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An Essay on the Origins of Entrepreneurial Opportunity

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ABSTRACT. In this article, we apply a process of logical inference to draw conclusions about the origins of entrepreneurial opportunity from existing conversations in the field of strategic management. We equate the execution of a competitive strategy – as described in the strategic management literature – to the exploitation of an entrepreneurial opportunity – as described in the entrepreneurship literature. Given this assumption, we survey five extant theories of strategy in an attempt to categorize and describe the circumstances that define how and with what consequence entrepreneurial opportunity exploitation results in future opportunity. Given this review, we characterize the 'outcomes' of strategy execution as a function of the 'match' between strategy and environment in an effort to extend and refine Holcombe's [Holcombe, Randall, 2003, *Review of Austrian Economics* **16**(1), 25–43] position that entrepreneurial opportunity is born of prior entrepreneurial action.

KEYWORDS: entrepreneurial opportunity, strategy, uncertainty

JEL CLASSIFICATIONS: D80, L10, L26, M13.

'Let your hook always be cast; in the pool where you least expect it, there will be a fish.'
Ovid, A.D. 17

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1. Introduction

Understanding why, when, and how opportunities come into existence is a fundamental focus of the field of entrepreneurship (Shane and Venkataraman, 2000). Although scholars widely acknowledge that theoretical development of the 'opportunity construct' is central to entrepreneurship as a domain of academic inquiry, questions focused on the *origins* of opportunity remain largely unanswered to the satisfaction of many entrepreneurship scholars (Gaglio and Katz, 2001). Indeed, when considering the origins of opportunity, the extant entrepreneurship literature seems to validate Ovid's centauries old insight: that opportunity will be found in '*lots of places and for lots of reasons*.'

A notable lack of research focused on the origins of opportunity, and the disparate nature of the propositions suggested in response to the question of where opportunities originate, is not surprising. The ontological and epistemological intricacies associated with opportunity research makes any direct, rigorous attempt to catalogue and describe the sources of opportunity a daunting proposition for scholars. As evidence of this fact, we note that many prominent entrepreneurship researchers have gone to great lengths to describe the complexity inherent in developing a comprehensive typology of the origins of entrepreneurial opportunity (Eckhardt and Shane, 2003; Shane and Venkataraman, 2000, 2001; Sarasvathy et al., 2003).

With such issues in mind, work on this essay originated on the assumption that understanding the exploitation of opportunity yields insights as to its origin. By equating the execution of competitive strategy – as described in the strategic management literature – to the exploitation of entrepreneurial opportunity – as described in the entrepreneurship literature – we followed a process of inductive logic and inference applied to a review of the strategy literature suspecting that it would reveal how the sources of opportunity mapped to different theoretical conceptions of strategy and the sources of competitive advantage. Although the following discussion does suggest some insights along these lines, our main finding is something we had not expected: that many of the opportunities exploited by entrepreneurs may not be *new* objectively[1] and that any *theory of opportunity* should distinguish between those opportunities that are new and those that are not.

Thus, our principal contribution is not a typology of the sources of entrepreneurial opportunity. Instead, we extend the discovery-evaluation-exploitation paradigm as conceptualized in the individual-opportunity nexus [ION] framework (Shane and Venkataraman, 2000) to incorporate a conceptualization of *entrepreneurial strategizing*, very simply defined as the process through which the entrepreneur identifies the "best" strategy for exploitation under uncertainty, given concomitant consideration of the nature of the opportunity and the environment in which the opportunity will be exploited. Our survey of the strategy literature and associated theorizing suggests that Holcombe's (2003) contention that entrepreneurial activity leads to the emergence of *new* entrepreneurial opportunity is a compelling position from which to further investigate the origins of opportunity. We also will suggest that some opportunities born of prior exploitation are not objectively new as Holcombe suggests. Specifically, we consider how attempts to exploit a given opportunity can be marginalized given a "mismatch" between the mode of exploitation (strategy) and characteristics of the opportunity given environmental conditions. We define the resultant outcome to be an *underexploited* opportunity, and suggest that, although such opportunities may be seen as new by future entrepreneurs, they are not objectively new at all.

