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## Revealing gaps in the project management literature: An application of multi-paradigm review to explanations of megaproject governance

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# Birmingham Business School

## Discussion Paper Series



Title: Revealing gaps in the project management literature: an application of multi-paradigm review to explanations of megaproject governance

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Discussion Paper: 2013-02



# **Revealing Gaps in the Project Management Literature: An Application of Multi-Paradigm Review to Explanations of Megaproject Governance**

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## **Abstract**

A multi-paradigm literature review methodology, ‘interplay’, is applied to alternative explanations of megaproject governance and performance. A two-fold categorisation of explanations, functionalist and interpretivist, is employed. The key insight is that despite important differences in epistemological orientation these two categories of explanation are essentially ‘performative’, which is expressed through a shared acceptance of the notion of actor farsightedness. This means that governance in megaprojects is primarily understood as *static, convergent and patterned* forms of organization (made order), while governance as *discontinuous, divergent and fluctuating* micro-processes of organizing is ignored. Having identified this explanatory gap, the article concludes with a call to refocus project governance research to include proper consideration of the multiple processes of organizing through which actors use, reproduce and transform governance as made order.

**Keywords:** multi-paradigm review; paradigm interplay; functionalism; interpretivism; megaprojects; governance.

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## Introduction

Project governance has been defined as ‘the complex process of steering multiple firms, agencies and organizations that are both operationally autonomous and structurally coupled in projects through various forms of reciprocal interdependencies’ (Miller and Floricel, 2000: 135). This article uses multi-paradigm literature review to provide a comparative commentary on a sample of the wide variety texts addressing the topic of project governance. Multi-paradigm review is chosen as a means of examining the literature in a particular research domain to consider the impact of researchers’ ‘underlying and often taken-for-granted assumptions on their understandings of organizational phenomena’ (Lewis and Grimes, 1999: 673). Moreover, multi-paradigm reviews ‘may distinguish the value and limits of divergent perspectives’ (Lewis and Kelemen, 2002: 260) and thereby enhance our understanding of particularly complex and ambiguous phenomena.

There has been a noticeable shift in the project management literature in recent years away from a narrow focus on the technical tasks necessary to deliver project outcomes towards a much greater interest in how the interactions between the multiple actors responsible for undertaking those tasks are organized and coordinated , in other words project governance (see, for example, Clegg *et al.*, 2002; Flyvbjerg *et al.*, 2003; Miller and Lessard, 2000; Pitsis *et al.*, 2003; van Marrewijk *et al.*, 2008; Williams *et al.*, 2009; Winch, 2001, 2009). Accompanying this shift, there has also been a more general increase of interest in projects as a means of organizing work. Projects and project management have been seen as a better way to achieve effective intra-organizational integration and optimal resource utilization (Cleland, 1997), to stimulate knowledge sharing, learning and creativity (Hansen *et al.*, 1999; Hobday, 2000; Silver, 2000) and to control activities in turbulent environments (Ekstedt *et al.*, 1999). Some have even described the expanding influence of projects as a

form and a process of organizing as the ‘projectification of society’ (Lundin and Söderholm, 1999; Midler, 1995). This extension of project concepts and practices to the organization of work sensitizes us to the need to better appreciate the meanings and limitations of these concepts and practices (Söderlund, 2011).

Rather than looking at the notion of projectification in general, however, our concern here is with governance in the context of an increasingly popular project form, the megaproject (Flyvbjerg *et al.*, 2003; van Marrewijk *et al.*, 2008; Williams, 2009). This term describes very large-scale projects with a number of common characteristics deemed to create exceptional challenges for those involved. These characteristics include high levels of complexity along various dimensions (Remington and Pollack, 2007), the potential for significant conflicts of interest between the wide variety of public and private sector stakeholders (Alderman *et al.*, 2005; Clegg *et al.*, 2002), and the need to make decisions and to act under conditions of uncertainty as well as risk (Atkinson *et al.*, 2006; Loch *et al.*, 2006). There is ample evidence that these challenges are proving somewhat intractable, leading in many cases to substantial cost overruns, delays in completion and failure to deliver against the objectives used to justify projects (see, for example, Atkinson, 1999; Flyvbjerg, 2009; Flyvbjerg *et al.*, 2002, 2003; Miller and Lessard, 2000; NAO, 2006, 2009; Williams, 2009).

This article considers how a range of different writers explain the significant performance problems exhibited by many megaprojects, and examines their arguments about what is necessary to achieve better performance. It does not therefore engage with the small, but growing critical management literature on projects (cf. Hodgson and Cicmil, 2006), which tends to focus more on questions of emancipation than on performativity (Fournier and Grey, 2000). Rather than review explanations individually, however, the aim is to provide a

broad categorization of different types by using the notion of organization theory paradigms as an organizing principle and multi-paradigm literature review as a methodology. Rather than simply providing the substantive content of a literature review, then, the article examines and illustrates the analytical value of adopting a multi-paradigm approach.

Other writers have pursued similar objectives in their reviews of the broader project management literature (Pollack, 2007; Söderlund, 2011), but the focus of these works has primarily been on the descriptive clustering of various contributions into distinct schools of thought. There is an implicit acknowledgement of paradigmatic differences between schools in terms of their ‘interest in describing or prescribing, and whether the published papers are primarily based on inductive or deductive research approaches’ (Söderlund, 2011, p. 165), but the implications of these differences, in terms for example of the scope for paradigm crossing, have not been fully explored. More importantly for the argument developed in this paper, however, there is no explicit reflection on what might be missing from the project management literature. Instead, the different schools of thought are described in terms of their epistemology, research foci, methodologies and dominant ideas. The possibility of shared lacunae, conceptual and empirical blind spots, remains unexplored. It is here that this paper makes one of its major contributions.

Perhaps the best known framework of organization theory paradigms (Burrell and Morgan, 1979) and the vigorous debate that it has stimulated are discussed in the next section. The strengths and limitations of multi-paradigm inquiry are also considered, and the review methodology adopted by this article, known as ‘paradigm interplay’ (Schultz and Hatch, 1996), is described and justified. Two broad types of explanation, functionalist and interpretivist, are identified and discussed in the subsequent section.



