CHOICE, CHANCE, AND INEVITABILITY IN STRATEGY

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We propose a theory to manage the uneasy relation between strategic choice, chance, and determinism (or inevitability). To do so, we locate arguments in intellectual history that have a clear bearing on this relation. We introduce and defend four conjectures that outline the relationship between each of them and their comparative significance. The paper thus aims at achieving three objectives: (a) to articulate a philosophically sustainable theory of strategic choice that corroborates experience (without being induced by it); (b) to synthesize what remains one of the most sustained debates in strategy, namely the nature, role, and relation of choice, chance and determinism; and (c) to contribute to developing a foundation for multilevel research.

Keywords: strategic choice; causation; philosophy

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Why do events—the record of which we call history—occur as they do? Is all chaos and accident? Or is there some single, central vision, some unifying principle, which can explain the immense variety of human actions on a battlefield, or in the history of a nation?

Isaiah Berlin (1953)

Strategy is predicated on causation, on the belief that events have causes as well as consequences. Managers make choices precisely because they believe these to contribute substantially to the performance and survival of their organizations. They must do so in the belief that these choices are freely made. After all, strategy would seem pointless in a deterministic universe where yesterday’s events dictate today’s (as indeed it would be in a completely random world in which there was no discernible connection between choices and consequences). If choice is to make a genuine difference then the world needs some structure, yet not so much as to render it deterministic.

Choice aside, our chronicles contain plenty illustrations of chance as a contributing factor to organizational performance. But what exactly is the relationship between choice, chance and determinism? To what extent do strategic decisions reflect free-will choices and not circumstance? And what about the notion that determinism undermines freedom of choice, and yet that we seem to experience a sense of freedom when making choices? Do we not typically feel that it is ‘up to us’ what we choose to do or not do (as in choosing whether or not to continue reading)? The experience of choice, to be sure, does not also make for a theory of choice. Rather, we require a theory of strategic choice warranted by reason.

In developing our argument we rely on specific, albeit conventional definitions. Causation is the relation that connects events. It is contingent on the principle (of causality) that events have causes as well as consequences. Chance refers to an event happening in the absence of any obvious design (or
randomly), one that is irrelevant to any present need or of which the cause is unknown (Bandura, 1998; Mayr, 1998). Choice is defined as the freedom of organizational actors to choose and act of their own will. We assume that choices are acted upon (for choice has no bite otherwise). Bearing in mind that strategic choice entails some form of judgment at the level of the individual, our arguments are less relevant to abstract conceptions of agency (e.g., organizations, industries, or the public). Determinism refers to a relation of causal sufficiency. Accordingly, events are fully accounted for by prior states of affairs in accordance with the causal laws that govern our world. Determinism, strictly speaking, denies any possibility of freedom of choice and, by implication, strikes a fatal blow at the heart of our discipline. After all, organizational performance would be no more than a reflection of the inevitable consequence of past events governed by universal causal laws. In the same way, a deterministic world is one in which chance plays no part; it is a world that is, in principle, predictable (Rescher, 1995: 44). Of course, no sane person would deny the looming presence of the heavy hand of the past... (Pettigrew, 1997: 341), the awareness of which leads us to act in certain ways (Collingwood, 1999: 120). Yet whether this looming presence is sufficient to manufacture strategy is precisely the point to be addressed if one is to account for the possibility of strategic choice. Teleological determinism is the belief that the world is governed by purposes, or some underlying design. On this view, all of experience adds up to an orderly and internally consistent, purposeful arrangement.

In strategy scholarship, the term ‘determinism’ is more typically used in a weaker sense to describe that which constrains and also informs choice. Referred to in this article as causal background, these attendant contextual variables include such agent-specific states as ability, habit, know-how, experience, age, education, ideology and systemic rationality (of the kind discussed in March, 1978), as well more general states as institutions and social structures (e.g., of the type discussed in Giddens, 1984), the properties of markets and industries, and the evolving state of technology and that of the economy (cf. McKelvey, 1997). In all, these may be viewed as the social and material context for choices. For reasons of simplicity and consistency, we continue to use determinism in this weaker sense when reviewing the management literature.

This paper aims at three objectives: (a) to articulate a philosophically justified theory of strategic choice that corroborates experience (but is not induced from it); (b) to synthesize what remains one of the most sustained debates in strategy (on the role and relation of choice, chance, and determinism); and (c) to contribute to furthering multilevel research. There is, however, a caveat in this enterprise: we cannot, and do not, claim that our account is true. After all, the problematic relationship between free will and determinism is tied in with the history of human thought, given its complexity but also relevance to important questions in economics (e.g., rationality and rational choice), ethics (e.g., moral responsibility and dignity), psychology (e.g., addiction and self-deception), law (e.g., criminal liability and punishment), theology (e.g., the problem of evil and divine foreknowledge), and natural science (e.g., causal laws and quantum reality) (cf. Kane, 2002; Dorato, 2002). In this respect, the late philosopher Robert Nozick’s admission is sobering: ‘I have spent more time thinking about the problem of free will—it felt like banging my head against it—than about any other philosophical topic except perhaps the foundation of ethics’ (Nozick, 1981: 293). So too are those of the pragmatist philosopher William James and Chester Barnard, a patriarch of modern management. ‘I know of no subject less worn out, and in which inventive genius has a better chance of breaking new ground... but of deepening our sense

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3 This causal background may be likened to the keys on a piano or to a sheet of music. Whereas each plays a key role in the production of music, they are not themselves the music. Rather, something more is required: the act of choosing what to play and when, or whether to play at all. To quote Maimonides: ‘Everything that emerges from potentiality to actuality must do so because of something else which is outside the thing itself’ (Maimonides, 1995: 89). In management research we may have taken it for granted that such background as industry structure, firm capabilities, or network characteristics themselves account for organizational strategizing, at the risk of forgetting that these at best provide the necessary background for making choices. The choices firms make may be enabled or constrained, but not inevitable. Thus a firm can choose to diversify into new markets, or cease operations in others, but not turn itself into an ice cube, for the simple reason that the intention to do so does not fit its causal background (cf. Searle, 1983).
of what the issue between [determinism and freedom of choice] really is’ (James, 1923: 145). And, ‘the temptation is to avoid such difficult questions, leaving them to the philosophers and scientists who still debate them after centuries. It quickly appears, however, that even if we avoid answering such questions definitely, we cannot evade them’ (Barnard, 1968/1938: 8). In response, we outline a theory that is meaningful and, in the absence of logical or empirical proof, one can embrace and still be considered fully rational.