In the section that follows we offer an overview of the dominant theoretical framework applied to entrepreneurship research today: the individual-opportunity nexus (ION). In the context of the ION, we then develop a basic framework that extends the entrepreneurial process to accommodate strategic considerations as well as Holcombe's (2003) contention of the importance of prior entrepreneurial activity as a source of entrepreneurial opportunity. From there, we consider the *strategy choice set* of the dominant theoretical paradigms applied in the strategy literature. We consider each of these perspectives, in turn, so as to identify their underlying assumptions and prescriptions relative to performance, strategy, and competitive advantage. For each strategy paradigm, we also draw inferences as to the conception of opportunity given each theory's fundamental assumptions concerning outcomes of strategy execution in the face of uncertainty. Finally, we draw out some of the insights from our discussion and review of the literature and conclude the article with some brief remarks.

2. The challenge of identifying the sources of opportunity

The field of economics has alternatively characterized the entrepreneur as an inter-market operator (Leibenstein, 1968), a bearer of uncertainty (Knight, 1921), an innovator (Schumpeter, 1934) and an arbitrageur (Kirzner, 1979, 1997). Not unlike the economists, entrepreneurship scholars in the field of management have also characterized the entrepreneur – and his or her role in the entrepreneurial process – in many different ways as the discipline has evolved over the last two decades (Busenitz et al., 2003; Carland et al., 1988; Gartner, 1988). Recently, the dominant paradigm applied to entrepreneurship research by management scholars has evolved into what has become known as the 'Individual-Opportunity Nexus (ION)'(Shane and Venkataraman, 2000).

2.1. *The individual-opportunity nexus and the origins of opportunity*

The ION framework anchors the study of entrepreneurship to questions focused on "how, by whom, and with what consequences opportunities to produce future goods and services are discovered, evaluated, and exploited" (Shane and Venkataraman, 2000, p. 218). The logical basis for ION is the idea that entrepreneurial opportunities emerge from market disequilibrium or, more specifically, from the differences people have in their expectations, beliefs, awareness, and/or knowledge about the relative (future) value of resources (Kirzner, 1979, 1997; McMullen and Shepherd, 2006; Rumelt, 1987; Shane and Venkataraman, 2000). Shane and Venkataraman suggest that, "because people possess different beliefs (because of a lucky hunch, superior intuition, private information, etc.), they make different conjectures about the price at which markets should clear, or about what possible new markets could be created in the future" (2000, p. 220).

Given this, proponents of the ION framework contend that the study of entrepreneurship involves the concomitant consideration of the *sources* of opportunities, *and* the set of individuals engaged in their discovery, evaluation, and exploitation (Shane and Venkataraman, 2000). Central to this is the idea that entrepreneurial opportunities represent those situations where new or future goods, services, inputs, resources, and ways of organizing can be introduced to the market and sold at prices above their cost of production or assembly (Casson, 2003; Shane and Venkataraman, 2000). More specifically, ION distinguishes entrepreneurial opportunities as a sub-set of all opportunities for profit, because entrepreneurial opportunities necessitate the discovery of new "means-ends relationships" (Kirzner, 1997; Shane and Venkataraman, 2000). That said, it logically follows that when considering entrepreneurship from the perspective of ION, entrepreneurship research should focus on three fundamental questions: (1) why, when, and how opportunities for the creation of future goods and services come into existence, (2) why, when, and how some people and not others discover and exploit these opportunities, and (3) why, when, and how different modes of action are used to exploit entrepreneurial opportunities (Shane and Venkataraman, 2000).

Although the second and third questions have arguably received the bulk of research attention to date, there have been fewer, nevertheless important, efforts to address why, when, and how opportunities for the creation of future goods and services come into existence. Eckhardt and Shane (2003), suggest that the literature identifies origins of opportunity as arising from (1) information asymmetry (Kirzner, 1973), (2) exogenous shocks (Schumpeter, 1934), (3) changes in supply (i.e., new inputs, new organizing methods, production processes, and/or products) (Schumpeter, 1934), and (4) changes in demand (i.e., shifts in culture, perceptions, tastes, and preferences (Kirzner, 1979; Schumpeter, 1934). Similarly, Holcombe (2003) suggests that opportunities arise from (1) factors that disequilibrate the markets, (2) factors that enhance production possibilities, and (3), *most importantly*, prior entrepreneurial activity.