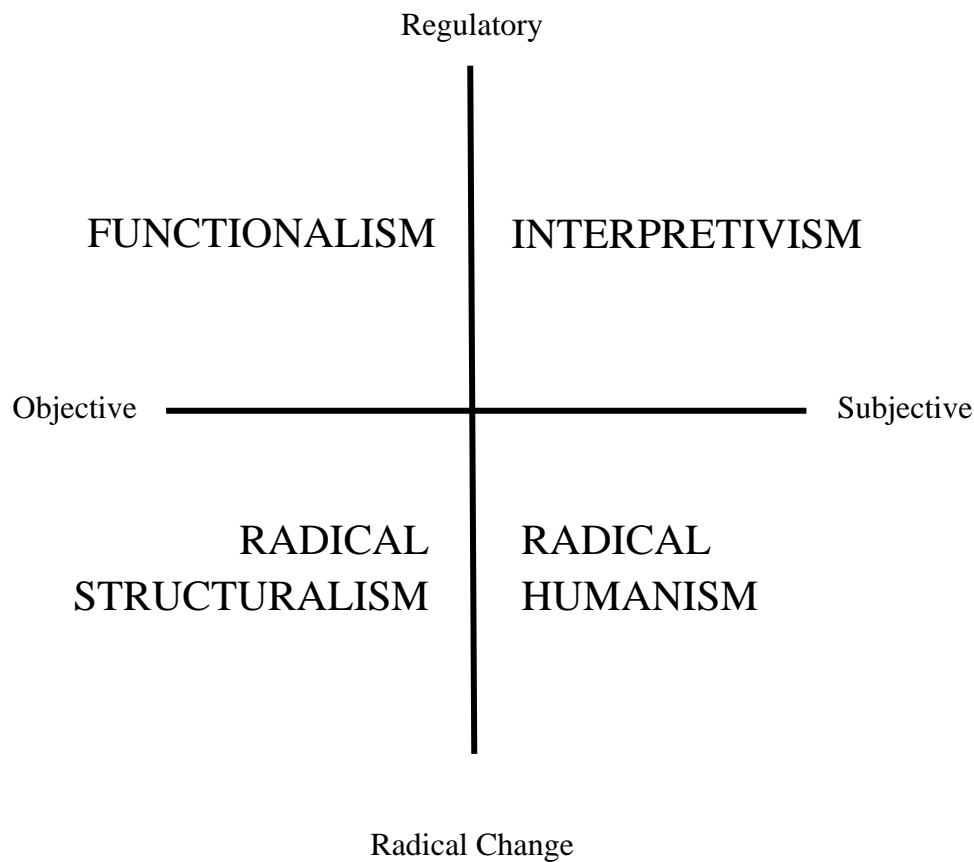
The key insight is that despite important differences in their epistemological orientation these two types of explanation are essentially ‘performative’ (Lyotard, 1984) in that their intention is to better describe the dynamics within megaprojects so that they can be controlled more efficiently and effectively. A key expression of this interest in performativity is a shared acceptance, albeit conceived in different ways, of the notion of actor farsightedness. It is concluded that this allows these explanations to emphasize governance in megaprojects as *static, convergent and patterned* forms of organization, what Chia and Holt (2009) refer to as made order, and to ignore governance as *discontinuous, divergent and fluctuating* micro-processes of organizing (Law, 1992). By revealing this explanatory gap, the article recognizes the value of adopting the multi-paradigm notion of a ‘stratified ontology’, in which reality is at once made and in the making (Lewis and Kelemen, 2002; Reed, 1997). A call is made to refocus project governance research to include proper consideration of the multiple processes of organizing through which actors use, reproduce and transform governance as made order.

## **Paradigms in Organization Theory and Multi-Paradigm Review**

### *The Paradigm Debate*

The notion that researchers studying organizations operate within different paradigms has a relatively long pedigree, going back over thirty years to the work of Burrell and Morgan (1979). They defined paradigms as clearly delineated sets of ideological and epistemological assumptions that guide various modes of organizational analysis. Their framework, illustrated in Figure 1, employs two dimensions to identify four paradigms of organization research: functionalism, interpretivism, radical structuralism, and radical humanism.

**Figure 1: Paradigms of Organization Research**



Source: Burrell and Morgan (1979)

The horizontal dimension concerns epistemology. It describes a contrast between objective research that assumes the existence of ‘an external reality of deterministic and predictable relationships’ and subjective research that assumes knowledge to be about ‘contextually bound and fluid social constructions’ (Lewis and Grimes, 1999, pp. 673-674). The vertical dimension is about ideology or the knowledge interest of the research (Habermas, 1971). Regulatory research is intended to contribute to the prevailing social, economic or political order and assumes that this order is natural. In the context of management research this would mean a privileging of organizational performance and performance improvement. Radical

change research, on the other hand, is intended to challenge the prevailing order by focusing on the conflict and power asymmetries embedded within it, and to change it for the better by emancipating those whose interests are silenced or under-represented. This equates to the anti-performativity stance of critical management studies (Fournier and Grey, 2000).

Burrell and Morgan (1979) made a crucial contribution to the development of organization research by sensitizing researchers to the notion of paradigms, thereby legitimizing diverse alternatives to the functionalist mainstream (Scherer, 1998). Their work has also led, however, to a very vigorous debate about how best to address this diversity in the development of organization theory as a discipline. The various positions or camps in this debate have been discussed at length by a number of authors (see, for example, Hassard and Kelemen, 2002; Reed, 1985, 1992; Scherer, 1998; Schultz and Hatch, 1996). Although the terminology differs between authors, four main positions are typically identified: the protectionists, the integrationists, the postmodernists and the pluralists (Hassard and Kelemen, 2002).

The protectionists support Burrell and Morgan's (1979) argument that the four paradigms they identified are incommensurable, and that there should be no attempt to reconcile them or to create a conversation between them. Instead, each paradigm should be developed separately and according to its own epistemological rules. Jackson and Carter (1991, 1993), for example, defend the protectionist position on the basis of preventing the functionalist orthodoxy from colonising alternative modes of organizational enquiry.

The integrationists take an equally forceful, but opposing position. Writers such as Donaldson (1985, 1996, 1998) and Pfeffer (1993, 1997) argue that the paradigm diversity which characterizes organisation theory is holding back rather than enhancing development

of the discipline. What is needed is a single dominant paradigm to give the discipline the necessary 'scientific' status.

It is problematic to identify a clear postmodernist position on the paradigm debate, because the label postmodernism 'spans numerous, often conflicting stances' (Lewis and Kelemen, 2002, p. 256). Attempts have been made, however, to identify postmodern orientations towards ideology, ontology and epistemology (Chia, 1995; Cooper and Burrell, 1988; Kilduff and Mehra, 1997). Using these insights, we can broadly position postmodernism as challenging modern research philosophies and practices on the basis that they are insufficiently reflexive and ignore the role of fluid and fragmented discourses in constituting how knowledge is produced and consumed (Deetz, 1996, 2000; Hassard and Kelemen, 2002).

Finally, adherents to the pluralist or multi-paradigm position, the one adopted here, do not go as far as the postmodernist position, but do challenge paradigm incommensurability and argue in favour of various forms and techniques of crossing and communication between paradigms (see, for example, Gioia and Pitre, 1990; Hassard, 1991; Lewis and Grimes, 1999; Lewis and Kelemen, 2002; Schultz and Hatch, 1996; Weaver and Gioia, 1994; Willmott, 1993). A core proposition is that there are degrees of commensurability between research paradigms, because while there are many significant contrasts, paradigms can also have a range of concepts, constructs and practices in common. Gioia and Pitre (1990, p. 587) refer to these common concepts and constructs as 'transition zones' and argue that a dialogue between paradigms through these zones is not only possible but necessary to produce 'more comprehensive portraits of complex organizational phenomena.'

The multi-paradigm perspective has, like the other positions, attracted its fair share of criticism. First, critics have argued that the perspective lacks an explicit philosophical framework with underpinning ideological, ontological and epistemological assumptions (Mingers, 1997; Scherer, 1998). This criticism is tackled head on by Lewis and Kelemen (2002) when they contrast the underpinning assumptions of multi-paradigm inquiry with those of modern (single paradigm) and postmodern approaches to research. They argue that multi-paradigm inquiry has: an 'accommodating ideology', which values divergent paradigm lenses; a 'stratified ontology', which assumes that 'reality is at once made and in the making'; and a 'pluralist epistemology', which 'rejects the notion of a single reference system in which we can establish truth' (Lewis and Kelemen, 2002, p. 258).

