 'Critical Management Studies', which has taken issue with numerous elements of managerial knowledge, technologies and techniques. The work of, for example, Reed (1992), Alvesson and Willmott (1996) and Thompson and McHugh (2002), among others, critiques the dominance of functionalism and positivism in management. Such work takes issue with positivist epistemology in the field of management, in so far as it perpetuates the belief that *managers face an objective reality* which they can control by applying suitable methods for a *rational* assessment of the problematic situation in order to come up with the correct solution. The consequence of this is a proliferation of methods, tools, analytical techniques and applied instruments with which management itself becomes identified. Management skills and knowledge are reduced to *value-neutral competence*, ignoring the political aspect of organisations, and ethical and moral issues, reinforcing the belief that management can be conceptualised in a technical way by agreeing on *terminology and meaning*. Managers are seen as rational technicians, dealing with technical issues that are resolvable through the application of superior knowledge of the planning and control techniques. Alvesson and Deetz have commented on the problems with narrow, conventional approaches to studying the phenomenon of management and the need to adopt a much more critical stance and varying theoretical lenses:

There is considerable agreement that conventional, universal statements of what management is about and what managers do – planning, organizing, coordinating and controlling – do not tell us very much about organizational reality, which is often messy, ambiguous, fragmented and political in character. (Alvesson and Deetz, 2000: 60)

It is argued that conventional approaches to organisational and management research have exposed managers and other employees involved in problem-solving and decision-making to an overwhelming amount and range of techniques (empowerment, teamwork, flexibility) which can be interpreted as 'covert tools of manipulation

and exploitation' (Huczynski and Buchanan, 2001: xxi). The most important requirement for the development of critical project management studies is the inclusion of critical social theory into the research process. Central to it is the need to explore how the relationships between individuals and collectivities are being constituted and reproduced in the context of project management, and how asymmetrical power relations create and sustain the social reality of projects. In this context, we argue that the main issue for the project management research community should not be what form of critical analysis is best suited for enhancing the intellectual basis of critical management studies. Drawing on Critical Theory and particularly the contribution of Jürgen Habermas, Alvesson and Willmott (1996) suggest that intellectual efforts should be focused on encouraging inspiration from a variety of theories and ideas, as a counterforce to technicist and instrumental forms of rationality in project environments. From a Habermasian perspective, it might be argued that the objective, abstract and universal body of knowledge claimed in a number of authoritative sources as proprietary to project management fails to live up to the challenges of the embodied and power-laden realities of its operation. 'Project management', as created by this school of thought, exhibits the characteristics of what Alvesson and Willmott (1996) call *management as colonising power* and *management as distorted communication*. From this perspective, the possibility of critical project management will depend on the extent to which a social theory about the nature of projects provides concerned actors with authentic insights into their position in project environments, leading to their enlightenment, changed attitudes and emancipatory action.

Another major influence on critical work with implications for understandings of project management is the wide and varied oeuvre of Michel Foucault, drawn upon by writers such as David Knights, Stewart Clegg, Barbara Townley and Stanley Deetz, among others. Work on project management which continues this tradition (Hodgson, 2002; Lindgren and Packendorff, 2003; Thomas, 2003) tends to highlight the implied calculability and formality of project management methodology, embodying a strong functionalist commitment to ensuring the effective control of workers. These and similar voices remain under-represented in the general debate about project management. A key challenge for critical work from this perspective is thus to draw attention to the power relations maintained by project management technologies. In particular, a key research theme is a focus on the consequences of those techniques of observation, measurement and performance control central to project management methodologies for both the management and the self-management of workers within project settings.

To advance such critical work, we would argue that the scope for critical research into projects and project management, and in particular the emancipatory aspect of such research, needs to be expanded. This means a more radical acknowledgement of voices from practitioners in project environments, such as Balck's:

Practitioners, in particular we as project managers, are well advised to rid ourselves of the constricting historical background of a mechanistic world image and rationalism. Without

question the best method to help us correct our way of traditional thinking is ‘on-the-job training’; that is, experiencing the real success and failures in dealing with our everyday business endeavours. (Balck, 1994: 2–)

We would argue that taking this seriously means moving beyond the narrow instrumentalism which bedevils yet largely defines the ‘iron triangle’ approach to project management. Our hope is that this collection may constitute a first step towards creating a vocabulary and a resource for a critical engagement between practitioners and academics beyond the confines of the existing language, concepts and assumptions of mainstream project management.

Making projects critical: new trajectories

At this point, it is opportune to return to the intentions behind this collection. As stated in the very introductory sections of this introduction, this edited book aims at opening up new trajectories within the research agenda in the field of studies relevant to projects, project performance and project management in order to address the persisting and prevailing concerns articulated in literature and practice which we attempted to briefly illuminate above. We hope that the voices from critical researchers who contributed to this book signpost possible routes towards a critical evaluation of the intellectual foundations of project management as a field of study and a practising discipline and to broaden the research agenda by encouraging a more critical approach in this area of organisational life. Explicitly we take up the challenge offered by Flyvbjerg (2001: 166) to conduct research that ‘contributes to society’s capacity for value-rational deliberation and action’, in essence to make social science matter in the context of project work.

For the sake of clarity of presentation, we have grouped their work to resemble the key concerns identified in this introduction. One is the issue of epistemological and ontological assumptions behind the legitimised definitions of projects and project management which in turn have shaped most of the mainstream research in the field and the nature of knowledge created in the research process. Building on some of these alternative theoretical approaches and concepts which will be discussed in Part 1, the remaining two sections present the work that explores the implications of critical theories and methodologies for our understanding of social action and management skills in everyday practice in organisational arrangements labelled ‘projects’. We consider, first, those arrangements which have resulted from ‘applying’ project management within specific organisations as a structural solution to effectively accomplishing discrete organisational goals and efficiently utilising available resources (Part 2). Then, a consideration is given to the body of work which critically looks at the complex processes of relating that go on in the landscapes labelled ‘projects’ where multiple parties (representing discrete organisations and groupings) interact (Part 3).

And finally, what might it mean for both the scholarly and the practitioner community to encourage a different way of viewing and thinking about projects and project management as social phenomena through critical studies? How might a consideration of lines of reasoning and practice other than those promoted by mainstream project management thinking respond to the identified crisis in the field? We believe that one of the ways of responding to these questions is to emphasise the importance of looking at projects and project management as social phenomena which are not neutral, but socially constructed in the interaction among people. Such interaction is simultaneously power and conversational relating among individuals and groups through the medium of symbols and artefacts which form and are formed by one another. Asymmetries of power that are part of intersubjective relating inevitably invoke the issues of control, domination and ideology and their implications for the identity and well-being of individuals and society. Therefore, another important aspect of critical approaches to project management is to reexamine the currently dominant imperative of performativity in relation to how this shapes the development of the body of knowledge and best practice in the field (particularly related to 'critical factors for project success') and illuminate the importance of considering other indicators of 'project success' beyond time, cost and quality performance, to encompass the environment, health and safety and ethics. And third, critical project management research appeals directly to practitioners as it, in terms of methodology, is interested in specific local situations and in lived experiences of various project actors with an aim of initiating some transformative redefinition (Alvesson and Deetz, 2000) of actors' own perception of self, their voice and their influence in shaping their own social roles and place.

Several prominent mainstream authors (Winch, 1996; Morris *et al.*, 2000; Maylor, 2001; Koskela and Howell, 2002; Morris, 2002) have raised the need for introducing alternative theoretical approaches to studying projects and for identifying the implications that they may have for how we talk about and conceptualise our understanding of knowledge creation about projects. The first chapters in the opening section take this fundamental need for a new theory of the project as their starting point.