Given that choice is such a distinctive feature of strategy—of ‘how to find it and where to find it, or else how to create it when it can’t be found, and then how to exploit it’ (Tsoukas, 2005: 341)—our principal task is to formulate a theory of strategy that affords freedom of choice and grants human agency a constructive role. In other words, we must assume that the conditions that precede many (but not all) organizational events are not causally sufficient to bring these events about in and of themselves.

With this mind we advance four conjectures:

1. Causality is a necessary condition for freedom of choice. So as to make strategic choices we must believe them (when acted upon) to be able to change the course of events.
2. Chance coincidences can open up new avenues for future choices.
3. Strategic choice is itself insufficient to account for strategy. Choice, like chance, is a contributing, background-dependent factor.
4. Causal backgrounds are necessary in order for us to interpret and exploit chance events. After all, chance coincidences are only ever meaningful in the context of a particular causal background.

In addressing these conjectures, the paper is structured in three sections. Following a contemporary empirical illustration, we review the relevant literature. This aims to identify deterministic and choice approaches to strategy, as well as attempts at reconciliation. Next, we broaden the theoretical foundation in which strategy is ordinarily grounded by drawing on contributions from intellectual history. Finally, we (re)introduce the conjectures, outline some concluding thoughts, and draw implications for management research.

STRATEGIC CHOICE, CHANCE, AND CAUSAL BACKGROUND IN STRATEGIC INNOVATION: THE CASE OF VIAGRA

Pfizer’s research program in hypertension was begun, in 1985, by an in-house team of scientists. Within a few years of starting the research it became clear that the lead compounds for hypertension were causing biological activity through an enzyme that is found in the vascular smooth muscle and blood platelets. As a result, the scientists shifted their focus towards developing a medicine to treat angina by relaxing the blood vessels. In 1989, Pfizer scientists identified a compound, sildenafil citrate, which they entered into clinical trials in 1991. With early-phase toxicity studies still ongoing, Pfizer was granted permission to proceed with clinical pharmacodynamic studies, using angina patients, having demonstrated the drug was sufficiently safe. The level of efficacy demonstrated in the drug trials was disappointingly low, and did not warrant further clinical development of the drug. Pfizer’s drug was about to be assigned to the chemical equivalent of the dust heap.

As luck would have it, while the compound seemed well tolerated at low levels (25 mg), volunteers had reported side effects at higher doses, including indigestion, back and leg aches, but also frequent and sustained penile erections. As recalled by one of the original team members:

When the first observations of erections were reported, the investigator who was doing the study in Wales was a little bit embarrassed to mention it ... When we explored the possibility of treating patients with erection problems ... some of those patients said ‘Hey this is working’, I need some more supplies ... The fact that patients were ringing up investigators saying ‘When’s the next trial starting?’ and ‘You know, I’ve got to have some more of this drug’, that was certainly encouraging.4

Yet, despite encouraging developments in the scientific literature disclosing the involvement of cyclic GMP in generating and maintaining erections, too little was known about the mechanism

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4 From The Serendipity of Science, a series of radio programs aired between August 15 and 29, 2002 at 9.02 p.m. on BBC Radio 4, produced by Simon Singh. The authors acknowledge the kind help of Simon Singh in making his interview transcript with Dr. Ian Osterloh available.
behind this phenomenon. Pfizer decided to commit another $340 million to the project and to repeat Phase II clinical trials using impotent men. The first trials involved 300 patients in the United Kingdom, France, Norway, and Sweden. This time the efficacy level approached 90 percent. Pfizer’s success was such that it had great difficulty in retrieving all remaining pills distributed in the trials (regulations require all pills, including leftovers, to be accounted for). The Food and Drug Administration (FDA) approved Viagra, on March 27, 1998. European approval followed in September of that year. Viagra had generated revenues of U.S. $300 million by early May 1998 in the United States alone. Ranked as the third best-selling drug (1991–2000), Viagra’s net present value is estimated at over U.S. $6 billion (Sorescu, Chandy and Prabhu, 2003). It had taken $900 million and 13 years to bring Viagra to market.

Controversially, in November 2000 the U.K. High Court of Justice revoked Pfizer’s lucrative patent. Lilly ICOS, a joint venture between Ely Lilly and ICOS Corporation to pursue the same disease target (erectile dysfunction), had filed a claim to invalidate and revoke the protection enjoyed by Pfizer for the medical use of a number of chemicals, including sildenafil citrate. Ely Lilly and ICOS Corporation’s claim relied on ‘obviousness’ as a reason for invalidating Pfizer’s stranglehold on the use of sildenafil citrate in treating male impotence. Clearly, as patents are awarded solely for novelty, the plaintiffs needed to demonstrate lack of novelty on Pfizer’s part. To do so, they referred to three documents—two journal articles and a PhD dissertation—each of which was considered ‘prior art’ and independently could have warranted the invalidation of Pfizer’s patent. In fact, the trial research helped uncover a copy of one of the relevant journal articles, on which one of Pfizer’s scientists had scribbled in the margin: ‘Should we not try out [sildenafil citrate] in impotence?’ Thus, Lilly and ICOS claimed that Pfizer had done little more than to put into practice the suggestions offered in these three documents. The U.K. High Court of Justice, in November 2000, ruled in favor of the plaintiffs and revoked Pfizer’s patent for reasons of obviousness.

Chance clearly played a role, but so did choice and causal background. In Pfizer’s case, the existence of prior art provided Pfizer with sufficient reason for allocating additional resources to the project. Its decision made sense in view of the relevant medical knowledge at the time and the prospect of salvaging sunk costs by rescuing an ill-fated research program. The discovery of the drug’s side effects opened up an alternative possibility, subsequently exploited by Pfizer. Chance (e.g., unexpected side effects), choice (e.g., decision to reallocate existing, and commit new, resources to the project), and causal background (e.g., the existing state of medical know-how making the discovery inevitable) can be seen as combining in Pfizer’s R&D strategy to the extent that to omit any of these would be to tell a misleading, or at best incomplete, plot.