Second, critics have questioned the capacity of researchers to transcend the boundaries of their home paradigm. Multi-paradigm research is seen to produce shallow or contaminated readings and uses of approaches outside of the researcher's favoured paradigm (Deetz, 1996; Parker and McHugh, 1991; Scherer, 1998). Supporters have responded by acknowledging that researchers cannot shed their paradigmatic predisposition, but that this does not prevent them from comparing and contrasting their assumptions, practices and insights with those of other paradigms (Gioia and Pitre, 1990; Lewis and Kelemen, 2002). The key feature of multi-paradigm inquiry in this context is that it encourages greater reflexivity (Brocklesby, 1997; Holland, 1999).

Clearly then, the debate around paradigms in organization research is vigorous and one that is highly unlikely to be settled once and for all. Even if a generally acceptable resolution were possible, it is naïve to think that it would involve the complete abandonment of alternative paradigms as the integrationists propose, because 'researchers need paradigms (or some other orientating device)' (Schultz and Hatch, 1996, p. 553) in order to examine and

understand the various facets of complex organizational phenomena. Similarly, the isolationist position is being seen by many organization researchers as increasingly untenable given the rise of new forms of organization and new forms of knowing in a so-called post-industrial world (Burrell, 1996; Weick, 1999). Greater reflexivity in research is being called for (Brocklesby, 1997; Hassard and Kelemen, 2002; Holland, 1999). The postmodernist position creates space for such reflexivity, but it also suggests that the notion of distinct paradigms of research should be abandoned and replaced with more fluid and provisional discourses. This article supports the call for greater reflexivity, but agrees with the pluralist position that paradigm distinctions need not be abandoned in order to achieve this aim.

### *Multi-Paradigm Review*

Three distinct strategies of multi-paradigm inquiry have been identified: multi-paradigm review, multi-paradigm research, and meta-paradigm theory building (Lewis and Grimes, 1999; Lewis and Kelemen, 2002). This article confines itself to the first strategy, multi-paradigm review. In what follows we briefly discuss the objectives and limitations of this approach to literature review. We then describe the specific review methodology adopted here, the paradigm interplay technique proposed by Schultz and Hatch (1996).

The primary objective of multi-paradigm review is to encourage reflexivity by raising one's paradigm consciousness. Lewis and Kelemen (2002, p. 261) argue that by 'clarifying paradigm alternatives, researchers may compare their work to a wider realm of literature, recognize their theoretical predilections, and appreciate insights enabled by opposing viewpoints.' Multi-paradigm review also provides an important means of coming to terms with a highly diverse and fragmented research literature, which addresses a complex and

ambiguous organizational phenomenon. The project governance literature is proposed here as having these characteristics (Söderlund, 2011). The aims of such a review are to explore the explanations contributed by different paradigms, and to reveal ‘the anomalies ignored and the facets distorted at the periphery’ of each paradigm (Lewis and Kelemen, 2002, p. 261).

Multi-paradigm review faces two main limitations. First, a reviewer faces a tension between respecting paradigm diversity, while simultaneously trying to avoid reinforcing paradigm distinctions (Ackroyd, 1992). Second, a reviewer needs to be careful not to privilege any particular paradigm, even though they will inevitably have their own paradigmatic preference (Donaldson, 1998). To address these limitations a review must emphasize that paradigm distinctions are sense-making heuristics useful for identifying alternative perspectives on an organizational phenomenon (Lewis and Grimes, 1999). A reviewer must also clearly acknowledge and remain acutely aware of their paradigm preference, and provide a balanced discussion of the insights and limitations of each paradigm with respect to the phenomenon in question.

The review methodology adopted by this article combines paradigm bracketing and bridging (Lewis and Grimes, 1999). It draws on a technique called paradigm interplay first proposed by Schultz and Hatch (1996). The essence of paradigm interplay is that it respects paradigm distinctions (bracketing), while simultaneously exploring potential paradigm connections to generate new insights (bridging). Significantly, the technique was developed on the basis of only two of the four paradigms proposed by Burrell and Morgan (1979), functionalism and interpretivism. Schultz and Hatch (1996, p. 530-531) justify this on the grounds that ‘functionalism has been the dominant paradigm within organization theory’, while ‘interpretivism... in recent years has received increasing research attention.’ Moreover,

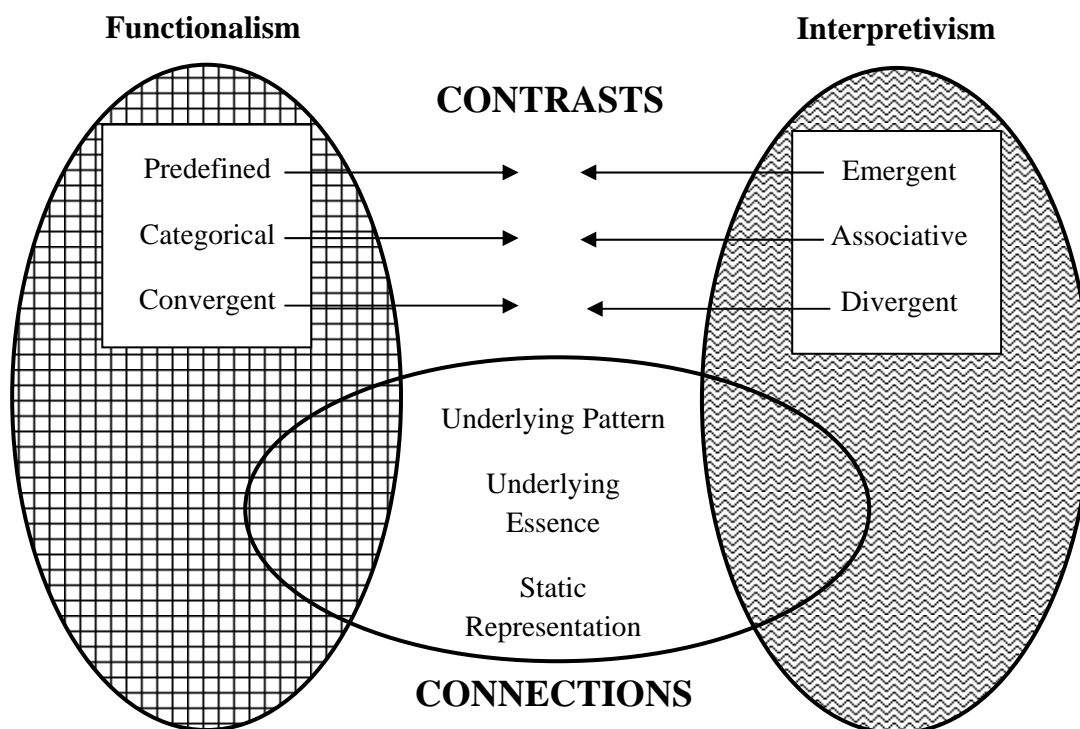
they note that restricting their discussion to two paradigms helps them ‘to develop the interplay strategy in an explicit way’ (Schultz and Hatch, 1996, p. 531).

For the same reasons, this article will also use these two paradigms in developing its review. This will, of course, restrict our attention to those parts of the megaproject governance literature with a regulatory or performativity focus. This is not to deny that there are researchers applying a radical change or critical management focus to their work on projects (see, for example, Bresnen, 1996; Gill, 2002; Hodgson, 2002; Buckle and Thomas, 2003; Hodgson, 2004; Thomas, 2006; Lindgren and Packendorff, 2006). Rather, the review presented here makes a conscious analytical choice to restrict its discussion to the functionalist paradigm, where the bulk of the literature on projects and megaproject governance is located, and the interpretivist paradigm, which has provided a growing number of more sociologically grounded accounts since the mid 1990s (Pollack, 2007; Söderlund, 2011). Also, functionalist research represents the author’s home paradigm and is included in keeping with a desire to be reflexive.