Part 1: new theoretical perspectives

In Chapter 1, Hodgson and Cicmil take issue with the 'naturalisation' of the project as a universal and pervasive organisational object. They draw parallels between the foundations of project management and an enduring theme of management theory: the belief that its study is analogous to natural science, that is, discovering universal laws and fundamental properties of objects which (pre)exist 'out there', in the 'real world'. From this naive realist perspective, many writers on project management feel able to present their field as gradually converging on a generic model of the project management process, complete with common ontology and a standardised terminology globally recognised by professional project managers. Many texts and documents

in the field, from textbooks and manuals to academic articles, are implicated in this naturalisation, engaging both explicitly and implicitly in the reification of ‘the project’. They argue that the debate within project management thus exhibits the trait termed by Robert Chia as the phenomenon of ‘false concreteness’. Their concern with this tendency centres upon the consequences of an epistemological position which insists upon the reality of its focus, that is, the systematic preclusion of alternative representations/classifications of the phenomena of interest.

In the next chapter, Linehan and Kavanagh (2003) draw on Chia’s (1995) work to make an important distinction between two ontologies of projects – *ontology of being* and *ontology of becoming*. From the perspective of a ‘being’ ontology, they argue, ‘primacy is given to objects, things, states, events and nouns. In the context of projects, a “being” ontology leads us to talk and think about organisation structure in an objectified manner’ (Linehan and Kavanagh, this volume). This perspective underpins most of the mainstream approaches to project working (as a ‘template’ of effective organising and creativity), as noted above. In contrast, an alternative approach, a ‘becoming’ ontology, emphasises process, verbs, activity and the construction of entities. The latter emphasises the role of language, conversational relating, intersubjective understanding and interpretation as key to making sense of arrangements labelled projects in contemporary society. By clarifying the different ontologies which may be employed with regard to projects, they seek to set out alternative ways to approach the understanding of projects in context. Instead of thinking about the project as a temporary endeavour undertaken to create a unique product or service, they posit an alternative position in which a project is considered as an emergent outcome of disparate and ambiguous political practices.

The next contributor, Mike Bresnen, shares the previous chapter’s concern with the limitations of the ontology and epistemology of contemporary project management theory. Bresnen develops a critique of mainstream project management by drawing attention to the differences in epistemic culture which exist between the fields of mainstream project management on the one hand, and organisational change and learning on the other. The chapter opens with a consideration of the increasing influence of project management thinking across sectors, detailing how mainstream project management embodies a particular way of seeing organisations that reflects the characteristic problems of projects. Several tendencies within mainstream project management are critiqued: in particular, the dominance of mechanistic models of management theory in the field, the focus upon the project and project organisation as the unit of analysis and the narrow, sector-specific nature of emphasis placed on research in project management. Contrary to current work which sees project organising as a powerful source of change and innovatory practice in organisations, the chapter brings into question the easy concatenation of learning and project-based work, and challenges project management’s ability to deliver in this dimension.

In the next chapter, Thomas initiates a wider debate about project management practices, focusing in particular upon their operation in the realm of power/knowledge.

Adopting a Foucauldian approach, she examines how project management influences what is 'knowable' and therefore 'doable' in the field of projects by tracing the history of project management discourse and making some initial steps towards an archaeology of the field. Focusing on current practices in project management, she then reviews some of the 'truths' of project management as detailed in best-selling project management texts, disseminated through mainstream project management training and repeated by practising project managers. Making the clear link between the short-falls of project theory and the practical deficiencies of the field, she argues that it is the fundamental contradictions evident in project management knowledge that lead to implementation failures. Problematising the concept of the project, she argues, is a vital starting point in the development of a different fundamental understanding of the function of projects in organisations.

Collectively, this first section takes a necessarily broad view of project management as a field, as a discipline, as a knowledge community and as a profession in the making. The next sections look in more empirical detail at project management as implemented in contemporary organisations mobilising critical lenses to understand the evolution of projects, their success and failure.

Part 2: projects within organisations

The next chapter, by Lindgren and Packendorff, starts by questioning the stereotypical distinction made in many descriptions of projects that contrast challenging and exciting project work and mundane and routine 'ordinary work'. Drawing on a variety of empirical cases, they underline that from the perspective of the project worker (as opposed to simply the project manager), projects are both stimulating but also sources of stress, loneliness, disrupted family lives and superficial workplace relations. They explore stories from two very distinct projects, one theatre project implemented in the Baltic Opera House and one IT consultancy project implemented by the software company Compute. Mobilising Foucault's analysis of the modern prison system as a metaphor for project work and its consequences in society, they interpret project work in each case as an explicit expression of the disciplinary principles upon which all modern organising is built. From this perspective, project work implies disciplining people and 'souls' in space and time. Unlike the traditional Weberian bureaucracy, they argue that projects are less open and less formal technologies for disciplining their subjects, which transfer many of the traditional management responsibilities to the individual personally. Instead, drawing on the personal accounts and reflections of project workers, they argue that the sources of discipline within projects have become hidden, informal and individualised.

In an original and challenging chapter, Manuela Nocker challenges the association of project-based organising with flexibility, speed and adaptability, criticising the reliance of project management methodologies on 'how-to' manuals, prescriptive recipes and critical success factors. She argues that this reflects an underlying ontology which reifies

both 'the project' and by implication project management practice, and takes 'the project' as a given, separated from the people who sustain, reproduce and renew it. As an alternative to this approach, her chapter examines the possibility of expanding our understanding of the nature of projects by exploring the process through which participants momentarily crystallise a project definition, in terms of meaning and potential for action. Her analysis centres upon the shaping of a project's shifting boundaries through the enactment of *physical, mental and social spaces*. Drawing on an ethnographic case study of an ICT project team from a global management consulting firm working in information systems design, she illustrates how these various forms of space relate to each other and to the particular emergence of the overall project configuration. By tracing different narratives, Nocker uses the multiple voices of the team and other stakeholders in framing what she refers to as the emerging 'project horizon', and considers how this concept offers a radically different understanding of the formation and transformation of a project.

Anneli Linde and Henrik Linderöth draw inspiration from the work of Latour in their analysis of three IT-mediated change projects and their contexts. In this chapter, they explicitly adopt an Actor Network Theory (ANT) lens, understanding society as a seamless socio-technical web which interconnects heterogeneous actants (both human and non-human) through mutual inscriptions and enrolments. From this position, projects are considered as ongoing translations of the project vision, whereby various participants attempt to enrol others through problematisation and interessement to establish and stabilise a network. Their empirical studies indicate how the interpretative flexibility of the technology in each case gave rise to conflicting translations, causing continuous realignments of competing networks enacted through battles of wills and face-saving strategies. They argue pragmatically that a socio-technical lens is necessary if we are to understand and even foresee the complex interactions between heterogeneous actor groups and drifting technologies.

Molloy and Whittington take a rather different interpretation of the work of Latour in their analysis of two reorganisation projects, which they understand through Lundin and Söderholm's (1995) definition of 'temporary organisations'. Drawing on Bruno Latour's 'sociology of association', they analyse the reorganisation projects through the understandings of the practitioners themselves in an attempt to uncover how such actors 'construct society'. In doing so, they, like their research subjects, refuse to accept and thereby reinforce taken-for-granted distinctions between the social and the technical, and arrive at an original and challenging interpretation of everyday practice in project settings. In particular, they argue that 'the skill to recognise, accept and manage uncertainty about groups, agency, objects, matters of fact and epistemological assumptions is a key feature of reorganisation practice' (this volume). The outcome of this methodological orientation is a remarkable shift in our understanding, which sees project workers as 'savvy engineers' of diverse organisational objects, encompassing the human and the non-human, mobilising an array of artefacts, technologies and categories in pursuit of their goals.