2.2. *Prior entrepreneurial activity and the emergence of new opportunity*

The perspectives offered by Eckhardt and Shane (2003) and Holcombe (2003) generally agree to the extent that information asymmetry, exogenous shocks, and changes in supply or demand map to Holcombe's conception of disequilibrating factors and factors that enhance production possibilities. The exception to this overlap, and the one that stands out to us as an unexplored, yet important precursor to developing an acceptable *theory* of entrepreneurial opportunity (Bacharach, 1989), is Holcombe's suggestion that *the most important source of new opportunity is the prior action of entrepreneurs*:

> *"To see how entrepreneurship can create additional entrepreneurial opportunities, consider an example in one of the most entrepreneurial industries at the end of the twentieth century: microcomputers. Somebody had the idea that rather than have the microcomputer mouse tethered to the computer with a cord, the mouse could transmit an infrared signal to the computer, enabling the mouse to be wireless. Why had nobody acted on this entrepreneurial opportunity before? The answer is that it had not existed long before it was exploited. The opportunity had not been lying in wait for decades; rather, shortly after the mouse became a popular device, this opportunity was observed and acted upon. The opportunity was created by the development of the computer*

mouse, itself an earlier act of entrepreneurship, and computer users know that point sticks, trackballs, and touch-pads are other devices developed by entrepreneurs. But this particular pool of entrepreneurial opportunities only existed after the development of the mouse as an input device. The entrepreneurial activity of the developer of the mouse did not use up an entrepreneurial opportunity, it created many more entrepreneurial opportunities." (Holcombe, 2003, p. 34, emphasis added)

Holcombe (2003) suggests that prior entrepreneurial action to exploit a previously discovered opportunity is an important source of *new* entrepreneurial opportunities. Holcombe rightfully highlights the personal computer as an excellent example; its introduction to the consumer market in the 1970's triggered a particularly significant period of 'related' entrepreneurial activity (the mouse, software, various peripherals, etc.) that continues even today. Implied in Holcombe's theorizing, however, is the suggestion that, once a given opportunity is discovered, evaluated, and exploited, it ceases to exist as an opportunity for other entrepreneurs now or in the future. That is, there seems to be one opportunity per entrepreneur while their exploitation of the opportunity creates new and separate opportunities for others to pursue.

Given Holcombe's (2003) example of the personal computer and the implied assumption of one opportunity per entrepreneur, it is interesting to consider the case of Michael Dell in light of the notion that *new* opportunities arise from prior entrepreneurial activity. Was the opportunity that Dell exploited with great success objectively *new*? One could reasonably argue that, as an entrepreneur, Dell did not pursue one of the *new* opportunities arising *from* the personal computer; rather he successfully pursued the *original* opportunity previously exploited by the likes of IBM, Compaq, and Apple. What was novel about Dell's approach, however, was the *way* in which he produced customized machines and distributed them directly to consumers. So how does Dell fit into Holcombe's framework? The answer, we contend, depends on a subtly in the semantics of the expression "new means-ends relationship."

From at least one point of view, Dell's efforts did not result in a "*new* means-ends relationship" (Shane and Venkataraman, 2000) since the manufacture and sale of personal computers was a well-established economic activity at the time Dell started his venture. In fact, we contend that the opportunity exploited by Dell may be defined as "new" only if the term "means" is inclusive of his novel business model. The problem with a broad conception of means – or ends, for that matter – is that it seems to lead to a conception of entrepreneurship that potentially overreaches; if the notion of means, for example, includes every novel element of an activity, many (perhaps, too many) activities can be defined as entrepreneurial no matter how imitative or commonplace the acts might be. On the other hand, if Dell's opportunity was not new (i.e., the definition of "means" excludes a novel business model), then Holcombe's (2003) framework needs some refinement since it does not explicitly address the exploitation of an opportunity already in existence.

