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‘What if?’: Synthesizing debates and advancing prospects of using virtual history in management and organization theory

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Abstract

As the ‘historic turn’ in management and organization studies gathers pace scholars are shifting their attention to questions such as what constitutes management and organization history. This article debates and advances the prospects of using virtual history in management and organization theory. The article begins by reviewing some of the most vociferous opponents of counterfactual history and it addresses each one of their arguments in turn. It then proceeds on to consider a range of perspectives on the criteria that should be used to ensure scholarly rigour in the writing of counterfactual history. Following, the article seeks to advance the prospects of using counterfactual history in management and organization theory. The article concludes that counterfactuals already constitute an important part of both our cognitive and scholarly processes of reasoning, and they influence judgements and decision-making. Consequently, they have the potential to make valuable contributions to both the theory and practice of researching and managing organizations.

Key words • managerial decision-making • organization theory • virtual history

Introduction

Counterfactual history has been an emotive topic amongst historians for many years. For philosophers of logic, linguistics and social psychologists, counterfactuals have become signature domains of enquiry. This is because counterfactuals have been found to underpin various lines of reasoning; they are used pervasively in everyday language and they have also been found to be essential cognitive mechanisms for making sense of the world around us and for making judgements and taking decisions. They are fundamental to our knowledge-creation processes.

In history and the social sciences, counterfactuals are concerned with non-actualized causal possibilities in past historical events. Counterfactuals, or asking ‘what if’, ‘if then’ and ‘if only’ questions about what we think we know about the past, can illuminate the connections that an actual world, located in a space of possibilities, has to other non-actual

things (Hawthorn 1991, 16–17). A counterfactual is where ‘the antecedent (the term following the ‘if’) is in fact false, that is, it runs counter to the facts’ (Bulhof 1999, 146).

In logic, for instance, ‘if’, a word used to express hypothetical thought, has been identified as one of the most interesting and important words in human reasoning and decision-making (Evans and Over 2004). Sanford argues that conditionals such as ‘if p, then q’ have ‘received concentrated, if intermittent, theoretical attention since antiquity’ (Sanford 1989, 1). The interest that this form of reasoning garners appears to be due to its application as an analytical tool for imagining how things might have been in the past and how things may be in the future (Evans and Over 2004). This, in turn, provides the foundations for generating ‘prospective alternatives for action’ and for deciding what to do (Sanford 1989, 4).

As a cognitive function, counterfactual reasoning is intimately familiar to every person. It is a naturally occurring process of thought in human beings (Kahneman and Tversky 1982; Sanna 1996; Sanna and Turley 1996). Researchers of psychology demonstrate that the counterfactuals that people generate influence their causal ascriptions (Gavanski and Wells 1989; Roesse and Olson 1996; Wells, Taylor and Turtle 1987), affective reactions (Gleicher, Kost, Baker, Strathman, Richman and Sherman 1990; Landman 1987), assignments of blame (Turley, Sanna and Reiter 1995; Macrae 1992), expectancies and predictions (Johnson and Sherman 1990; Sherman, Skov, Hertz and Stock 1981). As such, they can serve as a coping mechanism when things go wrong or a preparative function for improving future performance (Johnson and Sherman 1990; Markman, Gavanski, Sherman and McMullen 1993; Roesse, 1994; Roesse and Olson 1995c; Sherman and McConnell 1995). Given their prevalence in other disciplines, their comparative absence in management and organization theory is conspicuous.

The impetus for this article comes from the *Counterfactual History in Management and Organisations Workshop* held at the University of Warwick 15–16 December 2005. The workshop was part of a larger project investigating the role of corporate history and narrative in the evolution of business knowledge. As such, this article seeks to make its contribution to the wider endeavour of understanding how business knowledge evolves. Specifically, it investigates the various debates and advances the prospects that counterfactual analysis can make to management and organization theory.

The article begins by addressing the arguments put forth by opponents of counterfactual use in historiography and the social sciences by presenting the argument that counterfactuals already do, sometimes tacitly and at other times explicitly, influence argumentation and scholarship within historiography and the social sciences. It goes on to assess the various criteria scholars use when producing counterfactual alternatives and arguments. Following this, the article advances four prospects for infusing counterfactual history with the wider ‘re-turn to history’ in management and organization theory. Finally the article concludes that both history and virtual history feature implicitly in judgement and decision-making processes. It is, therefore, arguably better to make them explicit, using them with analytical rigour, while at the same time creating a neutral space for a dialogue between historical and psychological scholarship concerned with counterfactuals.

Virtual history and historiography: A 'red herring' or legitimate tool?

For many historians science and progress are synonymous. For history to progress, the logic follows, it too must rest on scientific hypotheses (Carr 1990), which, as with other 'scientific' epistemologies, privileges factual knowledge over other forms of knowledge. As the social historian Carr states: 'History consists of a corpus of ascertained facts' (Carr 1990, 9). It is therefore not surprising that the debate over counterfactual history – literally history that runs counter to the facts – what Ferguson has dubbed 'virtual history' (1997, 89) – should be as polarized as it is.

Counterfactual history examples in management and organization studies, while rare, include: 'What if Henry Ford had started from Birmingham?' (Clark 2000, 201–10); and, 'would the invention of a commercially viable turbojet engine taken place in Britain, Germany or the U.S.A. later or even at all without Sir Frank Whittle and Power Jets success on April 12th, 1937?' (Nahum 2005, 164–8).

Many historians have been critical of the use of virtual history. As Tetlock and Belkin caution: 'The ferocity of [counterfactual] sceptics is a bit unnerving' (Tetlock and Belkin 1996, 3). The criticisms seem to fall into three primary categories. First, for some historians, their objection to counterfactual history does not rest so much on reason as a visceral reaction to their use. Thompson, for instance, has rejected them as 'Geschichtswissenschaftlich, unhistorical s~*t' (Thompson 1978, 300). The social historian Carr has also dismissed counterfactuals as 'a red herring', a 'parlour game with the might-have-beens of history', and perhaps most revealing, 'popular among those that have been placed in third class' (Carr 1990, 91, 97, 101). Moreover, Croce has cautioned:

For if we went on to such a full exploration of reality, the game would soon be up. When the attempt is made to play this sort of game on the field of history, where it is thoroughly out of place, the effect is too wearisome to be long maintained. (Croce 1966, 557)

The second category of scholars who object to counterfactual history do so on the grounds of maintaining history as a science. Carr, for instance, returns several times to Acton's suggestion that progress is 'the scientific hypothesis on which history is to be written' (Acton 1907, 10–12) in his discussion of what history is, declaring that 'history is progress' (Carr 1990, 132). The notion of progress suggests a direction or certain inevitability about history (Tassone, Lampeter and Mellen 2004). Perhaps an extreme example of this view would be Hempel's argument that historical explanation that conforms to scientific norms consists of establishing a cause-effect relationship between events (Hempel 1942). As O'Sullivan suggests, Hempel's view of history amounts to retrospective prediction; if certain antecedent conditions exist then their consequences should be anticipated. Law-like generalizations rather than chance, the argument implies, is what informs scientific explanations of history (O'Sullivan 2006).