**CHANCE, STRATEGIC CHOICE AND ‘DETERMINISM’ IN STRATEGY RESEARCH**

In our illustration, strategic choice, chance and causal background appear as inextricably intertwined in the production of a strategic event. In some cases, strategies succeed or fail following a succession of choices in response to an unfolding situation, the creation of which actors contribute to, but cannot accurately predict or control. In others, chance plays an important role (Cohen, March, and Olsen, 1972; Eisenhardt and Zbaracki, 1992; Bertrand and Mullainathan, 2001; Denrell, Fang, and Winter, 2003; Cattani, 2004). Mintzberg (1987a) employed a pottery-maker metaphor to illustrate how strategy, affected by random events, is best viewed as a combination of deliberate and opportunistic moves. Perrow (1984) described how a sequence of fairly trivial choices can generate unexpected consequences, and that tightly coupled actions (as is often the case in strategy) frequently produce results that could not possibly have been predicted. In both Mintzberg and Perrow’s views there is little doubt that organizational actors exercise freedom of choice. In each, however, the process appears to develop a dynamic of its own that eludes the full control of those initiating it.

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5 ‘Obviousness’ is generally evaluated through the eyes of the ‘skilled but non-inventive man in the art’—a fictional character, created for legal purposes in testing the validity of patents in terms of novelty.
Determinism vs. strategic choice: the debate

These contributions contrast with efforts dedicated to the premise that strategies are significantly determined by environmental and institutional pressures (Hannan and Freeman, 1977; Murray, 1978; Aldrich, 1979; DiMaggio and Powell, 1983; Tushman and Romanelli, 1985; Donaldson, 2005). Porter’s (1980) suggestion that profitability is contingent on five generic forces is still part and parcel of strategy, yet characterized by an environmental determinism (Aktouf, Chenoufi, and Holford, 2005). As is typical of strategy research, a weaker version of determinism applies here. This literature also contrasts with works that show how organizations can actively shape their future, learn from, and control their environment, not least through the use of power and politicking (Child, 1972; Pfeffer and Salancik, 1978; Pfeffer, 1982). The resource-based view, as advanced by Rumelt (1984, 1991), Barney (1991), and Grant (1991), emphasizes managerial choice in deciding which resources to acquire and develop, how and when, as critical to organizational performance. Two assumptions lie beneath these conflicting approaches. On the one hand, resistance and rigidity are seen to prevent organizations from adapting to changing situations, allowing the environment to select the fittest from among a given population. In a similar vein, internal capacities induce specific paths that firms can take. On the other hand, these approaches entail a belief in organizations as possessing the means to shape their environment so as to provide the necessary inputs for their success. They are able to direct their destinies by creating the sorts of conditions that help them achieve their objectives.

Determinism vs. strategic choice: attempts at a reconciliation


Thus, in strategy, rationality combines with intuition, chance, and a myriad of processes in which internal and external agents act, interact, tinker, and hesitate, taking advantage of some opportunities while failing to spot others (Mintzberg, 1979). Formality, structure, and control are confronted with the informal, non-structured, and autonomous (Nystrom, Hedberg, and Starbuck, 1976; Weick, 1977; Mintzberg and Waters, 1985; Fombrun, 1986; Jauch and Kraft, 1986; Quinn and Cameron, 1988). In the former, decisions follow an orderly progression of problem identification, the search for solutions, selection, and implementation (Stagner, 1969; Glueck, 1980). In the latter, strategic choices originate from organizational ‘garbage cans’ in which problems are generated from inside and outside the organization, and solutions are the outcome of random and opportunistic processes between actors (Cohen et al., 1972; March and Olsen, 1976; Padgett, 1980; Starbuck, 1983).

Finally, more subtle references to choice, chance and determinism are contained in the literature on multilevel strategy research. For example, Klein, Dansereau, and Hall (1994) identify three assumptions—of homogeneity, heterogeneity, or independence—that underlie the specification of levels within all multilevel theorizing. Whether we assume homogeneity, heterogeneity, or independence when contrasting units from one level (e.g., level of the firm) with that of another (e.g., level of the industry) is likely to have consequences for the development of theoretical constructs and the collection and interpretation of data. According to Klein et al. (1994), when subunits appear uniform with higher-level units, the relation is one of homogeneity. In other words, the relation between subunits and higher-level (or population-level) units is deterministic, where population-level forces provide a comprehensive account of the behavior of individual units, leaving no scope for choice. By contrast, when subunits are different from higher-level units yet related to them (e.g., in retaining
some of their attributes) the relation is one of heterogeneity. Others have referred to this as ‘parts effects’ (Dansereau, Alutto, and Yammarino, 1984) ‘within group effects’ (Glick and Roberts, 1984) or ‘frog pond effects’ (Firebaugh, 1980), each suggesting that the behavior of a subunit is causal background dependent (i.e., dependent on that of higher-level units) (Klein et al., 1994). There is variation at the level of the individual but the extent of variation is shaped by population-level forces. Finally, when subunits appear entirely free from the influence of higher-level units, their relation is said to be one of independence. Here there is no meaningful correlation between behavior at the level of the individual and that at the population level. This independence might suggest chance.

Given the difficulty of managing the relation between strategic choice and determinism, we extend the theoretical base in which strategy is traditionally grounded by drawing on contributions from intellectual history (or the history of philosophy). Our reasons for exploiting what is arguably ‘at once the most sublime and the most trivial of human pursuits’ (James, 1978: 10), are as follows. Principally, the uneasy relation between freedom of choice, chance, and determinism, as illustrated in our review of the literature, is relevant not just to business organizations but to all human endeavor. It is a general problem that happens to have particular relevance for strategy. Thus, it may well be possible to crystallize our understanding by considering how other talented individuals have thought about these issues. Second, intellectual history entails a field in which causation has been extensively discussed, allowing us to take advantage of some fairly sophisticated conversations. Third, philosophy is no stranger to management scholarship (e.g., Singer, 1994; Mir and Watson, 2000; Powell, 2002, 2003). Our article thus follows in the footsteps of comparatively recent developments in strategy. Finally, by engaging two distinct disciplines we hope to develop something that is genuinely multidisciplinary.