With this in mind, we now turn to extending Holcombe's (2003) framework by considering his discussion in the context of the strategic management literature. We suggest that, to understand the extent to which prior entrepreneurial action begets new opportunity into a robust conceptualization of the origins of opportunity, we must more fully investigate the notion of how entrepreneurial action is manifest in the context of a competitive, economic context. For this we focus our attention to the extant strategy literature. Indeed, one aspect of Holcombe's (2003) discussion we find particularly intriguing is the notion that fully grasping the *exploitation* of opportunity provides insights as to the *origins* of opportunity. Thus, if we assume that the execution of strategy equates to the exploitation of opportunity in an entrepreneurial context, we not only gain the insights of over 30 years of strategy research, we can also integrate the strategy perspective within the context of the entrepreneurial process per the ION framework (Meyer et al., 2002). In doing so, we make a particular effort to refine the one-opportunity-per-entrepreneur assumption implied in Holcombe's (2003) discussion by addressing how the exploitation process may leave the original opportunity available to others to pursue.

3. A basic framework of entrepreneurial strategy[2]

Although Holcombe (2003) does not address specifically the notion that entrepreneurs might exploit opportunities that are not objectively new, his discussion does not exclude the possibility. In arguing that the pool of opportunities in any economy expands as the result of prior entrepreneurial activity, for example, Holcombe offers that prior entrepreneurial activity does "*not use up an entrepreneurial opportunity*" but that entrepreneurial action serves to actually create "many more entrepreneurial opportunities" (2003, p. 34, emphasis added). His turn of phrase captures our essential conjecture that some opportunities, even when exploited, remain available to other entrepreneurs to pursue.

How is it, then, that entrepreneurial activity does not "use up" an entrepreneurial opportunity? The answer we propose is that the process by which some "means" are engaged for given "ends" in an entrepreneurial context arguably includes the *strategy* (e.g., a novel business model) employed by the entrepreneur for exploiting the opportunity; to be clear, here we are conceptualizing strategy (e.g., Dell's business model), means (e.g., the sale of personal computers), and ends (e.g., consumer need for personal computers) as separate constructs. More importantly, we have in mind something beyond the "mode of exploitation" typically addressed in the entrepreneurship literature; instead, we posit that in addition to selecting the mode of exploitation – that is, exploiting the opportunity either through a new firm or an established firm – our entrepreneur also makes decisions about how best to exploit the opportunity in order to maximize its value (i.e., the profits or returns) (Kirzner, 1979). In essence, we make the assumption that the exploitation phase of the entrepreneurial process includes a set of choices that equates to the execution of competitive strategy. Thus, in this section, we develop a simple framework that allows us to integrate competitive strategy considerations into the essential elements of the ION framework.

To illustrate our framework, consider this scenario: To highlight the essence of the entrepreneurial process, Kirzner uses an allegorical account of Robinson Crusoe's realization that his time is more valuable spent in building a fishing boat than in catching fish uneconomically by hand (Kirzner, 1979, p. 161). Through the lens of the individual-opportunity nexus perspective (Shane and Venkataraman, 2000), Crusoe *discovers* the opportunity to fish by boat, *evaluates* the opportunity by considering the time and effort needed for building a boat, and *exploits* the opportunity by proceeding with the boat's construction. Although it is not readily apparent in Kirzner's (1979) account, Crusoe also selects the *mode of exploitation*: He builds his own boat since, presumably, there is no other individual on his remote island to whom Crusoe can sell the opportunity. Crusoe's decisions and actions, according to Kirzner, are *entrepreneurial* since they result in a new means (a boat) for a given end (catching fish). Indeed, "his reallocation of his labor time from fishing to boat-building is an entrepreneurial decision, and, assuming his decision to be a correct one, yields pure profit in the form of additional value discovered to be forthcoming from the labor time applied" (Kirzner, 1979, p. 162). In this context, such "pure profit" is arguably the number of fish Crusoe catches by boat in excess of the number he once caught by hand.

It occurs to us that Crusoe has also made choices regarding the characteristics of the boat he will build with the intent of maximizing his pure profit. These characteristics – such as the boat's shape, size, and other specifications – are evidence of decisions made in the exploitation process that go beyond the *mode* of exploitation. In other words, regardless of whether Crusoe built his own boat or sold the opportunity to someone else, additional decisions were made to ensure that the characteristics of the boat "best" fits the opportunity. Do the fish to be caught, for example, always stay close to shore? Are they best caught by lure or by net? What are the weather conditions that need to be considered? And so on. These choices regarding the type, size, and shape of the boat to be built are *strategic* in the sense they are made with an eye on maximizing Crusoe's pure profit (i.e., the amount of fish he can catch for a given level of effort).