The third category of scholars sceptical of counterfactual history are represented by the idealism of Michael Oakeshott. While rejecting a view of history predicated on cause-effect prevalent in the natural sciences, Oakeshott (1966) takes an equally restrictive line

of argument against counterfactual history that subscribes to the notion that the only basis for judging history is the surviving evidence available to the historian. He argues that explaining change in terms of causes suggests that:

A single historical event may be extracted from the world of history, made free of all its relations and connections, and then spoken of as the cause of all that followed it or of certain selected events which followed it. And when events are treated in this manner they cease at once to be historical events. The result is not merely bad or doubtful history, but the complete rejection of history. (Oakeshott 1966, 128)

A statement perhaps more revealing of Oakeshott's real concern is that explaining history through events or turning points 'must be rejected from history if history is not to suffer extinction' (Oakeshott 1966, 128).

While Oakeshott was lamenting the treatment of history by counterfactuals as if it were a 'monstrous incursion' of science into history, the empiricist Windschuttle, in the aptly titled *The killing of history: How a discipline is being murdered by literary critics and social theorists*, in his defence of 'the integrity of history as properly a scientific endeavour' (Windschuttle 1994, 3), complains that history is being turned away from being a science by postmodernists.

Indeed counterfactual scepticism seems to transcend otherwise disparate historical perspectives. From idealists such as Croce and Oakeshott, to positivists such as Hempel and empiricists such as Windschuttle, from the politically conservative Oakeshott on the right to Marxists such as Carr and Thompson on the left, counterfactual questions, as one observer summarizes, are 'strangely repugnant to many, if not all, professional historians' (Roberts 1997, 6).

Despite these traditional reservations, the tide seems to be turning within historical scholarship towards an acceptance of counterfactual history as one of the most fertile areas of historical enquiry (Rosenfeld 2002). For some historians (e.g. Ferguson 1997), this shift away from Kuhnian (1970) data-driven 'normal science' represents an ostensibly necessary antidote to determinism and perhaps more surreptitiously a *contrarian* strategy for challenging accepted versions of why, for instance, the 20th century has been one of the most violent in human history (Ferguson 2006). For historians working in the field of critical oral history, counterfactuals help to bridge the gap between historians' understanding of the past and that of the decision-maker weighing a series of choices at the time (Blight and Lang 2005).

Historians such as Rosenfeld argue that the rapid rise of alternative histories is due to a number of factors. Developments such as chaos theory in the physical sciences, the erosion of deterministic views in the latter half of the 20th century, the rise of postmodernism – which has challenged the privileging of some voices from the past over others – have all converged to create a reasonably hospitable climate alternative views of how the world could have evolved to emerge into mainstream discourse (Rosenfeld 2002).

A further reason for the legitimizing of alternative history as a mode of inquiry in historical scholarship, as philosophers of logic and psychologists have been arguing for

some time, is that the assumptions underpinning our arguments frequently rest on counterfactual alternatives. Bulhof (1999), for instance, has demonstrated that many of the claims proposed by historians, even historians such as Loewen who are known to dismiss the arguments of other scholars as 'what if history' (1995, 83), frequently use counterfactual alternatives to validate their own. As Giddens states in the wider context of social science research:

The concern is with a singular set of events, traced through and analyzed counterfactually. The researcher asks, 'What would have happened to events B, C, D, E ... if A had not occurred?' – thereby seeking to identify the role of A in the chain or sequence. (Giddens 1984, 13)

This line of thinking leads Bulhof to comment: 'Counterfactuals, causes, and explanations are three sides of the same strange three-sided coin; you cannot have one without the other two' (1999, 147). Similar reasoning has also led the political theorist Lebow (2000b) to argue that scholars frequently smuggle counterfactuals into lines of argument. He concludes: 'Every good counterfactual thus rests on multiple factials, just as every factual rests on counterfactual assumptions – and these assumptions too often go unexamined' (Lebow 2000b, 556). Making counterfactual assumptions explicit in scholarship thus contributes to greater scholastic rigour, but a question remains about what methodological criteria should govern counterfactual thought experiments.

The 'Methodological Rathole'

Critics of counterfactuals, such as Fisher (1970, 18), suggest that pursuing metaphysical, age-old riddles that revolve around fate, free will and determinism through the use of counterfactual thought experiments leads scholars 'down the methodological rathole'. Determinism and modality are not necessarily mutually exclusive. As Bulhof says: 'We can make perfect sense of what might have been, and of what cannot be, in a deterministic world' (1999, 147). Nor is counterfactual thought necessarily a 'methodological rathole'.

While counterfactual thinking has been a characteristic of human reasoning for thousands of years (Tetlock and Belkin 1996), as a scholarly tool there are various ways that counterfactuals can be used and, by extension, different styles of counterfactuals. To ensure rigour and validity, each counterfactual style requires a set of criteria to judge them by.

Tetlock and Belkin have proposed that there are five distinct styles of counterfactual argumentation. They are:

1. Idiographic case-study counterfactuals that highlight points of indeterminacy at particular junctures in history (reminding us of how things could easily have worked out differently and of how difficult it is to apply abstract hypothetico-deductive laws to concrete cases);

2. Nomothetic counterfactuals that apply well-defined antecedent conditions (reminding us that deterministic laws may have been at work that were invisible to the original historical actors as well as to contemporary scholars who insist on a radically idiographic focus on the particular);
3. Joint idiographic-nomothetic counterfactuals that combine the historian's interest in what was possible in particular cases, thereby producing theory-informed history;
4. Computer-simulation counterfactuals that reveal hitherto latent logical contradictions and gaps in formal theoretical arguments by rerunning 'history' in artificial worlds that 'capture' key functional properties of the actual world;
5. Mental-simulation counterfactuals that reveal hitherto latent psychological contradictions and gaps in belief systems by encouraging people to imagine possible worlds in which causes they supposed irrelevant seem to make a difference, or possible worlds in which causes they supposed consequential seem to be irrelevant (Tetlock and Belkin 1996, 6–7).

Idiographic case-study counterfactuals focus on how the path-dependent logic of events (Hawthorn 1991) could have been re-directed through the alteration of 'conceivable' causes (Tetlock and Belkin 1996). Increasingly scholars are arguing that counterfactual history is not just a 'parlour game' or 'idle speculation'. The historical profession is not monolithic in this sense. Indeed, there are many that feel that counterfactual reasoning is a worthwhile step in accumulating knowledge. Those that subscribe to counterfactual reasoning as a worthwhile venture are more nomothetic, or theory oriented in their approach to knowledge building (Breslauer 1996).