The basic elements of paradigm interplay are illustrated in Figure 2. Three key contrasts are identified on the basis of the Burrell and Morgan (1979) framework. These are in terms of the analytical framework, the mode of analysis, and the analytical processes applied by a researcher operating in each paradigm.



**Figure 2: Contrasts and Connections between Functionalism and Interpretivism**



Source: Adapted from Schultz and Hatch (1996)

Functionalist research is carried out on the basis of a predefined and universal analytical framework. Interpretivist research, by contrast, is more about examining specific organizational contexts without prior theorization and allowing useful conceptual categories and constructs to emerge. Turning to the mode of analysis, functionalist research is targeted at gathering and categorising empirical data in terms of predefined variables, and then mapping the causal relationships between those variables to see if hypothesized relationships hold. Interpretivist research, by contrast, has a more associative mode of analysis, which explores the creation of meanings by actors in organizations and the ways in which those meanings can be associated and interpreted. Finally, functionalist research is about arriving at

an understanding of the underlying causal mechanisms at play by simplifying and clarifying complexity. In interpretivism, by contrast, the processes are about expanding and enriching the analysis by ‘constantly seeking more interpretations and making new associations’ (Schultz and Hatch, 1996, p. 539).

The three connections identified in Figure 2, flow from the application of a postmodernist critique to these two modernist paradigms. Postmodernists assume that ‘human existence is fragmented and discontinuous’ (Schultz and Hatch, 1996, p. 540), and that there is therefore no underlying sense of pattern or order to be discovered by researchers. In modernist paradigms, by contrast, researchers are concerned with discovering underlying patterns in order to ascribe causal relationships (functionalism) or to bring meaning to complex organizational phenomena (interpretivism). Postmodernists also argue that research should not be about a search for some hidden underlying essence, but rather it should focus on the ‘superficial and the unexpected’ (Burrell, 1988, p. 225), because that is all there is. Research in the functionalist and interpretivist paradigms, by contrast, is about a search for the essence of organizational phenomena, ‘the underlying assumptions or meanings believed to order human experience’ (Schultz and Hatch, 1996, p. 541).

Finally, postmodernism stresses the temporary, discontinuous and indeterminate character of organizational phenomena. It has an ontology of becoming rather than being, which focuses attention on processes as opposed to organizational structures and entities (Cooper and Burrell, 1988). Functionalist and interpretivist researchers, by contrast, tend to offer more or less static representations of organizational phenomena that ignore the flux and discontinuity of everyday organizational life. Where change processes are included in an analysis they are represented either as a relatively predictable movement from one static state

of being to another or as interrelated, cyclical and ordered processes of sense-making and meaning creation.

## **Paradigm Interplay in the Literature on Megaproject Governance**

### *Text selection*

We now use the paradigm interplay technique to review a sample of texts focused on megaproject governance. In contrast to those papers reviewing much larger numbers of texts to provide an overview and categorization of the broader literature on project management (see, for example, Crawford *et al.*, 2006; Pollack, 2007; Shenhar and Dvir, 2007; Söderlund, 2011), the objective here was simply to choose example texts addressing megaproject governance from within the functionalist and interpretivist paradigms to demonstrate the application and value of multi-paradigm literature review.

The selection process was a version of snowball sampling, where an initial set of key data sources suggest and lead onto further data sources (Scarbrough *et al.*, 2004). The snowball sampling process began with the comprehensive literature review paper by Söderlund (2011), which identifies seven schools of project management research. Three of these, the Governance, Contingency and Behaviour Schools, were identified as being particularly relevant based on their main research focus and their implicit epistemological orientation. All three of these schools are concerned with questions of how projects are organized, coordinated or governed. According to Söderlund (2011), papers within the Governance and Contingency Schools, favour the testing of hypotheses derived deductively from predefined theories, which suggests that they are functionalist in their epistemological orientation. Literature in the Governance School draws primarily on agency or transaction

cost theories (see, for example, Hart and Moore, 1999; Williamson, 1996), while the Contingency School is grounded in theories linking organizational design and structure to environmental and task characteristics (see, for example, Galbraith, 1973; Lawrence and Lorsch, 1967). Papers categorized within the Behaviour School, by contrast, are concerned with documenting the emergent processes within projects of ‘trust-building, problem-solving, sense-making and learning’ (Söderlund, 2011, p. 162). This suggests that they are broadly interpretivist in their approach to research.

Based on the application of a number of search terms to titles, keywords and abstracts, four key articles were identified from amongst those categorized by Söderlund (2011) in the Governance, Contingency and Behaviour Schools. The search terms used were: ‘megaprojects’, ‘large-scale projects’, ‘major projects’, ‘complex projects’, ‘governance’, ‘risk’, ‘uncertainty’, and ‘performance’. Performance was included as a search term to focus attention on those texts with a regulatory bias and to screen out the critical management literature. The author names and reference lists of these four articles were then used to identify further relevant texts. This process of snowball sampling continued through two further iterations until it was decided, based on evidence of substantial cross-referencing and the logic of conceptual saturation (Guest *et al.*, 2006), that a continued search was unlikely to generate further new leads. The final result of this sampling process is shown in Table 1, where the selected texts are categorised into three broad strands of research associated with the Governance, Contingency and Behaviour Schools respectively.

### *Arguments and Conclusions<sup>1</sup>*

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<sup>1</sup> This section draws on The Author (2011).

Before moving to a detailed discussion of paradigm contrasts and connections, the core arguments and conclusions advanced by each strand of research are briefly described. Table 1 presents a summary.

The first strand of functionalist research argues that performance is often disappointing, because non-viable projects are so regularly undertaken (Davidson and Huot, 1989; Flyvbjerg, 2009; Flyvbjerg *et al.*, 2002, 2003, 2005; Wachs, 1989, 1990). It suggests that those actors with a vested interest in seeing projects undertaken, typically politicians and contractors, engage in strategic rent-seeking behaviour to get projects approved and to win associated contracts. This takes the form of systematically under-estimating project costs, over-estimating project benefits and being over-optimistic with project scheduling. These under and over-estimates are not seen as an honest mistake or a function of poor technical skills and inadequate data. Rather, they are attributed to straightforward ‘deception and lying as tactics aimed at getting projects started’ (Flyvbjerg *et al.*, 2003, p. 47).