**CHANCE, STRATEGIC CHOICE AND DETERMINISM IN INTELLECTUAL HISTORY**

Aristotle may have been the first to formally attempt a systematic analysis of causation, assigning it four categories: material, formal, efficient and final. Yet it is this final cause that seems to have permeated the writing of history, namely an unswerving faith in an orderly and purposeful world. As Berlin repeatedly emphasized, historical writing is driven by the belief that behind the variety and chaos of human experience there lies one single objective world of facts and values that is discoverable for once and for all, if only we apply the proper method of investigation. This undercurrent of purpose, order, and necessity has been particularly prominent in intellectual history, as in historical writing generally. A relevant example is Tolstoy’s epic, War and Peace, for it challenges traditional treatments of causation, not least by challenging teleology as a driving force in history. At over 1200 pages in length, it comprises a detailed account of the Napoleonic wars, based on factual historical records. Tolstoy always described himself as genuinely interested in historical accuracy, as opposed to the writing of fiction per se and, notwithstanding criticisms, his novel may reasonably be seen as accurate in matters of fact. In it, Tolstoy disposes of the hero-centric theory of history. He emphasizes the relative unimportance of those in charge, and the degree to which battles are shaped by spur-of-the-moment, localized initiatives. ‘In every battle,’ Tolstoy argued, ‘there is a necessary lie’: the act of artificially removing from official accounts the fear, shame, and presence of death that characterize and shape any battle. His counsel to historians is thus not surprising: ‘to study the laws of history we must completely change the subject of our observation, must leave aside kings, ministers, and generals, and study the common, infinitesimally small elements by which the masses are moved. No one can say in how far it is possible for man to advance

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6 A material cause is ‘that out of which a thing comes to be and which persists’, e.g., the bronze of a statue.

7 A formal cause is ‘a statement of essence’, e.g., the statue of Cupid.

8 An efficient cause comprises the collective inputs into the phenomenon, e.g., the materials, care, labor skills that are involved in building a ship or, alternatively, the father as the cause of the child.

9 A final cause is that to which a thing aspires. It is popularly known as teleology.

10 As Tolstoy stated in his second epilogue to War and Peace: ‘Wherever in my novel historical persons speak or act, I have invented nothing, but have used historical material of which I have accumulated a whole library during my work. I do not think it necessary to cite the titles of those books here, but could cite them at any time in proof of what I say’ (Tolstoy, 1998: 1312).
in this way towards an understanding of the laws of history; but it is evident that only along that path does the possibility of discovering the laws of history lie’ (Tolstoy, 1998: 881). This council has relevance for scholarship in strategy. First, it suggests that strategy is likely to emerge from multiple, complex, interacting processes, only some of which are under managerial control. This is consistent with Mintzberg and McHugh’s in-depth case study of the National Film Board of Canada, which likens strategies to weeds in a garden and observes that ‘sometimes an individual actor in touch with a particular market niches creates his or her (strategic) pattern . . . [at] other times, the external environment imposes a (strategic) pattern on an unsuspecting organization; in some cases, many different actors converge around a (strategic) theme, perhaps gradually, perhaps spontaneously; or sometimes senior managers fumble into strategies . . . ’ (Mintzberg and McHugh, 1985: 194).

Second, it follows that strategy research needs to account for the ‘common and infinitesimal,’ the general and the particular. It may thus need to entail ‘thick’ description and ‘a more penetrating and reflective approach to the study of organizations’ (Van Maanen, 1979: 526; see also Geertz, 2000).

The persistence of teleological determinism in historical writing

While Tolstoy took pains to describe the voluntary initiatives of his characters, he believed these to be guided by a deep-seated determinism. Free choice is an illusion; and there is a natural law by which the lives of human beings are determined. For this Tolstoy had no empirical evidence, but he thought it true on philosophical grounds. The illusion is derived from our ignorance of true causes (Berlin, 1999: 28). Hence the paradox of Tolstoy’s view of history: his keen eye for that which set people apart and the freedom by which they made their choices, and yet his unrelenting belief in determinism and the impossibility of genuine freedom of will. Isaiah Berlin, arguably the most important intellectual historian of recent history, described Tolstoy as the ‘most tragic of the great writers,’ and wryly concluded that Tolstoy’s acute perception of our empirical social world proved at odds with any moral ideal he sought to construct ‘out of the fragments into which his intellect shivered the world’ (Berlin, 1999: 81). By implication, there remained no room for chance either. Were one omniscient, one would not speak of chance. Chance, noted William James, is an idea no sane mind can, even for an instant, tolerate in this world (James, 1923: 153). Tolstoy’s is a viewpoint in sharp contrast with one of the oldest and most poignant documented references to chance from the author of Ecclesiastes: ‘Again I saw that under the sun the race is not to the swift, nor the battle to the strong, nor bread to the wise, nor riches to the intelligent, nor favour to the skilful; but time and chance happen to them all’ (Ecclesiastes 9: 11).

Berlin took issue with Tolstoy. The notion that history obeys certain laws, wrote Berlin, has deep metaphysical origins and is fed by an infatuation with the natural sciences. Its principal source lies in the teleological outlook of Western philosophy whose roots reach back to the very beginnings of human thought. This attitude, argued Berlin, is profoundly anti-empirical. We attribute purposes to all things and persons not because we have evidence for this hypothesis: ‘We are plainly dealing not with an empirical theory but with a metaphysical attitude which takes for granted that to explain a thing is to discover its purpose’ (Berlin, 2002: 103–104). This principle of determinism is a subtle and pervasive force not just in the religious or metaphysical thought of Aristotle, the later Tolstoy, and, for that matter, Augustine, but even in the secularized and rationalized works of Hegel, Marx, Ranke, Carlyle, Michelet, Montesquieu, and Comte (Geyl, 1970). Of relevance is Berlin’s claim that to apply such determinism to historical explanation may be misleading. After all, history may be no more than a random gathering of events (cf. Collingwood, 1973).