A criticism of those that study history more idiographically is that the study of history requires the study of causes and, the argument follows, the study of causes requires counterfactual assertions. In response to the question of what constitutes reasonable standards for assessing these counterfactual assertions, Tetlock and Belkin (1996) outline six criteria. They include: Clarity of independent and dependent variables; the logical consistency of the connecting principles between the antecedent and the consequent; the historical consistency, or minimum re-write rule specifying that as few historical facts as possible be altered; theoretical consistency articulating the connecting principles consistent with well-established theoretical generalizations; statistical consistency articulating the connecting principles between antecedent and consequent consistent with well-established statistical generalizations; and, the projectability of the testable implications of the hypothesis (Tetlock and Belkin 1996, 18). Breslauer (1996) supports the criteria outlined by Tetlock and Belkin, arguing that they are reasonable even in the circumstances of theoretical uncertainty and data scarcity.

Borrowing from Nash's (1991) survey, some scholars go even further. According to Breslauer (1996) and Nash (1991), methodological standards for which counterfactuals can be invoked might include:

- the focus should be on identification of the decisive factor in a historical sequence, by considering which factor, if removed, would have made the sequence inconceivable;

- the consequent must stand in relatively close temporal proximity to the antecedent; and,
- the counterfactual antecedent must have been an available option (Breslauer 1996, 74).

The first two criteria of the additions proposed by Breslauer (1996) and Nash (1991) are reasonable and subscribe to the 'minimal-rewrite-of-history' rule that many of the idiographic scholars (e.g. Breslauer 1996; Fogel 1964; Herrmann and Fischerkeller 1996; Lebow 2000a; Lebow and Stein 1996) agree upon, and which the sociologist Max Weber (1949) also advocates. In other words, there seems to be a consensus amongst many scholars engaged in virtual history that counterfactuals should not undo many events. For example, a counterfactual that imagines German technological superiority in jet aircraft propulsion by the early 1950s, or Japanese domination of the North American automotive industry by the 1970s may require too many events to have been 'undone' (Breslauer 1996). Counterfactuals that subscribe to a 'minimal re-write' rule do not change what was culturally, technologically, temporally or otherwise plausible and they entail small, plausible changes in history (Lebow 2000b).

The third criterion borrowed from Nash (1991) has also been reiterated by Fearon (1996) and Ferguson (1997), but is more controversial. Ferguson argues that:

We should consider as plausible or probable only those alternatives which we can show on the basis of contemporary evidence that contemporaries actually considered. (Ferguson 1997, 86)

For Ferguson, all historical actors could do was consider a likely future or possible future. Historicism, the history of recorded facts, can obliterate the alternative possible futures that were once considered. Considering only one future, the recorded past, results in 'the most teleological error'. To understand how the past was, the argument concludes, the counterfactual alternatives must also be considered (Ferguson 1997, 86–7).

People in the past could not predict their future any more than we can today. People in the past must have considered more than one possible future in any given circumstance. Indeed, it seems only reasonable that we attach equal significance to all the recorded outcomes thought about. Perhaps the most important point is that to understand how the past actually was, we need to understand how it actually wasn't. Further, Fearon concludes that counterfactual histories:

may provide the controlled comparisons necessary to support causal inferences when researchers restrict themselves to a small number of actual-world cases. (Fearon 1996, 65)

This leads Fearon to be pessimistic about using counterfactual methodologies. However, there are two faults that can be found in this logic. First, the argument is too limiting; and second, one takes for granted that all the possible futures

thought about were indeed recorded and recorded accurately. The nuances between memory, history and forgetting, while outside the scope of this article, have been explored in detail by such philosophers of history as Ricoeur (2004), and in an organizational context, by management scholars such as Martin de Holan and Phillips (2003; 2004) and Martin de Holan, Phillips and Lawrence (2004). Suffice it to argue, even when meagre evidence exists of what happened in the past, the difference between factual and counterfactual history might only be marginal because there are rarely 'smoking guns' that allow researchers to establish the causes, constraints, goals, motives and personalities of historical actors beyond reasonable doubt. According to Lebow, restricting the counterfactuals to this criterion would limit counterfactual possibilities to those that made and recorded history, such as elites, thus 'excluding entire categories of plausible-world counterfactuals' (Lebow 2000b, 553, 569).

Lebow, consequently, offers a revised set of criterion for assessing plausible-world counterfactuals. Numbers 1, 2, 4, and 5 are variants of the Tetlock-Belkin criteria, while numbers 3, 7, and 8 are additions by Lebow (2000b, 581–4):

1. Clarity. Good counterfactuals should also specify the conditions that would have to be present for the counterfactual to occur (Tetlock and Belkin 1996).
2. Logical consistency or co-tenability. Every counterfactual is a shorthand statement of a more complex argument that generally requires a set of connecting conditions or principles (Tetlock and Belkin 1996).
3. Enabling counterfactuals should not undercut the antecedent. Counterfactuals may require other counterfactuals to make them possible (Lebow 2000b).
4. Historical consistency. Max Weber insisted that plausible counterfactuals should make as few historical changes as possible on the grounds that the more we disturb the values, goals and contexts in which actors operate, the less predictable their behaviour becomes (Tetlock and Belkin 1996).
5. Theoretical consistency. It is useful to reference any theories, empirical findings, historical interpretations, or assumptions on which the causal principles or connecting arguments are based, thus allowing the plausibility of the counterfactual to be assessed (Tetlock and Belkin 1996).
6. Avoid the conjunction fallacy. The laws of statistics indicate that the probability of any compound counterfactual is exceedingly low.
7. Surgical counterfactuals are unrealistic because causes are interdependent and have important interaction effects. History is like a spring mattress: if one of the springs is cut or simply subjected to extra pressure, the others will also to varying degrees shift their location and tension (Lebow 2000b).
8. Consider second-order counterfactuals. Even when there is good to reason to believe that the antecedent will produce the desired consequent, the possibility remains that subsequent developments will return history to the course from which it was initially diverted by the antecedent (Lebow 2000b).

Lebow's criteria provide a framework in which disciplined counterfactual analysis can be undertaken without having to rely solely on recorded alternatives considered by historical actors. The appeal of this framework is that, when considering options, decision-makers use counterfactual arguments 'to structure their problem and evaluate the likely consequences of the options they are considering' (Lebow and Stein 1996, 120).

Fearon (1996), while somewhat sceptical about counterfactual methodologies, acknowledges that specifying counterfactual presuppositions brings certain 'foundational issues' into the open, thus validating explanations as empirical discovery rather than persuasive rhetoric (Fearon 1996, 67). Fearon suggests that a proximity criterion should be added to counterfactual methodological guidelines. He argues that the hypothetical antecedent and outcome should be close together, separated by only a limited number of causal steps. The problem with this criterion is that not only would it render many important counterfactuals as unassessable, but it may also undermine many of the benefits of counterfactual arguments, including bringing foundational issues into the open and failing to specify requisite counterfactuals.