**Table 1: Alternative Explanations of Megaproject Governance and Performance**

	<b>Functionalist Explanation 1</b> Weak Institutional Safeguards (Governance)	<b>Functionalist Explanation 2</b> Misaligned and Underdeveloped Governance (Contingency)	<b>Interpretivist Explanation</b> Diverse Project Cultures and Rationalities (Behaviour)
<b>Arguments</b>	Weak institutional safeguards and warped incentives mean that project promoters and contractors regularly engage in intentional rent-seeking behaviour (under-estimating costs, over-estimating benefits) to get non-viable projects approved	Performance problems result from misaligned or underdeveloped governance arrangements incapable of handling the emergent turbulence and opportunistic behaviour inevitably associated with megaprojects	Projects are subject to processes of social construction and characterized by diverse and often competing cultures and rationalities – performance problems result from normal day-to-day management practice
<b>Conclusions</b>	Better performance depends on legal requirement for thorough ex ante risk analysis and management plan; limit role of politicians to formulating and auditing public interest objectives; various ex ante measures to improve accountability of project decision-making	Better performance requires conscious design and creation at the front-end of the project of mechanisms that enhance ex post governability; mechanisms must be appropriate to the particular context of the project	Good performance facilitated by ‘future perfect thinking’ and conscious design and creation at the front-end of the project of a shared culture supported by governance mechanisms to encourage collaborative and coordinated behaviour
<b>Sample Texts</b>	Davidson and Huot 1989; Flyvbjerg 2009; Flyvbjerg <i>et al.</i> 2002, 2003, 2005; Wachs 1989, 1990	De Meyer <i>et al.</i> 2002; Loch <i>et al.</i> 2006; Miller and Hobbs 2009; Miller and Lessard 2000; Morris 2009; Winch 2001, 2009; Winch <i>et al.</i> 2000	Alderman <i>et al.</i> 2005; Atkinson <i>et al.</i> 2006; Clegg <i>et al.</i> 2002, 2006; Pitsis <i>et al.</i> 2003; van Marrewijk <i>et al.</i> 2008

These authors argue that such rent-seeking behaviour is encouraged, because the incentives to produce over-optimistic estimates of project viability are very strong and the disincentives relatively weak. Given the very lengthy time-frames that apply to megaproject development and implementation, there is a lack of proper accountability for project promoters, typically politicians, because they are often not in office when the actual viability of a project can be assessed. Getting a project approved will deliver significant political capital in the short-term, however. Similarly, it is argued that the accountability of contractors for their behaviour is weak, because the contractual penalties for producing over-optimistic tenders are often low compared to the potential profits involved (Davidson and Huot, 1989; Wachs, 1990). The key solution to project performance problems, then, is to create well defined policies and procedures and to embed them in institutional structures that strengthen the accountability of key project actors. This might include a legal requirement for a thorough ex ante risk analysis and management plan, limiting the role of politicians to formulating and auditing public interest objectives, and various ex ante measures to improve the accountability of project decision-making (see, for example, Flyvbjerg *et al.*, 2003, pp. 107-124).

The second strand of functionalist research argues that the underperformance of many megaprojects is best explained by the presence of inappropriate or underdeveloped governance arrangements that are incapable of handling the turbulence inevitably associated with these endeavours (De Meyer *et al.*, 2002; Loch *et al.*, 2006; Miller and Hobbs, 2009; Miller and Lessard, 2000; Morris, 2009; Winch, 2009; Winch *et al.*, 2000). The complexity, scope and scale, and the long time frames of megaprojects are seen as major reasons for the significant turbulence experienced in most cases. Turbulence is seen to originate either from

exogenous events in the broader macroeconomic, political, social and natural environments, or from endogenous events within and between the organizations directly involved in a project. In the latter case, emphasis is placed on contractual disputes and the breakdown of partnerships or alliances. The principal set of solutions focuses, therefore, on the ex ante design of governance mechanisms. This is described as ‘planning for the journey rather than planning the journey’ (Miller and Lessard, 2000, p. 203). Broadly speaking, these governance mechanisms are intended to build stronger, more cooperative and more flexible relationships between project participants. Examples might include an alliance ownership structure, combining balanced equity positions with a strong leader; financial guarantees from government to support project financiers; rendezvous clauses making it possible to renegotiate contracts; integrated project teams with financial incentives to stimulate innovation; and multiple sources of finance to diversify dependencies (Loch *et al.*, 2006; Miller and Floricel, 2000; Miller and Hobbs, 2009). There is also an explicit recognition that the governance mechanisms selected and designed must be appropriate to the particular context and characteristics of a project (De Meyer *et al.*, 2002; Miller and Floricel, 2000; Winch, 2009).

Finally, the interpretivist strand of research argues that megaprojects are characterized as a matter of course by multiple and diverse cultures and rationalities rather than by a singular, shared rationality as is assumed by more orthodox, functionalist perspectives (Atkinson *et al.*, 2006; Clegg *et al.*, 2002, 2006; Pitsis *et al.*, 2003; van Marrewijk *et al.*, 2008). This means that different actors understand inputs to and outputs from the project in very different, incomplete and often competing ways. For example, the contractual documents and other boundary objects used to define and coordinate the roles and responsibilities of the project actors are often highly ambiguous in meaning (Alderman *et al.*,



2005) and provide substantial scope for ‘language games’ leading to ‘contested action in complex, inter-organizational and professional disputes’ (van Marrewijk *et al.*, 2008, p. 592). The performance problems of many megaprojects are an almost inevitable result, then, of the normal day-to-day practice of managers trying to cope with an organizational environment that is complex, ambiguous and often highly conflictual. The focus here is said to be contextually grounded, looking in detail at actual practice within project organizations. As van Marrewijk *et al.* (2008, p. 592) comment, ‘[t]his approach recognises that project environments are subject to processes of social construction, in which participants construct a more or less stable working environment for themselves’. It is concluded that where project participants are able to construct a relatively stable environment, which promotes peaceful cooperation between differing cultures, there is a greater chance of good project performance.

An example of one such stable working environment is identified in research on a project to build a 20 kilometre long tunnel under the area north of Sydney Harbour in the run up to the Olympic Games in 2000 (Clegg *et al.*, 2002, 2006; Pitsis *et al.*, 2003; van Marrewijk *et al.*, 2008). This research links the broadly successful delivery of the project to the decision at the beginning of the process to create ‘a project culture that was explicitly designed and crafted to encourage shared behaviours, decision-making, and values’ (Pitsis *et al.*, 2003, p. 576). A number of governance mechanisms were used to underpin this project culture, including a formal statement of key values as a basis for resolving disputes internally and a risk/reward regime based on monetized key performance indicators (KPIs). The institutional element of project governance – the Project Alliance Leadership Team (PALT) – was explicitly created to be legally and spatially separate from the four parent organizations. The intention was ‘to produce a designer culture for the project rather than have it as an arena

in which the various project organizations' cultures fought for dominance' (van Marrewijk *et al.*, 2008, p. 595).

In addition, based on observations from meetings of the PALT the researchers arrived at the idea that the project was being managed through what they call a 'future perfect strategy' (Pitsis *et al.*, 2003). It is suggested that managers dealt with the pressure to deliver an innovative project outcome in circumstances of extreme complexity, ambiguity and uncertainty by combining a forward looking projection of desired ends with a visualization of the means to achieve that projected future. This is differentiated from scenario planning on the basis that it is emergent and subject to constant revision rather than being explicitly scripted and grounded in past expectations (Pitsis *et al.*, 2003). It is argued that the formal statement of collaborative values and monetized KPIs enshrined in the designer culture acted as powerful incentives, driving participants in the project to 'think creatively and laterally to come up with solutions considered best for the project rather than merely to implement second-best solutions already known from previous projects' (Pitsis *et al.*, 2003, p. 577).

### *Contrasts between Functionalist and Interpretivist Explanations*

Having established the basic content of these three explanations, we now discuss the fundamental epistemological contrasts between those operating in the functionalist paradigm and that located in the interpretivist paradigm. Table 2 summarizes the three key contrasts.