Taking a reflexive approach to his own experiences as project manager, the next chapter by Charles Smith analyses the evolution of a two-year project to reengineer and downsize a financial services organisation. As he explains, the project was undertaken in the context of a variety of power–knowledge communities with significant and diverse interests in its outcome. In an empirically focused chapter, the main stages of the project are summarised, noting its perceived objectives and attributes at each stage, and describing the relationship to the project of the main parties. In terms of a ‘rational scientific’ model of projects, characterised by a specified intended outcome achieved through completion of a planned set of tasks, the project can be seen to have passed through a series of significant shifts in that rationality. Smith examines the changes in the project aims and expectations, the plan to complete, the meaning of success or failure, and the parties’ identification with or dissociation from the project. Smith considers and rejects one possible and common interpretation, which would be to dismiss the rational scientific model as being an entrenched paradigm that has ‘failed’. Instead, he sets out an alternative view, treating rational project management, and the related concepts of success and failure, as a resource deployed by the various parties, at critical stages, to defend their interests by reinterpreting the evolving project.

Part 3: inter-organisational projects

The final section, as noted above, deals primarily with the issues which arise in relation to projects in which multiple parties interact. This section opens with a detailed and rich study of a multi-agency civil engineering project, through which Nick Marshall explores the complexities of notions of power. In doing so, he critiques the failure to address power in mainstream project management writings beyond limited considerations of interpersonal influence and ‘politicking’. Instead, he argues, it is necessary to understand power as relational, productive and constantly renegotiated in the process of ‘doing’ project work. Given the marginal status of projects, as phenomena which are to an extent both unique and repetitive, they provide an ideal location to consider the interplay between enduring power structures and voluntary activity. In this chapter, Marshall makes full use of this opportunity and, drawing upon writers such as Foucault, Clegg and Law, develops a persuasive position to illustrate the operation of power beneath the overarching discourse of ‘partnering’ in the UK construction industry.

Drawing on case studies from the same sector, the following chapter by Stuart Green highlights the disparity between the literature on project management, the models and prescriptions which characterise much mainstream writing and the ‘lived realities’ of the management of projects. He interprets project management as a form of discourse promoted and circulated across industries, which cannot be understood separately from the context in which it is enacted and from the individuals who enact and thus reproduce project management in their daily lives. His primary interest is therefore in a ‘critical evaluation of how the discourse of project management shapes the lived realities of “project management” for the construction industry’s workforce’

(Green, this volume). He therefore focuses upon the enactment, or rather the dramaturgical ‘performance’ of project management scripts, in a variety of contractors and subcontractors involved in construction in London’s Canary Wharf. In contrast to other chapters which understand project management as an effective form of control, Green paints a compelling picture of the anarchic employment relationship that typifies construction projects in the UK, in the shadow of enterprise culture, casualisation of labour, lean construction and partnering. Despite the dominance of project working in construction, he challenges accounts of the discursive dominance of project management in this sector, arguing that career progression is dependent on leaving behind the tools and techniques of project management at an early stage and learning new and better scripts passed down by management fashion.

In the next chapter, Jörg Sydow challenges the static and technocratic approach which has dominated the field of project management for half a century, to the neglect of the social contexts in which projects exist. Focusing attention instead upon the embeddedness of projects in such networks, he argues that it is this embeddedness which enables projects to straddle and to profit from both fluidity and continuity. This argument is supported by an analysis of a sector dominated by project working, that of television production, drawing upon the concept of project networks. Adopting a structuration perspective, his approach is distinctive in that it pays equal attention to social practices and structures at the level of both the single project and the project network. Moreover, the perspective allows the incorporation of temporal embeddedness, a concept he utilises with regard to the understanding of project boundaries and paths. Through such an approach, he argues, vital issues of perception, process and power in the establishment and operation of projects may be addressed.

In their analysis of one of the highest-profile projects of recent years, Clegg, Pitsis, Marosszeky and Rura-Polley develop an innovative interpretation of project management practice drawing on their understanding of the future-oriented nature of all projects. They frame their chapter with a critique of current mainstream project management, drawing attention to the weak conceptual framework underpinning project management theory as it stands. In particular, they take issue with the linear and unbounded rationality implicit in many of the current bodies of knowledge and project management methodologies. Drawing on a more reflexive and temporal notion of the project, based on the work of Alfred Schutz and Karl Weick, they examine the successful completion of a key project in the preparations for the 2000 Olympics in Sydney. They argue that a vital component of the successful project was the understanding by the project team of the project in the ‘future perfect’: seeing the work to be accomplished as ‘simultaneously past and future’, as a cognitive and strategic shift which allows for a radically different conception of how projects can be managed.

In the next chapter, Sillince, Harvey and Harindranath take the contrasting case of a PFI-(Private Finance Initiative) governed IT project failure, examining the development of the project through the use of discourse and rhetoric. They interpret the project in this chapter as a multi-organisation network, and as socially interpreted and

socially constructed discourse analysis. This is in stark contrast to mainstream approaches to analysing (and advising on the best practice of managing) the conception, initiation and high-level planning stage of the project life cycle, where it is seen as a discrete chunk of reality where rational decision-making, evaluation and risk management play the key role in the successful negotiation of the contract and formation of the project organisation.

In the final chapter in this section on complex and multi-organisational projects, Ivory, Alderman, McLoughlin and Vaughan draw upon the related resources of symbolic interactionism and sense-making, allied to arguments from the literature on innovation, to shed light upon the development of a long-term engineering project. Rather than adopting a unitary perspective on this phenomenon, their analysis is based around the 'significant discontinuities' which characterise complex and long-term projects and which create a need for sense-making by different 'social groups' (customers, clients, contractors, suppliers, engineering and other technical disciplines). They develop this perspective through a rich and detailed analysis of the interior design of new railway rolling stock in the UK, a project with significant distinguishing features. They argue that this project could be better understood as an arena in which 'conventional assumptions, processes and procedures were challenged' rather than a rational and self-evident shared reality. They expand upon this position by highlighting the conflicting discourses of different groups in their separate but related attempts to 'make sense' of needs, requirements and the context of the project itself.

The collection concludes with an afterword and commentary by Peter Morris, who over thirty years has guided and advanced the core debates within the field of project management and the management of projects. His work to date reflects an abiding concern with the foundations and 'boundaries' of project management in its various incarnations, and has been particularly influential in the composition and evolution of the Association for Project Management's body of knowledge. His considered and constructive comments will, we hope, help to initiate a productive dialogue between the critical contributions incorporated within this collection and the large number of committed practitioners, consultants and academics involved in projects and their management.