Weber (1996), who is critical of attempts by some scholars (e.g. Ferguson 1997; Lebow and Stein 1996; Nash 1991; Tetlock and Belkin 1996) to apply criterion or plausibility tests to counterfactuals, argues that one of the reasons that social scientists are so often surprised by events is that they do not take into consideration the variety of possible pasts that could have occurred, or the possible futures that still might occur. There is a lack of divergent thinking, a 'deterministic tunnel vision' (Tetlock and Belkin 1996). Citing Schoemaker (1991), Weber (1996) argues that prudent policy-makers should entertain a host of plausible scenarios, both into the future and the past. Tetlock and Belkin (1996) do not dispute this point, but argue that there has to be some means of distinguishing 'snake oil from serious scholarship' (Tetlock and Belkin 1996, 16). There is, however, no reason why counterfactuals can't be given freer reign, and still be subjected to rigorous plausibility/validity tests, as, for instance, other explanations in organization theory are.

There is no shortage of examples of modality or use of counterfactuals in historical or social science scholarship. This is because the study of history is the study of what happened and why something happened. Counterfactuals help to explain events in history by identifying causes. They are also used to highlight certain events and defend or criticize judgments about individuals, organizations, institutions, industries and societies. In history, 'normal science' is shifting away from an outdated paradigm that excluded explicit counterfactual reasoning from the historians' methodological toolkit. Claims about what might have been are becoming elevated in our logic, reasoning and understanding (Bulhof, 1999). Considering these conclusions, a question germane to this article is what prospects can thus be advanced for using counterfactuals in management and organization theory?

Advancing prospects for using counterfactual analysis in management and organization theory

Scholars (e.g. Barrett and Srivastva 1991; Booth and Rowlinson 2006; Clark and Rowlinson 2004; Goldman 1994; Kieser 1994; Rowlinson 2001; Üsdiken and Kieser 2004; Zald 1993) are increasingly advocating the infusion of a historical perspective into management and organization theory. These calls constitute a 'historical turn' (Clark and Rowlinson 2004, 331). Kieser (1994) argues that there are four primary reasons why historical analysis should be revitalized in organization theory. First, the current behaviour and structure of organizations reflect socio-cultural historical developments that need to be analysed. Second, organizational problems and their concomitant current 'fashionable' prescriptions are often value-laden and can be compared with similar historical trends to de-bias their presentation. Third, organization structures are generally considered a product of previous decisions made from a range of different choices. The decisions foregone may present themselves again, and their analysis can help decision-makers to make better choices in the future. Finally, theories of organizational change can be more rigorously tested by comparing them with historical developments rather than just data on short-run changes (Kieser 1994, 609–12).

While counterfactual history is also intimately entwined with Kieser's four reasons for revitalizing history in organization theory, there are four more additions that can be made for using counterfactual history as a prospective method of enquiry in management and organization studies.

First, counterfactual interventions, as Booth (2003) persuasively argues, can guard against path-dependencies that both structure and perception fall prey to. As Teece et al. propound, 'history matters' because the investments and repertoires of routines that result from decisions today constrain future behaviour and this is often not recognized (Teece et al. 1997, 522–3). Path-dependencies can be broadly subdivided into two domains: socio-economic/technological path-dependencies and cognitive-path dependencies. Path-dependent technological examples might include Microsoft Windows 95, the VHS video recorder and QWERTY keyboard as industry standards (Booth 2003). Arthur, argues that a competing technology can become locked in through small historical accidents or 'chance' (Arthur 1989). Path dependencies thus 'ensure that firms tend to do what they have done in the past' and 'enable firms to operate under familiar conditions but introduce significant rigidities in novel circumstances' (Booth 2003, 98).

The second domain of path-dependency is cognitive or psychological and can impair organizational learning (Cohen and Levinthal 1990). Organizational routines (Nelson and Winter 1982) managerial recipes (Grinyer and Spender 1979), biases towards over-confidence (Fischhoff 1982; Kahneman and Tversky 1982; Mahajan 1992), defensive pessimism (Norem and Illingworth, 1993), cultural (and organizational) mythologies (Johnson 1988), stereotypes (Neustadt and May 1986) and past experiences (Ingvar 1985, 127–36) can all coalesce (see MacKay and McKiernan

2004a; MacKay and McKiernan 2004b) to affect organizational learning. The impact of path-dependencies on organizations can impair their ability to recognize, elicit and utilize information from their environments, their 'absorptive capacities' (Cohen and Levinthal 1990, 128, 130), which rest on prior knowledge generated from previous experience and learning from the past. Consequently, Weber (1996, 270) argues that counterfactuals can be used to 'prime the pump for learning' as 'learning devices' and 'mind-set changers'.

Second, counterfactual experiments can be used to test the validity of accepted histories. In his recent article on the intellectual origins of corporate strategy, McKenna asks the question why, 'given the almost hysterical fear that General Motors' executives showed at the potential for antitrust action arising from Sloan and McDonald's historical account, did Chandler not emphasize the importance of antitrust legislation in the organizational structure of American industry?' (McKenna 2006, 114). The implication is that fear of anti-trust legislation may have driven, at least in part, the diversification of many American corporate titans such as AT&T, IBM and General Motors into unrelated businesses following the Celler-Kefauver Act of 1950. McKenna argues that researchers such as Chandler would have found it difficult 'to use internal corporate archives to investigate the impact of antitrust on corporate structure' (McKenna 2006, 115).

A counterfactual exploring an alternative history for the diversification of corporate strategy thus has the potential to instigate a re-evaluation of the influence of non-market forces on the evolution of corporate strategy (and industry structure), which could facilitate theorizing on how, for instance, impending environmental legislation or increasing scrutiny by national governments over mergers and acquisitions by foreign companies for 'security' reasons (see Dent 2007 for an overview of issues pertaining to economic security) may shape the future of corporate diversification, innovation and organization.

In a similar vein, Fogel's much-lauded counterfactual exploring the development and growth of the US economy in the absence of the railroads 'questions the implicit but unverified assumptions that have been introduced into the interpretation of the evidence' (Fogel 1964, 15), namely the axiom that the railroads were indispensable in the development of the US economy. Fogel, for instance, points out that the theory of the internal combustion engine was first published in 1824. Had the government invested heavily in developing this technology, the automobile could have become a viable alternative to rail transport much sooner than it did (Fogel 1964, 10–16). Fogel's counterfactual investigation not only demonstrates a role for counterfactuals in questioning long-held assumptions and testing hypotheses, but it also demonstrates that counterfactual history and quantitative analysis are compatible for those who conflate statistical analysis of quantifiable variables with scientific rigour.