**Table 2: Contrasts between Functionalist and Interpretivist Explanations**

<b>Dimension</b>	<b>Functionalist Explanations</b>	<b>Interpretivist Explanation</b>
<b>Analytical Framework</b>	<b>Predefined and Generalized</b>  Research guided by models and constructs derived from organization theory, in particular agency and contingency perspectives  Studies of multiple projects across geography and time	<b>Emergent and Specific</b>  Useful explanatory constructs and categories emerge from the research process  Explanation focused on creation of meaning driving action in a specific project context
<b>Mode of Analysis</b>	<b>Categorical</b>  Data gathering focused on populating predefined categories and variables  Aim to discover causal relations between variables	<b>Associative</b>  Data gathering focused on discovering and interpreting meanings and exploring the associations between them
<b>Analytical Processes</b>	<b>Convergent</b>  Explanations seek to condense and simplify the various dimensions of the megaproject phenomenon to produce a clearer and more generalized representation	<b>Divergent</b>  Explanation seeks to expand analysis beyond initial focus to produce a deeper and richer understanding of the specific project

Framework adapted from Schultz and Hatch (1996)

Looking at the analytical framework contrast, it is recognized that the two functionalist explanations are operating on the basis of predefined theoretical constructs, which are used to structure and direct the attention of researchers and to facilitate generalization of the research process to a number of megaprojects. Miller and Lessard (2000), for example, report research findings from sixty large engineering projects, while

Flyvbjerg *et al.* (2003) discuss and analyse several hundred large projects. Both explanations focus their attention on institutional matters, because they are consciously drawing on streams of organization theory, in particular agency theory (Hart and Moore, 1999) and contingency theory (Galbraith, 1973). Consequently, both make a number of predetermined assumptions about actors, in particular that they are opportunistic and exhibit a maximizing form of bounded rationality, and about the way in which institutional structures shape and constrain actor behaviour.

The interpretivist explanation, by contrast, is characterized by the emergence of case-specific theoretical constructs generated through reflection and interpretation during the process of analysis. The research team which studied the Sydney Harbour tunnel project, for example, entered the research domain simply with a broad agenda of ‘seeking to understand, describe, and analyze how collaborative quality was able to occur in a project’ (Pitsis *et al.*, 2003, p. 575). It was only by gathering and interpreting the case data that the concept of ‘future perfect strategy’ (Pitsis *et al.*, 2003) and the idea of the project’s various governance mechanisms as a ‘designer culture’ (Clegg *et al.*, 2002) started to emerge. The researchers are also keen to emphasize the case specificity of these constructs. For example, commenting on the concept of future perfect strategy they say ‘it became obvious to us that the uniqueness of the project had created a unique concentration on the temporal aspects in the strategic management of the project’ (Pitsis *et al.*, 2003, p. 578).

Next, looking at the mode of analysis contrast we can see that the two functionalist explanations have a categorical approach. Both strands of research are conducted on the basis of matching empirical data to predetermined variables, derived from an over-arching theoretical framework, in order to discover if the proposed causal linkages are supported. Functionalist explanation 1 proposes that a significant proportion of poor megaproject

performance is caused by weak institutional/contractual safeguards, which allow opportunistic, rent-seeking behaviour leading to the regular approval of non-viable projects. Flyvbjerg (2009) and Flyvbjerg *et al.* (2005) suggest that this neat causal chain accounts well, and better than alternative technical or psychological explanations, for the systematic underestimation of costs and overestimation of benefits found in their data. Functionalist explanation 2 proposes a similarly neat causal relationship between inadequate or misaligned governance mechanisms, various forms of endogenous and exogenous turbulence, and poor project performance. Loch *et al.* (2006, p. 220), for example, argue that ‘when unexpected changes occur partners are affected differently, invalidating carefully tuned contractual agreements, and the project inevitably falls apart.’

The interpretivist explanation, by contrast, is much more associative and focused on meanings rather than causes in its mode of analysis. As Clegg *et al.* (2002) emphasize, their interest in the meaning and practices of ‘governmentality’ in the designer culture of the Sydney Harbour tunnel project resulted in a study of ‘artefacts’ (photographs of the research sites, banners, vision and mission statements) to complement findings from the more traditional research tools, such as interviews and questionnaires. Similarly, Pitsis *et al.* (2003) arrived at the concept of ‘future perfect strategy’ by drawing an association between repeated references in project leadership team meetings to temporal issues. They paid particular attention to the way in which ‘managers sometimes projected events, actions and behaviour that had not yet occurred into the future as if they had already occurred and were lying in the past’ (Pitsis *et al.*, 2003, p. 578).

In the final dimension of contrast, analytical processes, we can see that the two functionalist explanations are highly convergent in their approach. Both strands of research are focused on condensing and simplifying a complex picture of the megaproject

phenomenon in order to create a more ordered representation. Both employ prior theorization of the research domain to identify key concepts and explanatory categories and then use this to focus and narrow their narrative. Functionalist explanation 1 uses the central concept of opportunistic estimation bias as a focus for its argument and as way of bringing together data from several hundred projects dispersed both geographically and longitudinally. Explanation 2, similarly, uses the central concepts of project turbulence and governability as key foci in the development of its argument and as a way of drawing together empirical data from a wide variety of projects across the world.

The interpretivist explanation, by contrast, takes a more divergent approach to analysis, opening up and exploring new avenues of enquiry as the research proceeds to generate a richer and more detailed understanding of the domain. Clegg *et al.* (2002) and Pitsis *et al.* (2003) emphasize that the Sydney Harbour tunnel research began as an attempt to understand the nature of collaboration and governmentality represented by the project alliance leadership team (PALT). The focus of the research began to diverge, however, as the interview data and meeting notes were coded and interpreted and began to reveal insights into what became known as ‘future perfect strategy’.

To sum up then, this discussion of paradigm contrasts has sought to illustrate that these two bodies of megaproject governance research proceed from very different epistemological foundations. The functionalist explanations operate on the basis of an etic epistemology. This involves taking an outsider’s view of the objective reality of projects and megaproject governance, and looking for evidence to test causal linkages in explanations that can be generalized to a range cases. The interpretivist explanation, by contrast, is based on an emic epistemology. This assumes that to achieve a proper understanding of megaproject

governance one must take a contextually grounded, insider's view of the socially constructed reality in specific situations, looking at the meanings created by actors.

These different ways of knowing about project governance reflect deeper differences in knowing about the wider social world in which projects are embedded. Of particular interest here are the fundamentally different assumptions made by these two bodies of research about what we can know about the nature of the future. This is of interest, because it concerns one of the quintessential questions of project management, and management more generally (Pitsis *et al.*, 2003), namely how to make decisions in the present that will deliver desired and valued outcomes in the future. The way in which this question is answered by these explanations gives a clear indication of their epistemological assumptions concerning decision-maker knowledge about the future.

Both functionalist explanations argue that the successful delivery of a project requires *ex ante* preparation for the future in the form of pre-designed governance mechanisms that can cope with events that have not yet happened. Both explanations also accept, however, that many future events in the context of a complex megaproject are likely to be unpredictable. That is, rather than simply being risky and therefore amenable to calculations of probability, many project events and outcomes are uncertain (Knight, 1921). The way these explanations overcome this seeming paradox is to assume that the uncertainty attached to the future is primarily, although not entirely, characterized by what has been called foreseeable uncertainty (De Meyer *et al.*, 2002; Loch *et al.*, 2006).