References

- Alvesson, M. and Willmott, H. (1996) *Making Sense of Management: A Critical Introduction*. London: Sage.
- Alvesson, M. and Deetz, S. (2000) *Doing Critical Management Research*. London: Sage.
- APM (Association for Project Management) (1995) *APM Body of Knowledge*, Version 2, High Wycombe: APM Publishing.
- Atkinson, R. (1999) 'Project Management: Cost, Time and Quality, Two Best Guesses and a Phenomenon; It's Time to Accept Other Success Criteria', *International Journal of Project Management*, 17(6): 337–42.
- Baker, B.N., Murphy, D.C. and Fisher, D. (1983) 'Factors Affecting Project Success', in D.I. Cleland and R.W. King (eds), *Project Management Handbook*. New York: Van Nostrand Reinhold, 669–85.
- Balck, H. (1994) 'Projects as Elements of a New Industrial Pattern: A Division of Project Management', in D.I. Cleland and R. Gareis (eds), *Global Project Management Handbook*. New York: McGraw-Hill International Editions, 2–11.
- Baldry, D. (1998) 'The Evaluation of Risk Management in Public Sector Capital Projects', *International Journal of Project Management*, 16(1): 35–41.

- Belassi, W. and Tukel, O.I. (1996) 'A New Framework for Determining Success/Failure Factors in Projects', *International Journal of Project Management*, 14(3): 141–51.
- Belout, A. (1998) 'Effects of HRM on Project Effectiveness and Success: Toward a New Conceptual Framework', *International Journal of Project Management*, 16(1): 21–6.
- Besner, C. and Hobbs, B. (2004) 'An Empirical Investigation of Project Management Practise: In Reality, Which Tools do Practitioners Use?', in D. Slevin, D. Cleland and J. Pinto (eds), *Innovations: Best Papers from the PMI Project Management Research Conference*. Newtown Square, PA: PMI.
- Boddy, D. and Paton, R. (2004) 'Responding to Competing Narratives: Lessons for Project Managers', *International Journal of Project Management*, 22: 225–33.
- Bowen, H.K., Clark, K.B., Holloway, C.A. and Wheelwright, S.C. (1994) *The Perpetual Enterprise Machine*. New York: Oxford University Press.
- Bowker, G.C. and Star, S.L. (1999) *Sorting Things Out: Classification and Its Consequences*. London: MIT Press.
- Bredillet, C.N. (2002) 'Beyond the Positivist Mirror: Towards a Project Management "Gnosis"', paper presented at the IRNOP conference in Rotterdam, Amsterdam.
- Bredillet, C. (2004) 'Beyond the Positivist Mirror: Towards a Project Management "Gnosis"', paper presented at the IRNOP conference in Turku, Finland.
- Bresnen, M. (1996) 'Traditional and Emergent Professions in the Construction Industry: Competition and Control over the Building Process', in I. Glover and M. Hughes (eds), *The Professional-Managerial Class: Contemporary British Management in the Pursuer Mode*. Aldershot: Avebury.
- Briner, W. and Hastings, C. (1994) 'The Role of Projects in the Strategy Process', in D.I. Cleland and R. Gareis (eds), *Global Project Management Handbook*. McGraw-Hill International Editions.
- Buchanan, D. and Badham, R. (1999) *Power, Politics, and Organisational Change: Winning the Turf Game*. London: Sage.
- Buchanan, D. and Boddy, D. (1992) *The Expertise of the Change Agent*. London: Prentice-Hall.
- Buckle, P. and Thomas, J. (2003) 'Deconstructing Project Management: A Gender Analysis of Project Management Guidelines', *International Journal of Project Management*, 21(6): 433–41.
- Chapman, R.J. (1998) 'The Role of System Dynamics in Understanding the Impact of Changes to Key Project Personnel on Design Production within Construction Projects', *International Journal of Project Management*, 16(4): 235–47.
- Chia, R. (1995) 'From Modern to Postmodern Organizational Analysis', *Organization Studies*, 16(4): 579–604.
- Cicmil, S. (2001) 'Reconstructing the Project Management Knowledge System: A Multiple-Perspective Agenda', paper presented to Critical Management Studies Conference, UMIST, Manchester, 11–13 July 2001.
- Cicmil, S. (2003) 'Knowledge, Interaction and Project Work: The Perspective of Complex Responsive Processes of Relating', paper presented at the 19th EGOS Colloquium, subtheme 'Project Organizations, Embeddedness and Repositories of Knowledge', Copenhagen, Denmark, 3–5 July 2003.
- Cicmil, S. and Hodgson, D.E. (2004) 'Knowledge, Action, and Reflection in Management Education – The Case of Project Management', paper presented at the 20th EGOS Colloquium, Ljubljana, Slovenia, July 2004.
- Clarke, A. (1999) 'A Practical Use of Key Success Factors to Improve the Effectiveness of Project Management', *International Journal of Project Management*, 17(3): 139–45.
- Cleland, D.I. (1997) 'New Ways to Use Project Teams', in D. Cleland (ed.), *Field Guide to Project Management*. New York: Van Nostrand Reinhold.
- Cleland, D.I. and Ireland, L.R. (2002) *Project Management – Strategic Design and Implementation*, 4th edn. New York: McGraw-Hill International Editions.
- Davenport, T.H. and Prusak, L. (1998) *Working Knowledge*. Boston, MA: Harvard Business School Press.
- DeFillippi, R. (2001) 'Project Based Learning, Reflective Practices and Learning Outcomes', *Management Learning*, 32(1): 5–10.
- Dempsey, P.S., Goetz, A.R. and Szyliowicz, J.S. (1997) *Denver International Airport: Lessons Learned*. New York: McGraw-Hill.
- Ekstedt, E., Lundin, R.A., Söderholm, A. and Wirdenius, H. (1999) *Neo-Industrial Organising*. London: Routledge.
- Engwall, M. (1995) *Jakten på det Effektiva Projektet*. Stockholm: Nerenius & Santérus.
- Engwall, M. (2003) 'No Project is an Island: Linking Projects to History and Context', *Research Policy*, 32: 789–808.
- Engwall, M. and Jerbrant, A. (2003) 'The Resource Allocation Syndrome: The Prime Challenge of Multi-Project Management', *International Journal of Project Management*, 21(6): 403–9.
- Ewusi-Mensah, K. and Przasnyski, Z.H. (1997) 'Critical Issues in Abandoned IS Development Projects', *Communication of the AMC*, 40(9): 74–80.
- Financial Times* (1999) 'Royal Opera House Cancels Performance', 24 November: 5.
- Financial Times* (2000) 'Whitehall Counts the Costs of IT Projects', 14 January: 13.
- Flyvbjerg, B. (2001) *Making Social Science Matter*. Cambridge: Cambridge University Press.