Consistent with Berlin, the historian Carr wrote that history entails the lining up of events in an orderly sequence of cause and effect, a selective process in which the intellect is complicit. By it we select according to purposes. ‘The axiom that everything has a cause is a condition of our capacity to understand what is going on around us’ (Carr, 1961: 122). Thus, throughout human history we have found it meaningful, even necessary, to think of events as somehow interconnected, as contributing to a grand, logical and purposeful plot. Likewise, strategy, by most definitions, is naturally teleological in focusing on means to ends. This is true even when broadening the definition
of strategy to incorporate plans, patterns, positions, perspectives or ploys (Mintzberg, 1987b). Purpose lies at the heart of each of these, either via design or through post hoc rationalization. And perhaps it is precisely because managerial behavior is ordinarily directed to the achievement of goals, intentions or objectives that the social sciences generally have concentrated principally on teleological determination. By contrast, the natural sciences are primarily interested in efficient causes; formal and final causes are considered not amenable to experimentation, and material causes are taken for granted in natural phenomena (Marini and Singer, 1988: 363, 365). Whether determinism exists aside from the teleology imposed by human agency, and whether freedom of choice can exist if determinism is true, remains to be addressed.

**Perspectives on the relationship between determinism and freedom of choice**

Intellectual history contains at least three starkly contrasting viewpoints on the relation between determinism and freedom of choice. On the one hand there are those who believe that determinism is fundamentally incompatible with freedom of choice. These divide into the hard determinists (on the side of determinism) and libertarians (on the side of freedom). On the other hand there are soft determinists, suggesting the two can, in fact, be reconciled. These three factions are connected by a common belief that human actions (and choices that precede them) are subject, in principle, to causal explanation (Dorato, 2002). Their central contention focuses not just on whether determinism is true, but whether we can be free if determinism is true. We briefly review each.

**Hard determinism**

Hard determinists, such as Laplace, d’Holbach, Darrow, Edwards, and Calvin, subscribed to the view that all actions are causally determined and that their causes can be traced to events preceding our own existence, placing them beyond our control (Dorato, 2002). As Dennett (2003) suggests, if determinism is true, strategic choices are fixed by the laws of nature and events in the distant past; given that it is not up to us what these laws and past events are, our choices are fixed by circumstances outside of our control. Hence, we are not free. By implication, we cannot be held accountable. This raises a practical difficulty in accepting hard determinism. After all, what is at stake if all, or even some, of society were to give up any belief in moral responsibility? ‘Thus,’ argues Pereboom (2002: 479), ‘even if the claim that we are morally responsible turns out to be false, there may yet be a practical argument for continuing to treat ourselves and others as if we were.’ Unsurprisingly perhaps, it is a view that is much less in vogue today.

**Soft determinism**

More popular is the reconciliation provided by ‘soft determinism.’ Freedom, according to the soft determinist, is the power to do what one wants, even if this ‘want’ is itself determined. Soft determinism (also called compatibilism) suggests that reconciling determinism and freedom of choice is possible—after all, we do seem to have an experience of freedom when making choices. But in choosing we are determined in precisely the way other natural events are caused when caused deterministically. In other words, the will is regarded as any other natural mechanism, fully determined by preceding causes (Dorato, 2002). To use Spinoza’s metaphor, human agency might be seen as akin to a stone in free fall under its own weight, but convinced that it can choose the place, velocity, and time of its fall. While organizational actors may think they make free choices, this is, in fact, an illusion fueled by their ignorance of each and every cause determining these choices. We may think we are free but these thoughts are, in fact, wholly determined (in the manner by which causal laws regulate the physical world). This position is not dissimilar from those held by Tolstoy, Hobbes, Locke, Hume, and, more recently, the behavioral psychologist Skinner (Dorato, 2002). It assumes causation in nature and imposes this on the mind also. Reason, argued Hume famously, is thus slave to our passions for our desires use reason merely as a necessary means to their fulfillment. Sophisticated arguments exist to argue for the possibility of genuine, rather than imagined, freedom even if determinism is true at, for instance, the molecular or cellular level. For instance, Dennett’s (1984, 2003) recent suggestion that freedom is the product of a Darwinian evolutionary process is a good example, as is Searle’s (2001) hypothesis on the possibility of physical determinism and psychological freedom coexisting (despite Searle’s
apparent reservations regarding this hypothesis). Whether it actually matters that we are free in a real sense or instead operate under some illusion of freedom is a debate best left to philosophers.

**Libertarianism**

Genuine (rather than imagined) freedom of choice finds its strongest expression in a third alternative: libertarianism. Libertarians take issue with soft determinists in suggesting that we are, in fact, able to reflect upon our passions. Surely, we have a sense of being free when deliberating about a decision? There exists a ‘gap’ between desires, beliefs and impulses and choice, without which the possibility of strategic choice is meaningless and without consequence. This gap between causal background and effect must be supposed if one is even to begin a rational decision-making process (or else we would be simply acting on impulse), and it is precisely this gap that constitutes our freedom of choice. As Kant surmised long ago, the process of deliberation can proceed only on the premise of freedom—even on the presupposition of a gap between causes (e.g., beliefs, desires) and effects (i.e., choices) (Searle, 2001). Hence, any (antecedental) causal background is not in and of itself sufficient to produce strategic choice. This, argues Searle (2001), also requires the availability of alternative possibilities, each with its own pay-off structure, from among which a strategic choice can be made. Based on such alternatives, organizational actors develop preferences by assigning importance to reasons for, and against, specific choices. Thus, preferences are a consequence of successful deliberation, rather than a precondition for it.

Libertarianism appears of special relevance for advancing strategy scholarship. First, it endorses the view that we must regard ourselves as free in order to rationally deliberate about what to choose. In practice, organizational actors are unlikely to feel enslaved to their passions as they can choose to disobey them occasionally (e.g., ‘shredding some of these archives won’t harm anyone’). Beliefs and impulses may occasionally be incompatible—for instance, when belief tells us it is right to jump in a fast-flowing river to save a dog’s life but impulse advises self-preservation—prompting a process of deliberation (hopefully short for the dog’s sake) followed by a choice. Organizational actors may at times be indifferent to a given set of alternatives (e.g., working on Christmas Day or caroling with the in-laws), which would not make sense if not for freedom of choice. Given that many strategic decisions involve trade-offs of some sort, this process of assigning degrees of importance to reasons entails freedom. And these trade-offs can apparently be freely made even under the severest of constraints. As Victor Frankl recounts in his autobiographic accounts, written in only nine successive days: ‘We who lived in concentration camps can remember men who walked through the huts comforting others, giving away their last piece of bread. They may have been few in number, but they offer sufficient proof that everything can be taken from a man but one thing: the last of the human freedoms—to choose one’s attitude in any given set of circumstances, to choose one’s own way’ (Frankl, 2004: 75).