This suggests that managers can use their past experience of projects to specify a range of possible future outcomes. The probability of each outcome occurring cannot be calculated, because there is a lack of suitable reference class data, but managers are assumed

to be able to use beliefs or expectations grounded in historical practice to estimate their likelihood (Knight, 1921; Samset, 2009). It is on the basis of such estimates, that the *ex ante* design of governance mechanisms relies. This is not deny that some contributors to these functionalist explanations do recognize the existence of some unforeseeable uncertainty, where past experience does not exist or is not a good guide to the future (see, for example, De Meyer *et al.*, 2002; Loch *et al.*, 2006). The key point is that the conceptions of project governance promoted by these explanations are grounded primarily in assumptions that what we can know about the future is characterized either by risk or by foreseeable uncertainty.

The interpretivist explanation, by contrast, suggests that the successful completion of the project in the specific case considered was only partly a function of a consciously pre-designed culture intended to encourage collaborative working. A significant part of the explanation focuses on the notion of future perfect strategy, which emerged as the research progressed and the case data were interpreted. Future perfect strategy was understood by the researchers as being significantly different to the kind of scenario planning techniques often associated with projects facing high degrees of ambiguity and uncertainty. It was not based on the use of past experience to identify and plan for the achievement of possible future scenarios in the project. Rather, the strategy ‘comprised imagining a future and then seeking to realize it, subject to constant revision’ (Pitsis *et al.*, 2003, p. 576).

This suggests that, in the context of this project at least, the interpretivist explanation conceives of knowledge about the future as being significantly characterized by unforeseeable uncertainty, which is in tune with the socially constructed nature of knowledge in this paradigm. The future is seen as a created process shaped by the nature and pattern of decisions made now and in the future (Froud, 2003; Minsky, 1996). The interpretivist explanation does recognize that governance mechanisms can be pre-designed, as the designer



culture in the case demonstrates, and that this process of institutionalization might shape the future of the project in a broad sense. The emphasis is much more, however, on the need to continuously revise activities as the project emerges in unforeseeable ways over time.

### *Connections between Functionalist and Interpretivist Explanations*

We turn now to the other component of paradigm interplay, to discuss what is revealed by an examination of connections between these different types of explanation. As Schultz and Hatch (1996) did, we use a postmodernist style of thinking to establish and examine these connections. It should be emphasized that the author is not a postmodernist, but is pragmatically assuming this perspective in line with the reflexive philosophy of multi-paradigm review. Connections are identified on the basis that both functionalist and interpretivist explanations are concerned with identifying an ordered *pattern* and an underlying *essence* in the failures and successes of megaprojects. We also identify a connection based on the common use of *static representations* of project governance. The core argument put forward on the basis of these connections is that there is an acceptance within both paradigms of the notion of actor farsightedness. Table 3 summarizes the key aspects of the discussion.

**Table 3: Connections between Functionalist and Interpretivist Explanations**

<b>Connecting Assumptions</b>	<b>Functionalist Explanations</b>	<b>Interpretivist Explanation</b>
<b>Underlying Pattern</b>	Project failure explained by an underlying pattern of weak or misaligned governance mechanisms/institutions, and success explained by a reverse pattern	Failure associated with conflict between different, but coherent cultures/rationalities within the project domain, and success associated with an integrative culture promoting collaborative working
<b>Underlying Essence</b>	Actor farsightedness based on a future characterized largely by risk and knowable uncertainty	Actor farsightedness in the project domain, with certainty created in situ on an iterative basis
<b>Static Representation</b>	Governance as predesigned institutions, mechanisms, contracts, coalitions, alliances, relationships, and risk management plans with inherent flexibility	Governance as designer culture, project alliance leadership team, statements of vision and values, KPIs, and future perfect strategy based on coherent stepwise revision

Framework adapted from Schultz and Hatch (1996)

The suggestion that both types of explanation have a modernist concern with identifying ordered and coherent patterns is evidenced by the way they discuss the reasons for megaproject success and failure. Functionalist explanation 1 sees project failure as a function of coherent and strategically organized ex ante opportunism facilitated by weak institutional/contractual safeguards. The theoretical explanation or grand narrative (Lyotard, 1984) of failure is one of regular and systematic cheating by project sponsors and other key actors with an interest in seeing projects approved. The narrative of improvement, a call to

design better institutional safeguards, is similarly coherent and ordered. Functionalist explanation 2 provides an equally patterned picture of project failure, seeing it as a function of poor or misaligned governance. The grand narrative suggests that project actors make poor governance choices, but that they can learn to do better.

Finally, the interpretivist explanation sees failure as a function of the inherent difficulties posed by the social construction of projects, and the almost inevitable conflict that occurs between the different cultures and rationalities that emerge from that social construction. At first sight, this explanation appears much less concerned with order and coherence given its emphasis on conflict as a normal part of organizational life. Even here, though, there is a search for pattern. A project may contain different and competing cultures, but each is seen as coherent. Conflict may occur, but the rules of engagement and resolution are ordered and coherent. Power resources or an appeal to collaborative principles and values will settle the matter (Clegg *et al.*, 2002; van Marrewijk *et al.*, 2008).

Looking at the way these explanations discuss megaproject failure and success, we can also identify a modernist interest in treating observable phenomena as a reflection of a deeper underlying essence. In functionalist explanation 1, for example, project failure is not simply about the observable existence of weak institutional safeguards, which facilitate opportunistic behaviour. It is also about that deeper characteristic of the human condition that enables actors to undertake regular and systematic cheating. This explanation suggests that project sponsors and others are *able* to calculate the likely future path of a project, based on data from previous similar projects, and therefore *could* produce an appropriate and comprehensive plan of action and associated governance structures and contractual documents to ensure a successful outcome. Knowledge about the future is primarily characterized by risk and foreseeable uncertainty. The reason for failure, therefore, is that

these key actors *consciously choose* not to use this ability and instead opportunistically misrepresent the future path of the project, in terms of costs, benefits, and schedule, to serve their own interests. The underlying essence for this explanation, then, is actor farsightedness.

Evidence of an appeal to the same underlying essence can be seen in the second functionalist explanation. As in the first, knowledge about the future is characterized primarily by risk and foreseeable uncertainty. This suggests that actors should be able to look ahead and discern potential sources of turbulence and design appropriate governance mechanisms to deal with them. Project failure, it is argued, is not simply about the observable existence of misaligned or inappropriate governance arrangements, which cannot cope with the various sources of turbulence that emerge over time. It is also about the fact that governance design is a management choice, which can be undertaken well or badly. When it is done badly, and the project fails, this is taken as a failure of actor farsightedness. Project success, which is explained by the observable existence of aligned and appropriate governance, is essentially therefore a function of farsightedness.

Perhaps more surprisingly there is also evidence of an appeal to actor farsightedness in the interpretivist explanation, which might be expected to reject this underlying essence given its assumption that knowledge about the future is socially constructed and therefore significantly characterized by unforeseeable uncertainty. What we see here, however, is that actor farsightedness remains essential to this explanation's grand narrative, albeit differently conceived. At the observable level, the failure of projects is seen as a function of conflict between different cultures and rationalities. Project success, by extension, is linked to the creation of a mechanism by one or more actors that mediates between these competing cultures and encourages (positive) collaboration instead of (negative) conflict. Looking beyond the observable level of explanation, we suggest that the very existence of such a

mechanism requires an essence of actor farsightedness. Rather than being conceived in a temporal sense, however, farsightedness is conceived here as being able to look comprehensively across the project domain in order to recognize and understand the range of different cultures and rationalities. Such recognition and understanding would seem to be the prerequisites of creating an effective integrative governance mechanism. The explanation of future perfect strategy appeals to the same essence of actor farsightedness in the project domain. Imagining a future outcome and then seeking to realize it, subject to constant revision, suggests an appreciation, continually updated, of what is and what is not happening within the project domain.