- Flyvbjerg, B., Bruzelius, N. and Rothengatter, W. (2003) *Megaprojects and Risk: An Anatomy of Ambition*. Cambridge: Cambridge University Press.
- Flyvbjerg, B., Holm, M.S. and Buhl, S. (2002) 'Underestimating Costs in Public Works Projects – Error or Lie?', *Journal of American Planning Association*, 68(3): 279–95.
- Fournier, V. and Grey, C. (2000) 'At the Critical Moment: Conditions and Prospects for Critical Management Studies', *Human Relations*, 53(1): 7–32.
- Frame, J.D. (1994) *The New Project Management*. San Francisco, CA: Jossey-Bass.
- Frame, J.D. (1995) *Managing Projects in Organisations*. San Francisco, CA: Jossey-Bass.
- Frame, J.D. (1999) *Project Management Competence: Building Key Skills for Individuals, Teams and Organisations*. San Francisco, CA: Jossey-Bass.
- Gaddis, P.O. (1959) 'The Project Manager', *Harvard Business Review*, 32(May–June): 89–97.
- Gill, R. (2002) 'Cool, Creative and Egalitarian? Exploring Gender in Project-Based New Media Work in Europe', *Information, Communication and Society*, 5(1): 70–89.
- Hansen, M.T., Nohria, N. and Tierney, T. (1999) 'What's Your Strategy for Managing Knowledge?', *Harvard Business Review*, March–April, 1999, 77(2): 106–16.
- Harrison, F.L. (1981) *Advanced Project Management*. Aldershot: Gower.
- Hobday, M. (2000) 'The Project-Based Organisation: An Ideal Form for Managing Complex Products and Systems?', *Research Policy*, 29: 871–93.
- Hodgson, D.E. (2002) 'Disciplining the Professional: The Case of Project Management', *Journal of Management Studies*, 39(7): 803–21.
- Hodgson, D.E. (2004) 'Project Teams: The Legacy of Bureaucratic Control in the Post-Bureaucratic Organisation', *Organization*, 11(1): 81–100.
- Hodgson, D.E. and Cicmil, S. (2003) '“Setting the Standards”: The Construction of “the Project” as an Organizational Object', paper presented to the 3rd Critical Management Studies Conference at Lancaster University, July 2003.
- Huczynski, A. and Buchanan, D. (2001) *Organizational Behaviour: An Introductory Text*, 4th edn. Harlow: FT Prentice Hall.
- Jessen, Svein Arne (2002) *Business by Projects*. Oslo: Universitetsforlaget AS.
- Johnson, P. and Duberley, J. (2000) *Understanding Management Research – An Introduction to Epistemology*. London: Sage.
- Kharbanda, O. and Pinto, J. (1996) *What Made Gertie Gallop? Lessons from Project Failures*. New York: Van Nostrand Reinhold.
- Koskela, L. and Howell, G. (2002) 'The Underlying Theory of Project Management is Obsolete', *Proceedings of the PMI Conference, July 2002*. Seattle: Project Management Institute.
- Kreiner, K. (1995) 'In Search of Relevance: Project Management in Drifting Environments', *Scandinavian Journal of Management*, 11(4): 335–46.
- Lindgren, M. and Packendorff, J. (2001) 'What's New in New Organizational Forms? On the Construction of Gender in Project-based Work', paper for the Gender, Work and Organisation conference 'Rethinking Gender, Work and Organisation', 27–29 June, Keele University, UK.
- Lindgren, M. and Packendorff, J. (2003) 'Deconstructing Projects: Towards Critical Perspectives on Project Theory and Projecticised Society', paper presented to Making Projects Critical workshop, April 2003, Bristol Business School.
- Linehan, C. and Kavanagh, D. (2003) 'Creating Contexts for Knowing: Contrasting Project Ontologies', paper presented at the 19th EGOS Colloquium, subtheme 'Project Organizations, Embeddedness and Repositories of Knowledge', Copenhagen, Denmark, 3–5 July 2003.
- Lundin, R.A. and Hartman, F. (eds) (2000) *Projects as Business Constituents and Guiding Motives*. Boston, MA: Kluwer Academic Publishers.
- Lundin, R.A. and Midler, C. (eds) (1998) *Projects as Arenas for Renewal and Learning Processes*. Boston, MA: Kluwer Academic Publishers.
- Lundin, R.A. and Söderholm, A. (1995) 'A Theory of the Temporary Organization', *Scandinavian Journal of Management*, 11(4): 437–55.
- Lundin, R.A. and Söderholm, A. (1998) 'Conceptualising a Projectified Society: Discussion of an Eco-Institutional Approach to a Theory on Temporary Organizations', in R.A. Lundin and C. Midler (eds), *Projects as Arenas for Renewal and Learning Processes*. Boston, MA: Kluwer Academic Publishers.
- Maylor, H. (1999) *Project Management*, 2nd edn. London: Pitman.
- Maylor, H. (2003) *Project Management*, 3rd edn. London: Pitman.
- Maylor, H. (2001) 'Beyond the Gantt Chart – Project Management Moving On', *European Management Journal*, 19(1): 92–100.
- Meredith, J.R. and Mantel, S.J. (1995) *Project Management – A Managerial Approach*, 3rd edn. New York: John Wiley & Sons.

- Meredith, J.R. and Mantel, S.L. (2003) *Project Management – A Managerial Approach*, 5th edn. New York: John Wiley & Sons.
- Metcalfe, B. (1997) 'Project Management System Design: A Social and Organisational Analysis', *International Journal of Production Economics*, 52: 305–16.
- Midler, C. (1995) '“Projectification” of the Firm: The Renault Case', *Scandinavian Journal of Management*, 11(4): 363–73.
- Miller, R. and Lessard, D.R. (2000) *The Strategic Management of Large Engineering Projects*. Boston, MA: MIT Press.
- Morris, P.W.G. (1997) *The Management of Projects*, 2nd edn. London: Thomas Telford.
- Morris, P.W.G. (2002) 'Science, Objective Knowledge and the Theory of Project Management', *Proceedings of the Institute of Civil Engineering*, 150(May): 82–90.
- Morris, P.W.G. and Hough, G.H. (1987) *The Anatomy of Major Projects*. London: Major Projects Association.
- Morris, P.W.G., Patel, M.B. and Wearne, S.H. (2000) 'Research into Revising the APM Project Management Body of Knowledge', *International Journal of Project Management*, 18: 155–64.
- Packendorff, J. (1995) 'Inquiring into the Temporary Organisation: New Directions for Project Management Research', *Scandinavian Journal of Management*, 11(4): 319–33.
- Reed, M.I. (1992) *The Sociology of Organisations: Themes, Perspectives, and Prospects*. Hemel Hempstead: Harvester Wheatsheaf.
- Sahlin-Andersson, K. and Söderholm, A. (eds) (2002) *Beyond Project Management: New Perspectives on the Temporary–Permanent Dilemma*. Copenhagen: Liber.
- Silver, C.A. (2000) 'Where Technology and Knowledge Meet', *Journal of Business Strategy*, 21(6): 28.
- Söderlund, J. (2004) 'Building Theories of Project Management: Past Research, Questions for the Future', *International Journal of Project Management*, 22: 183–91.
- Stacey, R. (2000) *Strategic Management and Organisational Dynamics – The Challenge of Complexity*, 3rd edn. Harlow: FT Prentice Hall.
- Stacey, R. (2001) *Complex Responsive Processes in Organisations: Learning and Knowledge Creation*. London: Routledge.
- Stallworthy, E.A. and Kharbanda, O.P. (1985) *International Construction and the Role of Project Management*. Aldershot: Gower.
- Standish Group (1995) 'Chaos', paper on line at <http://www.standishgroup.com/>, accessed March 2005.
- Sydow, J. and Staber, U. (2002) 'The Institutional Embeddedness of Project Networks: The Case of Content Production in German Television', *Regional Studies*, 36(3): 215–27.
- Thomas, J. (1997) 'Problematising Project Management Practices to Shed Light on Implementation Problems', paper presented to the Organization and Management Theory Division of the Academy of Management Conference (AoMC) in Boston.
- Thomas, J. (1999) 'It's Time to Make Sense of Project Management', paper presented to the Western Academy of Management Conference in Redondo Beach, California.
- Thomas, J. (2000) 'Making Sense of Project Management', in R.A. Lundin and F. Hartman (eds), *Projects as Business Constituents and Guiding Motives*. Boston, MA: Kluwer Academic Press.
- Thomas, J. (2003) 'Problematising Project Management', paper presented to Making Projects Critical Workshop, April 2003, Bristol Business School.
- Thompson, P. and McHugh, D. (2002) *Work Organisations*. London: Palgrave.
- Tjaeder, J. and Thomas, J. (2000) 'On Learning and Control – Competing Paradigms or Co-existing Requirements for Managing Projects in Ambiguous Situations?', paper presented to International Research Network on Organizing by Projects (IRNOP) Fourth Bi-annual Conference held in Australia in January.
- Walta, H. (1995) 'Dutch Project Management Body of Knowledge Policy', *International Journal of Project Management*, 13(2): 101–8.
- Weick, K. (1995) *Sensemaking in Organisations*. Thousand Oaks, CA: Sage.
- Wideman, R.M. (1995) 'Criteria for a Project Management Body of Knowledge', *International Journal of Project Management*, 13(2): 71–5.
- Wiig, K.M. (1997) 'Knowledge Management: An Introduction and Perspective', *Journal of Knowledge Management* 3(2): 155–66.
- Williams, T. (1995) 'A Classified Bibliography of Research Relating to Project Risk Management', *European Journal of Operational Research*, 85: 180–8.
- Williams, T.M. (1999) 'The Need for New Paradigm for Complex Projects', *International Journal of Project Management*, 17(5): 269–73.
- Williams, T. (2004) 'Assessing and Building on the Underlying Theory of Project Management in the Light of Badly Over-Run Projects', paper presented to PMI Research Conference, London, 2004.