Second, many of our deep-seated attitudes make no sense without freedom of choice. There is no reason why one should feel resentful, administer punishment, assign blame or praise if not for the belief that others are free to choose and act as they wish. If determinism were true then it would be quite irrational to celebrate the achievements of Warren Buffet, Bill Gates, and Jack Welch, or to point accusingly at the likes of Dennis Kozlowsky and Bernie Ebbers. After all, they could not have chosen differently as their choices would have been fully determined and outside of their control (even if they themselves felt they were acting freely). Berlin captured this well: ‘...we are free beings in some absolutely non-deterministic sense. So basic is this conviction that our entire moral vocabulary rests upon it: notions such as responsibility, praise, remorse and desert stand or fall with it. We cannot think it away without thinking away so much of our fundamental sense of our humanity that the attempt proves impossible’ (Berlin, 1998: xxvii). So too did the German historian Meyer in asserting that chance and free will are determining causes that cannot be banished from history without destroying its very essence (Collingwood, 1973: 178).

Third, organizational actors need not only regard themselves as free but also need the concept of causation to be free. How could they be genuinely free if unable to anticipate the likely consequences of their strategic choices? They need not be able to predict these consequences with any great precision but must be able to imagine the variety
of responses prompted by their choices (assuming these are acted upon). Simon understood this well when relating causation to power: ‘in order to understand organizational power it was necessary to understand causality, for power of one part of an organization can be defined operationally only if it is the cause of some effects in other parts of the organization’ (as cited in Augier and March, 2004: 12). Likewise, causation and strategic choice are implicated in a relationship of necessity: genuine freedom of choice cannot exist without presupposing causation. But, unlike the determinist, these causes are not in and of themselves sufficient to bring about strategy. Choosing requires deliberation. This does not imply that our deliberations are unaffected by social rules and institutions, dispositions, or habits. It merely suggests that this causal background is not in and of itself sufficient to manufacture strategic choice. Hence, determinists and libertarians alike accept the presence of a causal background. But whereas the determinist will find their presence sufficient to account for particular choices, the libertarian insists on a gap between these and deciding.

This necessary connection between strategic choice, causal background, and causation is consistent with Berlin’s later views. A fierce advocate of free will and individual responsibility, Berlin nonetheless believed in the applicability of causal laws to human or organizational history (a proposition which he would have considered it insane to deny). As he wrote in the introduction to his celebrated Four Essays on Liberty, history cannot be viewed as a mere conflict between individual wills. Knowledge, especially of scientifically established laws, renders us more effective while also extending our freedom, which is ‘liable to be curtailed by ignorance and the illusions, terrors, and prejudices that it breeds’ (Berlin, 2002: xxxv). Moreover, there is plenty of empirical evidence for the view that the frontiers of free choice are a good deal narrower than many men have in the past supposed. Thus, while objective patterns in organizational life may be discernible, these need not preclude genuine freedom of choice.

Fourth, a libertarian position accommodates chance. This position is, according to some philosophers, enhanced by developments in quantum physics, where indeterminism appears to exist at the subatomic level. If so, there is no reason why this should not also be the case at higher levels (Dennett, 2003). Hence, libertarianism has no difficulty in allowing chance to affect managerial decisions.

In summary, in strategy we have good practical reason to hold to some form of libertarianism for (a) it helps legitimize deep-seated attitudes (e.g., blame, resentment, or appreciation, which only make sense when believing in genuine freedom of choice); (b) it explains the experience of freedom when deliberating about strategic choices (e.g., by assigning a relative importance to various reasons for, or against, a particular decision); and (c) it emphasizes the importance of anticipation, or the belief (central to our discipline) that strategic choices can influence the course of events. In the absence of logical or empirical proof of the precise mechanism causing choice, this attitude can be justifiably held. By implication, strategy results from a complex interplay between chance and choice as mediated by causal background. This background provides a basis for interpretation, for assigning priorities, and for legitimizing and sanctioning, or rejecting, alternative strategic options (cf. Pettigrew, 1987). A libertarian approach does not deny that strategy may, at times, be the inevitable consequence of external and internal forces that are difficult or impossible to control or predict. It merely suggests that a causal background is typically not sufficient to manufacture these strategies.

**STRATEGY AS THE INTERACTION OF COMPLEX PROCESSES**

Intellectual history may provide a greater level of precision on the nature and role of strategic choice, one that would seem appropriate for a discipline so absorbed by it. First, it contains carefully articulated and very sophisticated positions on the relation between freedom of choice and determinism and, to a lesser extent, chance. It would seem useful to investigate this literature in addressing the ‘question of choice’ in our own field.

Second, one of these positions, libertarianism, appears to supply an intellectually robust and sustainable theory of choice that also corroborates our experience of freedom when making strategic choices. Specifically, it addresses (1) the extent to which we must regard ourselves as free in order to choose, being able to assign priorities to reasons and deliberate their consequences; (2) the extent to which we can be held accountable for our strategic choices, and hold others accountable for theirs;
and (3) the extent to which freedom of strategic choice and determinism can be reconciled. As for (1), libertarianism is predicated on their being a gap between desires, impulses and beliefs, and organizational actors acting on them by making choices. Freedom of choice is precisely this: the opportunity and capacity to deliberate on the possibilities facing us, to weigh up their costs and benefits, and to think through their consequences. As Sartre (2003) observed, it is precisely this ability to imagine what might be that constitutes the core of our freedom of choice. As for (2), because it assumes freedom of choice it allows us to hold organizational actors responsible for their strategic choices, and they us for ours. As presaged by Hume, ‘if nature did not aid us in this particular ‘twou’d be in vain for politicians to talk of honourable and dishonourable, praiseworthy and blameable. These words wou’d be perfectly unintelligible’ (Hume, 1964/1739: 500). As for (3), libertarianism accepts that causal background acts as a context for choice but refuses to accept that it is, by definition, sufficient in and of itself to bring about strategy. A bird’s flight may be conditioned by the forces of gravity, air currents, atmosphere, hunger or playfulness, but not determined in specifying its flight path. Libertarianism allows deliberations to be restricted by physical, legal, or resource constraints, or informed by institutional pressures, habit, or politicking. It suggests that reflection and deliberation are part and parcel of choosing, and it is this out of which freedom in strategy consists. In addition, it helps us make sense of the deeply entrenched attitudes that characterize organizational life (e.g., assigning blame or praise), and emphasizes the importance of the assumption of causation in making strategic choice possible.