Third, counterfactuals can be used as a diagnostic tool for assessing assumptions concerning the environmental contexts facilitating firm success and failure. Take Clark's (2000) intriguing question of whether Henry Ford could have started out from the Birmingham-Coventry corridor. If a resource-based strategic analysis had been

applied to 'the automobile industry, to the British situation and to the historic role of the industrial district' (Clark 2000, 202) at the time of the first advertisements for the Model T in 1906, Clark proposes that the analysis would have suggested that there were few impediments and favourable circumstances in Britain. However, when the counterfactual is investigated by comparing competing contexts, Clark concludes that Ford would have found it difficult to develop the capabilities necessary to dominate the context because of 'restrictive zones of maneuvering' in the UK, as opposed to the Detroit and US context with their distinctive regional opportunities and societal capacities facilitated the flexibility needed by entrepreneurs like Ford to develop the requisite capabilities (Clark 2000, 202).

A second example might include Nahum's counterfactual, 'would there have been a jet engine without Whittle? Can we personalize any invention to the degree that jet history has done?' (Nahum 2004, 164). The contextual and institutional (financial, governmental and military) difficulty Whittle had in soliciting support for his invention (e.g. Golley 1996, 73, 159–62; Nahum 2004, 95–103) are well documented, as are the opportunities and institutional support afforded by the American context in the mid-1950s (see Scranton 2006, 128, 131). For Britain in particular, without the drive, genius and tenacity of Whittle one can argue that the lack of institutional (private sector, government or military) support for the invention of the jet engine makes it unlikely that Britain would have had any position in this technology at all: while the institutional context, as with the production of the Model T Ford some 31 years earlier, likely existed in the US. However, had the British not needed access to American technology for the war effort, the American General 'Hap' Arnold, Chief of Staff of the US Army Air Corps, may never have had the opportunity to facilitate the 'borrowing' of the technology by the Americans, and specifically by General Electric, from the British in March of 1941 the Americans may also have taken longer developing the next stage of the technology (Golley 1996, 182).

Finally, research by historians (e.g. Neustadt and May 1986) and psychologists (e.g. Miller, Turnbull and McFarland 1990; Roese and Olson 1995a and 1995b) suggests that history is consistently put to work by decision-makers. Decisions, according to Chia, can be understood as: 'A series of interlocking pre-definitive acts of punctuating the flow of human experience in order to facilitate sense-making' (Chia 1994, 31). In other words, as Derrida argues, 'a decision, as its name indicates, must interrupt, cut, rend a continuity in the fabric of the ordinary course of history' (Derrida 2001, 39). Classical notions of decision-making involve having an occasion to make a decision, identifying possible alternatives for action and choosing among alternatives for action (e.g. Simon 1960). Decision-making rationality depends on the extent to which the decision-making process involves the gathering and analysis of information relevant to the decision. Research into counterfactual reasoning in psychology suggests that counterfactuals feature strongly in these judgements and decision-making processes (Roese and Olson 1995b).

Wells et al. for instance, argue that the role of imagination in the explanations that people generate to produce hypothetical outcomes and in the prediction of future

outcomes may be influenced by a counterfactual process of doing and undoing mental simulations (Wells et al. 1987, 429). Gavanski and Wells also suggest that our actions, emotions and thoughts are not only guided by what is in the present, but what could have been in the past. As they say, 'To act purposefully on our physical and social environment, we must not only evaluate reality, but also imagine alternatives to reality' (Gavanski and Wells 1989, 315).

Assessing normality, according to Miller et al., is determined by comparing pre-computed representations that people have stored in memory before an event with counterfactual scenarios, thoughts and images that are evoked after an event (Miller et al. 1990, 306). This theory is largely consistent with that of the neurobiologist Ingvar, who from a neurophysiology perspective, has suggested that from the 'massive sensory barrage to which our brains are constantly exposed, people select and store experiences in memory as serial plans for future cognition and behaviour based on comparisons with existing schemata.' Ingvar calls this a 'memory of the future' (Ingvar 1985, 127–36). Normality, consequently, serves as an availability heuristic in the process of memory and can influence assessments of an event's probability based on the ability to access similar events stored in memory (Miller et al. 1990, 327).

From a psychological perspective, counterfactuals influence a range of judgements. Counterfactual mental simulations of worse-than-actual worlds, for instance, can enhance individual satisfaction with a present situation. Counterfactual mental simulations of better-than-actual worlds, on the other hand, can result in feelings of dissatisfaction with a present circumstance, but encourage preparation for the future and changes in behaviour (Markman et al. 1993, 90). As such, counterfactuals can also result in facilitating successful behaviour and the construction of future possibilities (Roese 1994, 807) and they can contain generatively creative properties that result in strategically creative solutions (Roese and Olson 1995b, 177).

Sherman and McConnell suggest that for psychologists they are the best thing since ESP. Decisions to discontinue prison furlough systems, fire CEOs or remove sports managers can be made on knowledge generated through counterfactual mental simulation (Sherman and McConnell 1995, 219). However, Sherman and McConnell also suggest that incorrect causal analysis can lead to an improper understanding of a situation and perpetuate poor judgement and performance in the future (Sherman and McConnell 1995, 203). As Nystrom and Starbuck suggest

Organizations succumb to crisis largely because their top managers, bolstered by recollections of past successes, live in worlds circumscribed by their cognitive structures. Top managers misperceive events and rationalize their organization's failures. (Nystrom and Starbuck 1984, 59)

While investigating the use of counterfactuals in judgment and decision-making processes may provide one of the most useful prospects for their infusion with management and organization theory, it may also be one of the more controversial prospects for historians. Historians that have sanguine expectations of counterfactual history may

well be sceptical of the link between historical and psychological research. Clearly, this article takes the position that there is a link to be explored. Jones, for instance, argues that the work of business historians can 'inform contemporary managerial decision-making, influence public opinion, and enhance scientific knowledge of firms' (Jones 1999, 14; see also Clark and Rowlinson 2004, 332). Kipping argues that business historians should not subjugate historical decision-making processes to that of economic performance (Kipping 2003). And Barrett and Srivastva emphasize the need for historians to 'recreate the experiences of past decision makers' (1991, 251). In each case, either understanding or having an impact on decision-making is a desirable goal for the historian, but in each case it also necessitates an appreciation of the two-way interplay between the historical and the psychological.

In their study of the use of history by decision-makers, Neustadt and May construct a strong case for arguing that history, whether in the form of anecdotes, analogies or reasoning features very strongly in decision-making processes (Neustadt and May 1986). Equally, early research in psychology into, for instance, creeping determinism, finds its inspiration in the work of such historians as Florovsky (e.g. Fischhoff 1975). It may well be that psychologists and historians interested in counterfactuals are exploring two sides of the same coin, and a dialogue between the two has the prospect of generating important insights into management and organization theory, while at the same time engaging with calls to reconceptualize the field as a humanistic enterprise (e.g. Zald 1993).