- Winch, G. (1996) 'Thirty Years of Project Management – What Have We Learned?', *British Academy of Management Conference Proceedings*, Aston Business School, September 1996, 8.127–8.145.
- Winder, R. (1999) 'A Grand Departure Goes Uncelebrated', *Independent on Sunday*, 16 May 1999: 8.
- Wood, M. (2002) 'Mind the Gap? A Processual Reconsideration of Organisational Knowledge', *Organization*, 9(1): 151–71.
- Young, T. (1999) *How to be a Better Project Manager*. London: Kogan Page.
- Young, T. (2003) *The Handbook of Project Management – A Practical Guide of Effective Policies and Procedures*. London: Kogan Page.

Subject index

- accomplishment 322–3, 324, 330
accountability, uncertainty about 172, 176–7, 185–6, 187
action and interaction 209
actor network theory (ANT) 18, 155–70, 322
 implementation as translation 156–8
 IT projects in an ANT perspective 162–3
 key actors creating networks and change 166–8
 management-model implementation project 159–60, 162–8
 management of networks, key actors and programmes of action 168–9
 telemedicine projects 160–2
adhocracy 338–9
agency 172, 174–5, 181–3, 187
 power and 214–15
alliances 144–5
ALSTOM Transport 317, 325–32
ambiguity 56
ambulatory care and diagnostic (ACAD) centre 298–312
American National Standards Institute (ANSI) 37, 38, 40
Angel Trains 328
anticipated outcomes 283–5
archaeological analysis 96–101
association, sociology of 172–7, 179, 187
Association for Project Management (APM) 6, 68
Atlas missile system 93
automated laser profiling system (ALPS) 285
autonomy 102
- Baltic Opera House (BOH) 117–29
becoming ontology 16, 52, 52–5
 communities of virtue 63–6
 epistemologising 60
 ethics of becoming 60–3
being ontology 16, 52, 52–5
best-for-project culture 271, 286–7
biotechnology 72
bodily control 120–2
- boundaries
 design boundaries 323–4
 drawing 145–6
 project boundaries *see* project boundaries
boundary objects 322
boundaryless career 61
BP Andrew project 342
British Rail 326, 328
British Standard BS6079 337, 338
bureaucracies 103, 127
Business Process Reengineering 44
- careers 61, 122–4
casualisation of employment 240, 241–9
change, nature of 84
change management practices 81–2
change objects 175–6
circuits of power 215–16
civil engineering team 19, 209, 219–27, 228
coding text 273–7
cognition, talk as 297, 310
Cold War 4
collaboration
 civil engineering team 219–27, 228
 organisational in Sydney Harbour project 271–2
collaborative commitment 303–5
commercial considerations 222–5
commitment 294–315
 delay and 297, 300–3, 309–10
 escalation of 76
 legal and collaborative presented as opposites 303–5
 as a rhetorical concept 300–1
commitment and design stage 195, 198
communities of practice 58–9, 77, 191
 and infrastructure 42–3
 naturalisation and 45–7
 standards and 39
communities of virtue 63–6
community 57
 management and Sydney Harbour project 287–8

- company culture 306–7
- competition 5
- complex projects 21, 317–25
 - emergence in 331–2
 - see also* sense-making
- Compute Software 117–29
- confessional 100–1
- configurational school 279
- conflict 219–27
- conflict resolution 294–5, 312
- consortium 294, 299–312
- construction industry 19–20, 232–51, 268–9, 343
 - case study 242–9
 - civil engineering team 19, 209, 219–27, 228
 - dramaturgical metaphor 236–8
 - enterprise culture and incentivisation of self-employment 239–40
 - lean construction 240–2
 - micro-worlds of project management 235–6; power games in the micro-worlds 238–9
 - project management in construction 233–4
 - Sydney Harbour project *see* Sydney Harbour project
 - theoretical foundations 234–5
- construction process innovations 285
- contexts
 - of objects 252–4
 - organisational context 74, 84
- contractor involvement in design 222–6, 226–7
- contracts 82
 - civil engineering team 222–4
- contradictions inherent in practice 101–4, 104–5
- control 97, 99–101, 266, 267
 - bodily 120–2
 - see also* discipline; power
- conventions 40, 43
- conversations, strange 280–1
- cooption 306–7
- coordination 118–20, 146–7
- critical management studies 12, 234
- critical path method (CPM) 44, 94, 233
- critical perspectives 11–14
- critical social theory 13
- critical success factors 94
- Cryptosporidium* 269
- culture 279
 - company culture 306–7
 - enterprise culture 239–40
 - epistemic cultures 73–5
 - project culture 271, 286–7, 289
- dash to the finish stage 195, 198–9
- data analysis 273–7
- data control 192
- deadlines 118–20
- deconstruction 111, 114–16
- deficit of legitimate authority 217–18
- delay, and commitment 297, 300–3, 309–10
- Denver International Airport 7
- Department of Defense (DOD) 337
- design boundaries 323–4
- design innovations 284
- design for maintainability 327–9
- deterministic model 191
- dichotomies 114–15
- différance* 56, 114
- difference, space and 152
- diffusion of knowledge and learning 79–80
- ‘Dill UK’ 138–51
- discipline 17, 111–31
 - disciplining the mind 116, 122–4, 127–8
 - disciplining space 115–16, 120–2, 127–8
 - disciplining time 116, 118–20, 127–8
 - prisons and 115–16
 - unresisted disciplining 124–7
- disciplined individual 61
- discourse 19–20, 91, 117–18, 192, 239, 320–1
 - project work as a societal discourse 127–9
- dispositional power 215–16
- dispositions, norms and 209
- Docklands hotel complex project 242–9
- double-loop learning 75–6
- DRAKE, Project 180–6
- dramaturgical metaphor 236–8
- drift 140, 147–51
- dysfunctional interventions 52
- Eastern European joiners 245, 246–7
- education 65
- effort estimates 98–9
- embeddedness 41–2
- embodiment of standards 43
- emergence 339–40
 - in complex projects 331–2
- emergent space 17–18, 132–54
 - case context 138–9
 - creation of social space 133–5
 - empirical study 137–8
 - multiple narrative space 139–51
 - project as 151–3
- enactment 267
- endgames 281–3
- engineering design community 332
- enrolment 158
- enterprise culture 239–40
- entrepreneurial school 278
- episodic power 208–9, 215–16
- epistemic cultures 73–5
- epistemology 172, 176–7, 185–6, 187
- Ericsson 159
- escalation of commitment 76
- ethics
 - of becoming ontology 60–3
 - communities of virtue 63–6
- execution 266, 267
- executive perspective 195–6, 197–200
- EXPLORE, Project 179–80, 180–6
- external goods 64