The final modernist connection between these functionalist and interpretivist explanations is their reliance on static representations of governance. Governance is represented largely in terms of structural characteristics of coherence, pattern and order, seeing it as a *form of organization*. The idea of governance as dynamic and potentially disordered *processes of organizing* is downplayed or completely ignored. So, for example, the functionalist explanations talk about governance in terms of mechanisms, institutions, relationships, alliances, contracts, coalitions, risk management plans and so on. There is a strong emphasis on the notion of governance design and an assumption that much, if not all, of this design work can be, and indeed should be, done at the front-end of the project before turbulence and opportunism arise (Flyvbjerg *et al.*, 2003; Loch *et al.*, 2006; Miller and Lessard, 2000; Williams *et al.*, 2009). The possibility of changes or discontinuity in project governance is downplayed by references to flexibility by design or infusing governability (Miller and Hobbs, 2009). This *ex ante* governance design relies heavily, of course, on the underlying essence of actor farsightedness.

The interpretivist explanation also represents governance in largely static terms, with its references to a coherent designer culture embodied in the project alliance leadership team (PALT), a list of value statements, and monetized key performance indicators (Clegg *et al.*, 2002; Pitsis *et al.*, 2003). As a potential counterpoint to this, the researchers' description of future perfect strategy as a 'process [that] comprised imagining a future and then seeking to realize it, subject to constant revision' (Pitsis *et al.*, 2003, p. 576) does suggest some interest in representing project governance in processual terms. On closer inspection, however, it becomes clear that this process is being described in essentially static terms, as an orderly and coherent series of steps towards the imagined end goal. Problems emerge, discussions happen, a revising step takes place. As Schultz and Hatch (1996, p. 543) observe, interpretivists evince a strong interest in processes of sense making and meaning creation within organizations, but, as in this case, they rarely examine 'the ruptures, discontinuity, and fragmentation' involved. Chia (1995, p. 587) makes very much the same point when he suggests that 'when modernists talk about process, they usually mean the various *stages/states* of isolatable events/conditions which lead towards an achievement or outcome' [emphasis in the original]. Again, this coherent and ordered representation relies on an essence of actor farsightedness in the project domain.

### **Conclusion: Seeing Beyond Governance as Made Order**

Through a literature review based on paradigm interplay (Schultz and Hatch, 1996), this article has discussed a number of important contrasts and connections between two bodies of megaproject governance research, one functionalist and one interpretivist. The use of paradigm interplay as a review technique enables significant reflexivity through a

combination of paradigm bracketing and bridging. Bracketing is about considering the implications of different epistemological assumptions for the kinds of understanding which are made possible by different paradigms. In this way, paradigms are seen as partial sense-making heuristics, focusing our attention on certain facets of complex organizational or social phenomena and obscuring others (Lewis and Kelemen, 2002). Bridging challenges the notion of incommensurability and seeks out the assumptions, concepts, and constructs that paradigms have in common (Lewis and Grimes, 1999). Paradigm interplay applies a postmodern style of thinking (Chia, 1995) to identify these connections, but retains an acceptance of the value of paradigm distinctions. The aim is to uncover which facets of a phenomenon are ignored or not adequately explained by either paradigm as a consequence of these shared assumptions and constructs.

The key common assumption identified by the literature review is that actors engaged in megaprojects are farsighted. In a broad sense, this means that all three explanations accept that actors can and should prepare for the future before it has happened. Having said that, conceptions of what it means to be farsighted do differ between the functionalist and interpretivist explanations. This is unsurprising given their different epistemological assumptions about what can be known about the nature of the future.

Farsightedness for the functionalist explanations is conceived in a temporal sense. So, functionalist explanation 1, which assumes that future events and project outcomes are primarily risky and therefore susceptible to detailed analysis and contingency planning, argues that actors can and should undertake comprehensive ex ante contracting and thereby control the future. Functionalist explanation 2 assumes that project outcomes are in most cases foreseeably uncertain. This means that decision-makers lack the necessary reference class data to undertake a calculation of statistical probability, but experience and judgement

still allow actors to be farsighted enough to know the range of possible future events, to rank them based on subjective probability, and therefore to prepare appropriate governance arrangements *ex ante* to manage those events *ex post*.

The interpretivist explanation appears to present an interesting paradox. On one hand it assumes that projects take place in an environment of unforeseeable uncertainty – knowledge about future outcomes is socially constructed and therefore unknowable in the present. Farsightedness thus appears to be ruled out. On the other it suggests that *ex post* problems can be more effectively addressed if a collaborative project culture is consciously designed *ex ante*, and future perfect thinking is used to imagine project outcomes which are then achieved through stepwise revision of activities. This seeming paradox is resolved, then, by an acceptance of actor farsightedness, but conceived in this case as project domain farsightedness.

Given this shared assumption, all three of these explanations are able to conceive governance in megaprojects as *static, convergent and patterned* forms of organization, what Chia and Holt (2009) refer to as made order, and to ignore governance as *discontinuous, divergent and fluctuating* micro-processes of organizing (Law 1992). The argument here is that an assumption of farsightedness provides a convenient conceptual short-cut, which bypasses a serious consideration of the perhaps haphazard, transient and accidental processes through which actors use, reproduce and transform this made order on an on-going basis. There is, of course, recognition that actors might consciously choose to renegotiate the terms of governance during a project, but this simply represents the replacement of one made order with another.



The core conclusion, then, is that future research must give greater attention to governance as micro-processes of organizing within projects. Structural forms of governance dominant the functionalist explanations reviewed here. The interpretivist explanation evinces a concern with ‘everyday organizational life’ (Pitsis *et al.*, 2003, p. 588), but presents an ordered, coherent and static picture of that life. Both types of explanation operate on the basis of a modernist ontology. This is not a call, however, simply to replace a modernist ontology of being with a postmodern ontology of becoming (Cooper and Law, 1995). As Linehan and Kavanagh (2006, p. 52) insightfully comment, ‘each ontology is necessarily partial...an excessive attachment to one or the other leads to a privileging of some questions, methods and interventions, and a marginalisation of others.’ Rather, this article supports the accommodating philosophy of multi-paradigm inquiry, valuing alternative paradigm lenses for their capacity to ‘reveal seemingly disparate, but interdependent facets of complex phenomena’ (Lewis and Kelemen, 2002, p. 258). Söderlund (2011, p. 168) reaches a similar conclusion, arguing that the pluralism of project management research needs to be embraced ‘to illuminate the complex actuality of projects and project management practice.’ Similarly, Pollack (2007, p. 272) concludes that a ‘wider variety of paradigms employed within the field increases the ways in which existing techniques are understood.’ These papers seem to assume, however, that each piece of the jigsaw is already available and that they need only to be properly assembled to provide a holistic understanding of projects. The key difference and contribution here is that this paper has used paradigm interplay to reveal what is, crucially, left unsaid by the literature on megaproject governance.

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