Third, intellectual history emphasizes the role of teleological determinism, an attitude imposed on experience and observation by organizational actors. Over an epoch stretching two millennia, scholars have found it difficult to free themselves from the pervasive principle of determinism through Aristotle’s final causes, or the assumption of an internally consistent and purposeful world. After all, ‘what is the asking of a question if not itself a profound expression of faith in the intelligibility of the universe and the meaningfulness of human life?’, asked Sacks (2000: 80). History thus emphasizes the human need for teleological determinism in reconstructing strategic episodes into coherent narratives with meaningful plots. These narratives, in turn, contain the raw material for future choices (see also Weick, 1995). Advances in the natural sciences have done little to dissuade scholars from this. Teleological determinism is, in turn, conditional on causation, on the principle that events have consequences as well as causes. Thus, causation conditions strategic choice. Hence, our first conjecture:

**Conjecture 1: Causality is a necessary condition for freedom of choice.**

In a causal world, chance coincidences can supply possibilities for alternative choices. As Starbuck (1994: 212) notes, a ‘random event does not merely affect a single period; it becomes part of the foundation for future periods’ and its consequences ‘may accumulate over time until they dominate the behaviour of a causal process’. This observation is consistent with a Darwin–Wallace evolutionary perspective, suggesting that chance mutations enrich the population and may produce fitter species. As in Cohen et al.’s (1972) garbage can model of organizational choice, chance can draw together problems and solutions in waiting, and can be a sufficient in opening up alternatives for future choices. Burgelman’s study of Intel seems to support this view empirically in showing ‘how Andy Grove was able to take advantage of the fortuitous circumstances Intel faced . . . and turn good luck into a strategy vector’ (Burgelman, 2002: 349). Hence our second conjecture:

**Conjecture 2: Chance coincidences can open up new avenues for future choices.**

Organizational strategies can emerge as the result of chance rather than choice. Korn and Baum’s empirical analysis of multi-market contacts among commuter airlines, for example, ‘casts doubt on . . . [strategic intent] . . . and points to a more complicated, emergent relationship between multi-market contact and mutual forbearance that is less straightforward than is commonly presumed’ (Korn and Baum, 1999: 186). It shows that ‘contrasting chance, imitative, and strategic antecedents to multi-market contact supports a combination of influences, among which chance is one of the strongest’ (Korn and Baum, 1999: 187). Moreover, given a multiplicity of interactions it is unlikely that one particular course of action, taken twice,
will produce the same result. Miller (1990), for example, based on a detailed study of organizational failure concluded that the very actions that once produced excellent results might, one day, contribute to failure. Not only are the outcomes unpredictable, but also in the case where actions are based on past experiences under similar yet never fully identical circumstances, their consequences very different. As a result, no cause in one situation need produce the identical effect in a different context. Choice alone is not sufficient. Choice, like chance, is a contributing, background-dependent factor and cannot alone determine strategy. Thus our third conjecture:

Conjecture 3: Strategic choice is itself insufficient to account for strategy.

Causal background is a precondition for chance insofar as organizational actors rely on it for interpretation, prioritization, legitimization, explanation, and sanctioning or discarding alternatives. Chance coincidences may well go unnoticed if not for a causal background to render them meaningful. As the late historian Carr (1961: 129) reminds us, even if certain historical events can be, to a degree, determined by chance; it is the circumstance in which they happen that renders them both meaningful and consequential. After all, many a man floated in water before Archimedes, and apples fell from trees as long ago as the Garden of Eden (Cannon, as cited in Merton and Barber, 2004: 171–172). The aphorism ‘twist of fate’ is telling in this respect. So too is Pfizer’s experience in highlighting the necessity of some causal background in recognizing the relevance of coincidence. Thus, our final conjecture:

Conjecture 4: Causal backgrounds are necessary in order for us to interpret and exploit chance events.

CONCLUSIONS AND IMPLICATIONS

Quite regardless of how organizational actors may feel when making strategic decisions, and also of the extent to which their freedom has either been ignored or undermined (e.g., population ecologists), it is rational to maintain that they do in fact make free choices. Organizational actors make choices precisely because they believe these to influence the course of events. They must also believe their choices to be freely made in principle even if they often remain subject to various constraints. At the same time, organizational actors recognize their dependence on variables over which they have little or no control. Strategies emerge as a result of (unplanned) interactions between the consequences of choices made by various, sometimes unrelated, actors. Contrary to dichotomous treatments of causation where causal background and choice have been emphasized in turn, and in which chance is mostly absent, we put forward four conjectures on their interrelationship. These conjectures were revisited as inferences
from the arguments preceding them. Figure 1 seeks to conceptualize the relationship by which choice, chance, and causal background cooperate in the production of strategy.

The causal model expressed in Figure 1 conceptualizes our four conjectures. Strategic choice is contingent on causality, on the belief that strategies have causes as well as consequences (Conjecture 1). The significance of causal background secures it a place at the center of our model. It is a necessary condition not just for strategic choice but also for exploiting chance coincidence (Conjecture 4). Clearly, choice alone is not sufficient to account for strategy formation (Conjecture 3). Choice and chance, in turn, leave residues on this causal background insofar as this background reflects past choices and chance coincidences. Strategic choice and chance exist in a relation of sufficiency according to which chance coincidence can, but need not, open up new avenues for future choices (Conjecture 2). Where causal background is sufficient to determine a particular outcome we speak of strategic inevitability.