To summarize the preceding section, counterfactuals 'seem to be of considerable value' for determining the historical significance of facts (Weber 1949, 166), challenging taken-for-granted assumptions (e.g. Fogel 1964) and understanding the role of historical contingency in judgement and decision-making processes (e.g. Barrett and Srivastva 1991). Kiser and Levy (1996) concur, arguing that counterfactuals are an essential tool in the analytical tool bag for analysing events that have developed over a long period of time and are characterized by a multiplicity of factors resulting from multiple interactions. Scholars, they contend, rely on counterfactuals to deal with the multiplicity of interactions, often implicitly, and consequently fail to explicitly recognize their reliance on counterfactuals. Kiser and Levy (1996, 188) state that: 'It is important to use counterfactuals explicitly in historical research', especially when empirical data is limited. They go on to argue that:

The lack of explicit recognition of the role of counterfactuals increases the probability that scholars will use them inappropriately or fail to use them to advantage. (Kiser and Levy 1996, 188)

Used appropriately, counterfactuals can reveal additional implications of theories and aid in the logical evaluation of theory (Kiser and Levy 1996). Counterfactuals thus 'tease out the assumptions – often unarticulated—which theories and historical interpretations rest' (Lebow 2000b, 563).

It is not just history that should be important to managers (e.g. Chandler, McCraw, McDonald, Tedlow and Vietor 1986), but also virtual history. Counterfactuals already

do play a role in both scholars' and managers' recollections of the past and judgements about the future. Their systematic application can thus aid in the constant 'unlearning' (Nystrom and Starbuck 1984) of past assumptions that facilitates better managerial judgments and decision-making for organizations.

Conclusion

Counterfactual interventions are intuitively compelling because they are part of 'the psychology of the human learning experience' (Booth 2003, 100). When they are not explicit in historiographical and social science arguments, and in particular, in the identification of causality leading up to events, they are frequently smuggled in implicitly (Lebow 2000b, 556; Bulhof 1999). They are also 'standard fare' in Western logic, legal theory and science (McMahon 2001).

Benson (1972) argues that the reasons for studying the past fall into four categories. They are: to construct a group, or national identity; to entertain; to reveal the extent of human possibility; and, to develop systematic knowledge about the world, 'knowledge that may eventually improve our ability to predict and control' (quoted in Fischhoff 1982, 335).

Counterfactuals, some historians (e.g. Carr 1990; Fisher 1970; Thompson 1978) might argue, fall into the second category, that of entertainment. After all, they are 'unhistorical' (Thompson, 1978), a 'parlour game', a 'red herring' (Carr 1990), a 'methodological rathole' (Fisher, 1970). The reticence of some historians to acknowledge counterfactual history as serious scholarship may, in fact, be due to what Popper calls historical determinism. For Popper, historicism, the search for laws, patterns, trends and rhythms that permit historical prediction, can lead the historian to a failure to 'imagine a change in the conditions of change'. Indeed, Popper did not deny that events are caused by 'initial conditions', but he did object to deductive certainty. Searching for the 'true conditions of a trend' thus requires imagining countless possible conditions that could have caused the trend under examination to disappear (Popper 1957, 122–8). Similarly, Berlin also rejects 'historical inevitability'. For Berlin, an acceptance of history as being driven by impersonal forces has profound implications for concepts of individual choice and responsibility that resonate with management debates about agency, choice and structure. Historical determinism, he criticises, can only be proven by drawing on inadequate empirical evidence. As he argues:

The notion that one can discover large patterns or regularities in the procession of historical events is naturally attractive to those who are impressed by the success of the natural sciences in classifying, correlating, and, above all, predicting. They consequently seek to extend historical knowledge to fill in the gaps in the past (and, at times, to build into the limitless gap of the future) by applying 'scientific' method: by setting forth, armed with a

metaphysical or empirical system, from such islands of certain, or virtually certain, knowledge of the facts as they claim to possess. (Berlin 1954, 5)

The prospects for using counterfactual analysis in management and organization theory as a serious analytic tool or methodological approach for assessing the 'true conditions of a trend' and generating knowledge about the *irregularities* of historical, and perhaps future events, thus has value beyond mere entertainment.

Humans are conscious beings that seek, 'prior to acting in the present, to make sense of the past and on that basis to anticipate the future' (Ferguson, 1997, 88). Psychologists, who generally restrict themselves to the last of Benson's four categories, demonstrate that the analysis of history plays a part in our judgements of the past, anticipations of the future and decisions in the present. Counterfactuals not only play an important cognitive role in our everyday learning experience, but scholars also use them regularly, often implicitly, when they assign causes and justify arguments. Judgments concerning what facts are chosen and the explanations supporting a 'pattern of rational explanation and interpretation', are often a matter of 'counterfactual judgment' (Hawthorn 1991, 15). The contribution that it is hoped this article has made is bringing to the fore scholarship that concludes that, whether we choose to acknowledge it or not, counterfactuals already play an important role in our scholastic endeavours, the evolution of business knowledge, as well as the 'lived experience' – the narratives, judgements and decisions that result in policies, strategies, structures and organizations – of managerial and organizational life.

Counterfactual history, if elaborated on consciously and rigorously tested against explicit criteria, can be used to analyse causality, challenge long-held assumptions, theory and path-dependent logic, change mindsets and reveal both the complexity of human affairs and the contingencies and alternatives embedded in the past, present and future. As Cowley (1999, xii) states: 'The road not taken belongs on the map.'

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References

- Acton, Lord. 1907. *The Cambridge modern history: Its origin, authorship and production*. Cambridge: Cambridge University Press.
- Arthur, W. 1989. Competing technologies and lock-in by historical small events. *Economic Journal* 99: 116–131.