- facilitative power 215–16
- failure 94, 104, 132–3, 155
 - accounting for 6–8
 - IT project failure 7, 20–1, 155, 298–312
- fallacy of misplaced concreteness 53, 60
- false concreteness 32
- feelings, projecting 283
- figures of thought 117–18, 125–7
- finance 192
- financial services sector 19, 190–204
 - life of the project 200–1
 - mapping the project 194–200
 - organisation and project 192–3
 - science of project management 193–4, 201–2
 - serial reinterpretation 202–4
- flexibility 102, 103
- formal contracts 82
- formalisation 146–7
- front office information system design project 138–51
- future perfect strategy 267–8
 - Sydney Harbour project 271–2, 277–83, 285–6, 288–90; coding text 273–7

- Gantt chart 44
- gender 342
- gender relations 126–7
- genealogical analysis 91–5
- general telemedicine (GTE) 161, 164–5
- geographical information provider 178
- German television industry 253, 254–62
- Giardia* 269
- ‘glass cage’ 61
- globalisation 39
- government-procured projects 7–8
- governmentality 219
- grounded theory 137
- group formation 172, 174, 180–1, 187

- handover stage 196, 199
- hierarchies 116
- high street food and clothing retailer 178
- history of project management 3–6, 93–5
- hollowing-out 240–2
- Hollywood 253, 254
- home and personal care manufacturer 178
- hotel complex project 242–9
- human relations issues 100
- human resource management practices 81

- identity 61
- implementation as translation 156–8
- implicit theories 266
- incentives 222–3
 - incentivisation of self-employment 239–40
- individualisation 122–4
- information technology (IT)
 - ANT perspective *see* actor network theory
 - Compute Software 117–29
 - front office information system design project 138–51
 - management of networks, key actors and programmes of action 168–9
 - project failure 7, 20–1, 155; London hospital trust 298–312
- infrastructural inversion 41
- infrastructure 34
 - PMBOK and 40–5; dangers of invisibility 45–7
- innovations, project 284–5
- inscriptions 157
- installed base 43–4
- institutional norms and practices 82–3
- institutional relationship 308
- instrumental rationality 9–10, 54, 338–9
- interaction, action and 209
- interessement 157–8
- internal goods 64
- International Project Management Association (IPMA) 6, 62, 65, 68, 156
- interpretative frameworks 332
- ISO 10006 337
- issues, projecting 283
- iterative model 202–4

- joiners 242–9
- Jubilee Line extension project 7

- key actors 166–8
 - management of 168–9
- knowledge
 - differences in knowledge base between project management and organisational change and learning 74
 - diffusion of 79–80
 - embedding in organisational routines 80–1
 - power and 97
 - professional bodies of knowledge 340–1
 - sharing through social networks 77–8
 - see also* Project Management Body of Knowledge (PMBOK)
- knowledge creation 72
- knowledge economy 5

- language, project as 55–9
- leadership 94
- learning 58–9, 344
 - organisational change and learning
 - see* organisational change and learning
- learning school 277
- legal commitment 303–5
- life cycle 75–6, 338
- liminality 152

- machine metaphor 236
- machine model 193, 194, 200
- mainstream project management 1–2
- maintainability, design for 327–9

- management guru recipes 238, 239
- management-model implementation project 159–60, 162–8
- management technologies 178–9
- matters of fact v. states of affairs 172, 176, 184–5, 187
- mental space 135
- micro-worlds 235–6
 - power games 238–9
- mind, disciplining the 116, 122–4, 127–8
- Ministry of Defence (MOD) 337
- Mission Accomplished* 331
- Mission Impossible* 330
- mobilisation
 - of bias 211
 - implementation as translation 158
- model of project management 336–8
- modular increments 44
- monuments 136
- motivation 101
- movement 136–7, 152
- multinational manufacturer and distributor 178, 179–80, 180–6
- multiple narrative space 139–51, 152–3
- Munchhausen effect 143
- mutations 200–1

- narratives 136–7, 236, 320–1
 - multiple narrative space 139–51, 152–3
- NASA 93, 337
- National Health Service (NHS) 178
 - WLH hospital trust 298–312
- natural law 40
- naturalisation 15–16, 32, 40
 - and communities of practice 45–7
 - PMBOK and 35–7
- naturalism 63
- negative view of power 212–13
- negotiation
 - complex projects 322–3, 324, 327–9
 - role of rhetoric in *see* rhetoric
 - stages in 311–12
- neo-liberalism 239
- new operations stage 196, 199–200
- new product development 72
- New South Wales (NSW) Government Waterways Project 269
- no-blame culture 271, 286
- non-decision-making 211
- norms and dispositions 209

- objectives, project 75–6
- objects 172, 175–6, 183–4, 187
 - boundary objects 322
 - performing the object 135–7
 - project as object 132
- obligatory passage point (OPP) 157
- Office of Government Commerce (OGC) 8
- Olympic Games *see* Sydney Harbour project

- ontologies of projects *see* project ontologies
- operational research (OR) 4
- options, narrative 140, 140–4
- organisational change and learning 16, 68–89
 - epistemic culture 73–5
 - key differences from project management 84, 85
 - processes contrasted with project management 75–83
 - project management and 71–3
- organisational context 74, 84
- organisational fields 256–7
- organisational routines 80–1
- organised crime 246–7
- outsourcing 240, 241–2, 242–9, 249–50

- pancratism 214
- panopticon principle 116
- paradigmatic 216
- participative perspective 73
- partnering workshops 221
- passenger experience 326–7
- paths, project *see* project paths
- Pendolino high-speed tilting train 317, 325–32
- perceptual biases 311
- performance
 - dramaturgical metaphor 236–8
 - rhetorical 298, 307–8, 310–11
 - space as 135–7, 151–2
 - talk performs as well as informs 296, 309
- physical space 135
- planning 266, 267
- planning stage 195, 197–8
- pluralist view of power 210–11
- political epistemology, uncertainty about 172, 176–7, 185–6, 187
- political perspective 73
- political school of strategy 277
- power 13, 19, 207–31, 342–4
 - conceptions of 210–17
 - conflict and collaboration in a civil engineering team 219–27
 - differences between project management and organisational change and learning 83
 - political power games 238–9
 - and project management practices 96–101, 102
 - project settings and 217–19
 - sense-making and relative power of actors 332
 - sources/bases of power 213–14
- practice 64, 65
 - communities of *see* communities of practice
 - contradictions inherent in 101–4
 - power and 216–17
 - project as 55–9
- practice-based perspective 258–62
- precedence network diagramming techniques 93–4
- prescription 339–40