Our article has, we hope, some implications for strategy scholarship. First, strategic choice can only ever be understood in terms of its relevant social and material context. And this is true too of chance coincidence. While this causal background supplies the raw materials for choice, something else is required, namely deliberation and commitment. It is here—in the gap between the context for choice and choice itself—that freedom is expressed. And it is precisely this that justifies praise, blame, admiration, flattery, resentment, criticism, esteem, hostility, acrimony, or respect. After all, whether someone hurt us by accident or in provocation will make all the difference to us in choosing how to respond (though our response will invariably also depend on other factors such as the identity and size of the other, our appetite for quarrelling, our wit or sheer physical strength, our training and education, our need to impress (or lack thereof), custom, etiquette, the availability of other resources at very short notice, and so forth). There are good reasons for supposing organizational actors have at least some freedom of choice. Here our theoretical posture is helpful in supplying a rationally justifiable theory of choice that happens also to corroborate our experience of choice. In keeping with libertarianism, it suggests the world of organizations has structure but not so much as to cause it to be deterministic. And it would seem the only plausible foundation for a discipline so squarely focused on choice.

More pragmatically, our approach to strategic choice might help in managing what has always been an uneasy relation between chance, choice, and determinism in multilevel research. Theorizing across multiple levels of analysis requires great precision both in defining these levels and in explaining how they relate to each other (cf. Rousseau, 1985; Klein et al., 1994; Beamish et al., 2006). For example, what scope for choice is there at different levels of analysis in a multilevel study? Is there more or less freedom of choice when moving from macro levels (e.g., industry or organization) to micro levels (e.g., project team or individual) of analysis? Where does the role of causal background end and strategic choice begin? In unpacking the idea of causal background, what might usefully be said about the role of power relations in affecting freedom of choice (e.g., Foucault, 2002)? How much scope for choice exists within specific industries, strategic groups, or geo-political regions? The answers to such questions are potentially significant, not least because they afford ammunition to tackle such contentious issues as performance-related pay and the moral responsibilities of corporate leaders. Are executive compensation and dismissal directly proportionate to the freedoms they enjoy to choose as they wish? Needless to say, this raises extraordinary complexities in terms of measurement. But even when putting such difficulties aside, would this be an unreasonable expectation?

As for multilevel research, it is here that approaches such as Klein et al.’s (1994) may be useful. Causal relations of homogeneity, heterogeneity, and independence, by definition, are intrinsically relative in that each expresses a relationship. After all, a thing can only be homogeneous, heterogeneous, or independent with respect to something else. This is also true of chance, choice, and determinism. Thus, to claim that superior returns at the level of the individual firm result from strategic choice or chance requires one also to provide a detailed account of the causal background within which this performance was realized. We can explain one only with reference to the others. This is where Pfizer’s experience with Viagra is insightful. The U.K. High Court’s decision to revoke Pfizer’s lucrative patent relied principally on a careful study of the causal background within which Pfizer made its discovery. After all,
several publications (which the prosecution proved had been circulated within Pfizer), as well as significant advances in understanding the role of nitric oxide and in acknowledging the role of physiology rather than psychology in causing impotence, suggested Pfizer’s discovery to be far less novel than had originally been claimed by the pharmaceutical. Therefore, to fully appreciate the causes of Pfizer’s recent performance one has to account, in some detail (or ‘thickly’), for chance, choice, and causal background alike. Along the same lines, individual choices are very likely to affect multiple levels simultaneously. A strategic decision of two businesses to merge is likely to have consequences for the industry, for business units, and product teams, as well as for individuals working in these organizations. Comparatively micro-level agents, such as small groups, departments, product teams or business units, occasionally make strategic decisions collectively. At higher, more macro, levels, decisions can be made by Congress or Parliament or, as the case may be, unelected dictatorships that can commit substantial resources and invite collective retribution. More abstract notions of macro-level agency, such as industries, markets, or environments, are likely to be affected by strategic decisions made by any or all the above, though they are unable to make their own choices in turn, at least not in the ordinary sense. Industries do not make choices (though representative bodies may do so on behalf of their members). Rather, these abstract notions of agency are part of what we have called the causal background—the social and material context for decisions. That there are multiple levels, each with its own contingencies, makes for a rich and very complex pattern of interactions. It should thus come as no surprise that we strongly endorse calls for more multilevel research, not least in documenting the consequences of variations at various micro levels on macro-level phenomena, and vice versa (cf. Rousseau, 1985; Klein et al., 1994; Beamish et al., 2006). To be sure, a consideration of multiple levels is critical if we are to fashion a robust theory of strategic choice. The relevant question is now no longer whether we have choice but when, where, and how much?

Relatedly, a theory of strategic choice and its relationship to chance and causal background would appear relevant to process (or longitudinal) research. Process research, by definition, entails an interest in causal analysis, or in explaining how various different actions, events, and backgrounds are necessarily interconnected and interdependent and will, almost by its very nature, address multilevel issues For example, Pettigrew’s (1997) ‘guiding principles’ of process research emphasize the need to understand process across different levels of analysis, the importance of studying process in terms of temporal interconnectedness, and an ambition for holistic, rather than atomistic, explanations (Pettigrew, 1997: 340).

Finally, it invites a review of the mechanism of causation in different disciplines. Given its prominence in subjects as varied as physics, history, and biology, each of which has a longer track record than the organization sciences, these literatures might supply useful insights. A methodological implication is the value placed on interdisciplinary work, given the near-universal relevance of causation, and on thick description as a means to study the nature and boundaries of choice. A practical way forward might be that of revisiting case examples where chance appears to have prevailed. For instance, scientific discoveries such as penicillin, ether, or Minoxidil, technological innovations such as HP’s inkjet printer, Canon’s bubblejet printer, 3M’s Post-It Note and Scotchguard, or Dupont’s Teflon could be re-examined to expose causal background and choice, and erode any ‘urban myths’ that may have evolved around the significance of chance. To illustrate, at least seven scientists prior to Fleming had noted the effectiveness of penicillin in inhibiting bacterial growth. Mold had been used to treat bacterial infections as early as 1500 BC. Fleming’s chance observation, in September 1928, reinforced a similar observation made by him in 1919, when suffering from a bad cold he had used his own mucus to grow a culture. It put him on the trail of Tyndall, Roberts, Pasteur, and Joubert, who had made similar observations. Yet, Fleming was never able to purify penicillin sufficiently to take it into trials, and it lay dormant for nearly 10 years until two Oxford scientists took on the challenge of purifying penicillin. His own contributions—which won him the 1945 Nobel Prize—seem to have never exceeded those of a French doctoral student some 30 years earlier. Thus, given the causal background within which Fleming made his discovery, it is not entirely surprising that some felt his fame to have been undeserved.
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