- Barrett, F., and S. Srivastva. 1991. History as a mode of inquiry in organizational life: A role for human cosmogony. *Human Relations* 44: 231–251.
- Benson, L. 1972. *Toward the scientific study of history: Selected essays*. Philadelphia, PA: Lippincott.
- Berlin, I. 1954. *Historical inevitability*. London: Oxford University Press.
- Blight, J., and J. Lang. 2005. *The fog of war: Lessons from the life of Robert S. McNamara*. Oxford: Rowman & Littlefield.
- Booth, C. 2003. Does history matter in strategy? The possibilities and problems of counterfactual analysis. *Management Decision* 41:96–104.
- Booth, C. and Rowlinson, M. 2006. Management and organizational history: Prospects. *Management & Organizational History* 1: 5–30.
- Breslauer, G. 1996. Counterfactual reasoning in western studies of Soviet politics and foreign relations. In *Counterfactual thought experiments in world politics*, ed. P. Tetlock and A. Belkin, 69–94. Princeton, NJ: Princeton University Press.
- Bulhof, J. 1999. What if? Modality and history. *History and Theory* 38: 145–168.
- Carr, E.H. 1990. *What Is History?* London: Penguin.
- Chandler, A., T. McCraw, R. McDonald, R. Tedlow, and R. Vietor. 1986. Why history matters to managers. *Harvard Business Review* Jan-Feb: 81–8.
- Chia, R. 1994. The concept of decision: A deconstructive analysis. *Journal of Management Studies* 31: 781–806.
- Clark, P. 2000. *Organisations in action: Competition between contexts*. London: Routledge.
- Clark, P., and M. Rowlinson. 2004. The treatment of history in organisation studies: Towards an 'historic turn'? *Business History* 46: 331–352.
- Cohen, W., and D. Levinthal. 1990. Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly* 35:128–152.
- Cowley, R., ed. 1999. *What if?* New York: Berkley Books.
- Croce, B. 1966. Necessity in history. In *Philosophy, poetry, history: An anthology of essays*. Oxford: Oxford University Press.
- Dent, C. 2007. Economic security. In *Contemporary security studies*, ed. A. Collins, 204–221. Oxford: Oxford University Press.
- Derrida, J. 2001. *The work of mourning*. Pascale-A. and Naas, M. (Trans.). Chicago: Chicago University Press.
- Evans, J., and D. Over. 2004. *If*. Oxford: Oxford University Press.
- Fearon, J.D. 1996. Causes and counterfactuals in social science. In *Counterfactual thought experiments in world politics*, ed. P. Tetlock and A. Belkin, 39–67. Princeton, NJ: Princeton University Press.
- Ferguson, N. 1997. *Virtual history: Alternatives and counterfactuals*. London: Papermac.
- Ferguson, N. 2006. *The war of the world: History's age of hatred*. New York: Penguin.
- Fischhoff, B. 1975. Hindsight \neq foresight: The effect of outcome knowledge on judgment under uncertainty. *Journal of Experimental Psychology, Human Perception and Performance* 1: 288–299.
- Fischhoff, B. 1982. For those condemned to study the past: Heuristics and biases in hindsight. In *Judgment under uncertainty: Heuristics and biases*, ed. D. Kahneman, P. Slovic, and A. Tversky, 335–351. Cambridge: Cambridge University Press.
- Fisher, D. 1970. *Historians' fallacies: Toward a logic of historical thought*. New York: Harper & Row.
- Fogel, R. 1964. *Railroads and American economic growth*. Baltimore, MD: The John Hopkins University Press.
- Gavanski, I., and G. Wells. 1989. Counterfactual processing of normal and exceptional events. *Journal of Experimental Social Psychology* 25: 314–325.
- Giddens, A. 1984. *The constitution of society*. Los Angeles: University of California Press.
- Gleicher, F., K. Kost, S. Baker, A. Strathman, S. Richman, and S. Sherman. 1990. The role of counterfactual thinking in judgments of affect. *Personality and Social Psychology Bulletin* 16: 284–295.
- Goldman, P. 1994. Searching for history in organizational theory: Comment on Kieser. *Organization Science* 5: 621–623.
- Golley, J. 1996. *Genesis of the jet: Frank Whittle and the invention of the jet engine*. Ramsbury: Airlife.

- Grinyer, P. and J. Spender. 1979. Recipes, crises, and adaptation in mature businesses. *International Studies of Management and Organisation* 9:113–133.
- Hawthorn, G. 1991. *Plausible worlds: Possibility and understanding in history and the social sciences*. New York: Cambridge University Press.
- Hempel, C. 1942. The function of general laws in history. *The Journal of Philosophy* 39 (2): 35–48.
- Herrmann, R., and M. Fischerkeller. 1996. Counterfactual reasoning in motivational analysis. In *Counterfactual thought experiments in world politics*, ed. P. Tetlock and A. Belkin, 149–167. Princeton, NJ: Princeton University Press.
- Ingvar, D. 1985. Memory of the future: An essay on the temporal organization of conscious awareness. *Human neurobiology* 4: 127–136.
- Johnson, G. 1988. Rethinking incrementalism. *Strategic Management Journal* 9: 75–91.
- Johnson, M., and S. Sherman. 1990. Constructing and reconstructing the past and the future in the present. In *Handbook of motivation and cognition: Foundations of social behaviour*, ed. E. Higgins and R. Sorrentino, 482–525. New York: Guilford Press.
- Jones, G. 1999. Company history and business history in the 1990s. *European Yearbook of Business History* 2: 1–20.
- Kahneman, D., and A. Tversky. 1982. The psychology of preferences. *Scientific American* 246: 160–173.
- Kipping, M. 2003. Business-government relations: Beyond performance issues. In *Business history around the world*, ed. F. Amatori and G. Jones, 372–393. Cambridge: Cambridge University Press.
- Kieser, A. 1994. Why organization theory needs historical analysis – and how this should be performed. *Organization Science* 5:608–620.
- Kiser, E., and M. Levy. 1996. Using counterfactuals in historical analysis: Theories of revolution. In *Counterfactual thought experiments in world politics*, ed. P. Tetlock and A. Belkin, 187–207. Princeton, NJ: Princeton University Press.
- Kuhn, T. 1970. *The structure of scientific revolutions*. Chicago: Chicago University Press.
- Landman, J. 1987. Regret and elation following action and inaction: Affective responses to positive versus negative outcomes. *Personality and Social Psychology Bulletin* 13: 524–536.
- Lebow, R. 2000a. Contingency, catalysts, and international system change. *Political Science Quarterly* 115: 591–616.
- Lebow, R. 2000b. What's so different about a counterfactual? *World Politics* 52: 550–585.
- Lebow, R., and J. Stein. 1996. Back to the past: Counterfactuals and the Cuban missile crisis. In *Counterfactual thought experiments in world politics*, ed. P. Tetlock and A. Belkin, 119–148. Princeton, NJ: Princeton University Press.
- Loewen, J. 1995. *Lies my teacher told me*. New York: Touchstone Books.
- MacKay, B., and P. McKiernan. 2004a. Exploring strategy context with foresight. *European Management Review* 1: 69–77.
- MacKay, B., and P. McKiernan. 2004b. The role of hindsight in foresight: Refining strategic reasoning. *Futures* 36: 161–179.
- Macrae, C. 1992. A tale of two curries: Counterfactual thinking and accident-related judgments. *Personality and Social Psychology Bulletin* 18: 84–7.
- Mahajan, J. 1992. The overconfidence effect in marketing management predictions. *Journal of Marketing Research* 29: 329–341.
- Markman, K., I. Gavanski, S. Sherman, and M. McMullen. 1993. The mental simulation of better and worse possible worlds. *The Journal of Experimental Social Psychology* 29: 87–109.
- Martin de Holan, P., and N. Phillips. 2003. Organizational forgetting and strategy. *Strategic Organization* 2: 412–430.
- Martin de Holan, P., and N. Phillips. 2004. Remembrance of things past? The dynamics of organizational forgetting. *Management Science* 50: 1603–1613.
- Martin de Holan, P. N. Phillips, and T. Lawrence. 2004. Managing organizational forgetting. *Sloan Management Review* 45 (2): 45–51.