- PRINCE 337
- prisons 115–16
- projects as 124–7
- Private Finance Initiative 318
- problematisation 157
- project management 16–17, 90–107
- process-based knowledge 344
- processual analysis 234, 235
- production management 53–4
- productive nature of power 213
- professional bodies of knowledge 340–1
- professionalisation 6, 39–40, 46, 47
- program evaluation and review technique (PERT) 44, 94, 233, 343
- programme management 339
- programmes of action
- clashes between inscribed and prevailing 163–6
- management of 168–9
- progressive elaboration 92
- project-based firms 112
- Project Book model 192–3, 193, 194, 200
- project boundaries 257–8, 323–4
- managing 260–2
- project culture 271, 286–7, 289
- project failure *see* failure
- project goal triangle 9, 112
- project horizon 135
- reconstructing as multiple narrative space 139–51
- project innovations 284–5
- project life cycle 75–6, 338
- project management
- accounting for the failure of 6–8
- advantages and disadvantages 102
- defining 92–3
- diagnoses and prescriptions 8–11
- historical development 3–6, 93–5
- mainstream 1–2
- problematizing 16–17, 90–107
- as a process of rationalisation 102–4
- Project Management Body of Knowledge (PMBOK) 29–50, 54, 63, 103, 265–6, 317, 336–7, 341
- dangers of invisibility 45–7
- and the infrastructure 40–5
- making the project a reality 31–4
- and naturalisation of the project 35–7
- project, standards and infrastructure 34
- standards, standardisation and 37–40
- project management genealogy 91–5
- Project Management Institute (PMI) 6, 35, 62, 65, 68, 156
- Project Management Standards Program 37, 38
- Standards Committee 35, 36
- see also* Project Management Body of Knowledge (PMBOK)
- project management models (PMMs) 159–60, 162–8
- project management science 193–4, 201–4
- project networks 20, 252–64
- managing 259–60
- as an organisational form 254–7
- practice-based approach 258–62
- project boundaries and project paths 257–8, 260–2
- in television industry 254–63
- project objectives 75–6
- project ontologies 16, 51–67
- being and becoming ontologies 52–5
- epistemologising 60
- ethics of becoming 60–3
- project as language and practice 55–9
- project organisation 71
- project paths 257–8
- managing 260–2
- project task characteristics 71–2, 72–3, 84
- project team
- characteristics 71–2, 78–9, 84
- financial services sector project 195–6, 197–200
- projectification of society 5–6, 29, 127
- projects, defining 91–2, 112
- PROPS 159–60, 162–8
- public sector 4
- punishment 115–16
- qualifications accreditation 178
- Railtrack 330
- railway project 21, 317, 325–32
- rational model 193, 200
- rationalism 63
- rationalisation 102–4
- reach 42
- realism 32–3
- reality, talk constructing 295–6, 308–9
- Red Book 326–7, 330
- redefining a project 148
- reflexivity 258–62
- reification 32–4, 47–8, 54
- reinterpretation, serial 202–4
- reliability conferences 329, 331
- reorganisation projects 18, 171–89
- representational spaces 134–5
- representative orthodox authorities 96–7
- reputational view of power 211
- researchers 129
- resistance 142, 343
- financial services project 198–9, 199, 201
- power and 214–15
- responsibility, uncertainty about 172, 176–7, 185–6, 187
- rhetoric 20–1, 294–315
- case study 298–9
- company culture as rhetorical weapon 306–7
- consortium 294, 299–312
- delay and commitment 297, 300–3, 309–10
- institutional relationship and need for 308
- legal and collaborative commitment 303–5
- research design 299

- rhetoric – *continued*
- rhetorical performance 298, 307–8, 310–11
 - talk-as-action 295–8, 308–11
 - trust as a rhetorical construct 305–6
- risk, and trust 298–312
- risk/reward regime 222–3, 272
- road transport engineering team 209, 219–27, 228
- roles 136
- routines, organisational 80–1
- Royal Opera House, Covent Garden 7
- rules, standards as 38–9
- Scandinavian School 10–11
- scenario planning 268
- scheduling 225–6
- science and technology studies (STS) 172–3
- scope 42
- Scottish Parliament Building 7
- scripts 238
- seeding 322–3, 324, 326–7
- self-discipline 61, 128, 218–19
- self-employment 242–9
- bogus 241
 - incentivisation of 239–40
- self-responsibility 122–4
- sense-making 21, 316–34
- coping with complexity 317–25
 - in projects 319–25
 - managing in the context of sense-making 330–1
- Pendolino project 317, 325–32
- serial reinterpretation 202–4
- service-led projects 318–19
- shared beliefs 125–6
- single-loop learning 75–6
- ‘social, the’ 173, 174
- social construction 193–4, 283
- social networks 77–8
- social worlds 321–2
- socialisation 78–9
- sociology of association 172–7, 179, 187
- space
- creation of social space 133–5
 - disciplining 115–16, 120–2, 127–8
 - emergent *see* emergent space
 - performative view 135–7, 151–2
- spatial practice 134–5
- stakeholder analysis 149
- stakeholders, communication with 142–4
- standards 34, 194, 336–7
- standardisation and the PMBOK 37–40;
 - dangers of invisibility 45–7
- statement of work (SOW) 98
- states of affairs *v.* matters of fact 172, 176, 184–5, 187
- strange conversations 280–1
- strategic management 81
- strategic project management 236, 239
- strategic thinking 268
- structural complexity 318
- straturation theory 235
- project networks 252–64
- straturation action, talk as 296–7, 309–10
- structured walk-through 101
- subcontracting 240, 241–2, 242–9, 249–50
- supply chain management 239, 248, 249
- Swedish Customs Authority management-model implementation project 159–60, 162–8
- Swedish healthcare sector 160–8
- Sydney Harbour project 20, 265–93, 342
- anticipated and unanticipated outcomes 283–8
 - future perfect strategy 271–2, 277–83, 285–6, 288–90
 - methodology 272–7; data analysis 273–7
 - the project 269–72
 - Sydney Water 269, 270
- synchronising narrative 140, 144–7
- syntagmatic 216
- tacit knowledge 78
- takeover 147–51
- talk-as-action 295–8, 308–11
- rhetorical performance 298, 307–8, 310–11
 - talk-as-cognition 297, 310
 - talk constructs reality 295–6, 308–9
 - talk performs as well as informs 296, 309
 - talk as structural action 296–7, 309–10
- team building 78–9, 101
- teamwork 94
- technical experts 332
- technical requirements 141–2
- telemedicine projects 160–8
- tele-pathology (PAT) 161, 165
- television industry 252–64
- temporary organisations *see* reorganisation projects
- theoretical framework for project management 266–7
- thick description 137
- time, disciplining 116, 118–20, 127–8
- time-reporting system 99–100
- timing of work 225–6
- Total Quality Management 44, 233–9
- trade unions 239
- translation
- implementation as 156–8
 - translating technology 162–6
- transparency 42
- trust 294–315
- as a rhetorical construct 305–6
- tunnel project *see* Sydney Harbour project
- tunnel boring machines 269, 285
- unanticipated outcomes 285–8
- uncertainty 318
- five uncertainties *see* five uncertainties

United States of America (US) 253, 254, 256
 history of project management 3–4
 Supersonic transport 343
universal standards 39
universalism 63
unresisted disciplining 124–7
utility company (Water Gen) 178, 180–6

values 125–6
 changed societal values 127
Virgin Trains 317, 325–32

virtue, communities of 63–6
visibility upon breakdown 44

West Coast Main Line (WCML) 317,
 325–32
West Coast TrainCare (WCTC) 327, 330
WLCH hospital trust 298–312
work breakdown structure (WBS) 98–9, 233
work scheduling 225–6
work time extensions 118–20
workshopping 282–3