- McKenna, C. 2006. Writing the ghost-writer back in: Alfred Sloan, Alfred Chandler, John McDonald and the intellectual origins of corporate strategy. *Management & Organization History* 1: 107–126.
- McMahon, D. 2001. Review of *Virtual history: Counterfactuals and alternatives*. *Journal of Interdisciplinary History* XXXI: 428–429.
- Miller, D., W. Turnbull, and C. McFarland. 1990. Counterfactual thinking and social perception: Thinking about what might have been. *Advances in Experimental Social Psychology* 23: 305–331.
- Nahum, A. 2004. *Frank Whittle: Invention of the jet*. Duxford: Icon Books.
- Nash, P. 1991. The use of counterfactuals in history: A look at the literature. *The SHAFR Newsletter* (March): 2–12.
- Nelson, R., and S. Winter. 1982. *An evolutionary theory of economic change*. Cambridge, MA: The Belknap Press.
- Neustadt, R., and E. May. 1986. *Thinking in time: The uses of history for decision makers*. New York: The Free Press.
- Norem, J., and K. Illingworth. 1993. Strategy-dependent effects of reflecting on self and tasks: Some implications of optimism and defensive pessimism. *Journal of Personality and Social Psychology* 65: 822–835.
- Nystrom, P., and W. Starbuck. 1984. To avoid organizational crisis, unlearn. *Organizational Dynamics* 12: 53–65.
- Oakeshott, M. 1966 [1933]. *Experience and its modes*. Cambridge: Cambridge University Press.
- O'Sullivan, L. 2006. Leon Goldstein and the epistemology of historical knowing. *History and Theory* 45: 204–228.
- Popper, K. 1957. *The poverty of historicism*. London: Routledge.
- Ricoeur, P. 2004. *Memory, history, forgetting*. Chicago: The University of Chicago Press.
- Roberts, J. 1997. Putting the what if? in history. *Times Literary Supplement* August 1: 6.
- Roese, N. 1994. The functional basis of counterfactual thinking. *Journal of Personality and Social Psychology* 66: 805–818.
- Roese, N., and J. Olson. 1995a. Outcome controllability and counterfactual thinking. *The Personality and Social Psychology Bulletin* 21: 620–628.
- Roese, N., and J. Olson. 1995b. Counterfactual thinking: A critical overview. In *What might have been: The social psychology of counterfactual thinking*, ed. N. Roese and J. Olson, 1–55. Hillsdale, NJ: Lawrence Erlbaum.
- Roese, N., and J. Olson. 1995c. *What might have been: The social psychology of counterfactual thinking*. Hillsdale, NJ: Lawrence Erlbaum.
- Roese, N., and J. Olson. 1996. Counterfactuals, causal attributions, and the hindsight bias: A conceptual integration. *Journal of Experimental Social Psychology* 32: 197–227.
- Rosenfeld, G. 2002. Why do we ask 'what if?': Reflections on the function of alternate history. *History and Theory* 41: 90–103.
- Rowlinson, M. 2001. Business history and organization theory. *Journal of Industrial History* 4: 1–23.
- Sanford, D. 1989. *If p, then q: Conditionals and the foundations of reasoning*. London: Routledge.
- Sanna, L. 1996. Defensive pessimism, optimism, and simulating alternatives: Some ups and downs of prefactual and counterfactual thinking. *Journal of Personality and Social Psychology* 71: 1020–1036.
- Sanna, L., and K. Turley. 1996. Antecedents to spontaneous counterfactual thinking: Effects of expectancy violation and outcome valence. *Personality and Social Psychology Bulletin* 22: 906–920.
- Schoemaker, P.J.H. 1991. When and how to use scenario planning. *Journal of Forecasting* 10: 549–564.
- Scranton, P. 2006. Urgency, uncertainty, and innovation: Building jet engines in postwar America. *Management & Organization History* 1: 127–157.
- Sherman, S., and A. McConnell. 1995. Dysfunctional implications of counterfactual thinking: When alternatives to reality fail us. In *What might have been: The social psychology of counterfactual thinking*, ed. N. Roese and J. Olson, 199–231. Hillsdale, NJ: Lawrence Erlbaum.
- Sherman, S., R. Skov, E. Hervitz, and C. Stock. 1981. The effects of explaining hypothetical future events: From possibility to probability to actuality and beyond. *Journal of Experimental Social Psychology* 17: 142–158.

- Simon, H. 1960. *The new science of management decision*. New York: Harper and Row.
- Tassone, G., W. Lampeter, and E. Mellen. 2004. A study on the idea of progress in Nietzsche, Heidegger, and critical theory. *History and Theory* 43: 410–422.
- Tetlock, P. and Belkin, A. 1996. *Counterfactual thought experiments in world politics: Logical, methodological and psychological perspectives*. Princeton, NJ: Princeton University Press.
- Thompson, E. P. 1978. The poverty. In *The poverty of theory and other essays*. London: Idem.
- Teece, D. G. Pisano, and A. Shuen. 1997. Dynamic capabilities and strategic management. *Strategic Management Journal* 18: 509–534.
- Turley, K., L. Sanna, and R. Reiter. 1995. Counterfactual thinking and perceptions of rape. *Basic and Applied Social Psychology* 17: 285–303.
- Üsdiken, B., and A. Kieser. 2004. Introduction: History in organisation studies. *Business History* 46: 321–330.
- Weber, M. 1949 [1905]. Objective possibility and adequate causation in historical explanation. In *The methodology of the social sciences*. Glencoe, IL: The Free Press of Glencoe.
- Weber, S. 1996. Counterfactuals, past and future. In *Counterfactual thought experiments in world politics*, ed. P. Tetlock and A. Belkin, 269–288. Princeton, NJ: Princeton University Press.
- Wells, G., B. Taylor, and J. Turtle. 1987. The undoing of scenarios. *Journal of Personality and Social Psychology* 53: 421–430.
- Windschuttle, K. 1994. *The killing of history: How literary critics and social theorists are murdering our past*. New York: Encounter Books.
- Zald, M. 1993. Organization studies as scientific and humanistic enterprise: Toward a reconceptualization of the foundations of the field. *Organization Science* 4: 513–528.

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