3.1. *Strategy in an entrepreneurial context*

Figure 1 depicts the basic framework we propose.

First, the opportunity is *discovered*. According to Shane and Venkataraman (2000), a discovery is made when someone speculates that a set of resources is not put to its "first best" use or, more specifically, "that the resources are priced 'too low' given the entrepreneur's belief about the price at which the output from their combination could be sold in another location, at another time, or in another form" (Shane and Venkataraman, 2000, p. 220). The individual's conjecture regarding the price of these resources is based on private information or some unique intuition (Shane and Venkataraman, 2000). Next, the decision to exploit the opportunity is based on the entrepreneur's *evaluation* that the opportunity's expected value (i.e., profit) will exceed the opportunity cost paid in its exploitation; individuals will differ in their evaluations and some will exploit the opportunity while others will not, even if the expected value is the same (Shane and Venkataraman, 2000). Finally, as part of the exploitation phase, the mode of exploitation – whether to sell the opportunity to an existing firm or to exploit the opportunity through a new firm – is selected based on a combined assessment of the nature of the opportunity itself, the competitive environment, and the potential for appropriating the returns for the entrepreneur's efforts (Kirzner, 1979).

The element we introduce is the idea that the exploitation process includes deciding the best strategy for exploiting the opportunity *given the characteristics of the opportunity and the nature of the environment*. This we call the *entrepreneurial strategizing* portion of the exploitation phase, and suggest that it involves a determination of the optimal set of actions, decisions, and commitments to be made to maximize the returns from the exploitation of the opportunity (Meyer et al., 2002). It is at this point that our entrepreneur seeks to "match" the opportunity at hand with the "best" strategy for maximizing the opportunity's value given some projection of future environmental conditions.[3] We refer to this as the *strategy-opportunity-environment fit*. We now turn to outlining the "strategy choice set" – the range of strategic paradigms and predictions – available to the entrepreneur in our basic framework.

3.2. *The strategy choice set and the dominant paradigms*

Although strategic management scholars focus their attention on firm performance (Hoskisson et al., 1999), the nature and character of the theoretical frameworks applied to such questions and issues varies considerably (Mahoney, 2005). Indeed, the idea of *performance* itself has been rigorously explored in terms of, for example, financial returns or profitability,

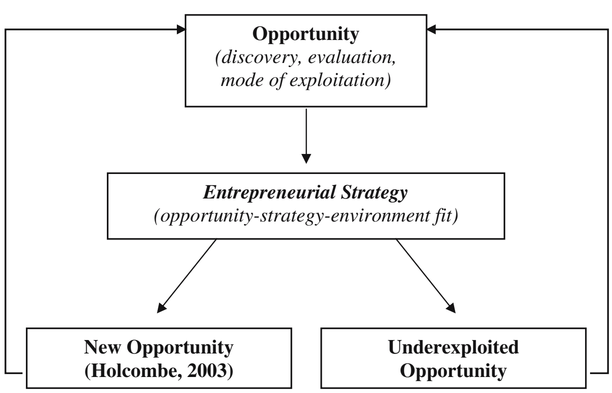

Figure 1. A basic framework of the entrepreneurial process.

organizational effectiveness, market share, survival, and environmental "fit" (Barney, 2002). Nevertheless, a review of the field's evolution reveals a manageable number of theoretical perspectives that comprise its core. For sake of both practical and conceptual simplicity, we consider five of these frameworks here: (1) the structure-conduct-performance (SCP) paradigm, (2) transaction costs economics (TCE), (3) the resource-based view (RBV), (4) evolutionary theory, and (5) real options reasoning.[4]

3.2.1. *Structure-conduct-performance (SCP) and Porter's five forces*

In the context of the Porterian/structure-conduct-performance framework, the entrepreneur in our framework faces a decision in the entrepreneurial strategizing phase of what *position* to take up in the marketplace given the assessed industry structure. At its core, Porter (1980) outlines a framework of "five forces" (i.e., the bargaining power of buyers, the bargaining power of suppliers, the threat of entrants, the threat of substitutes, and industry rivalry) applicable in an analysis of industry structure for selecting from three generic strategies – cost leadership, differentiation, and focused (or niche) strategies. Given the complications of uncertainty and a dynamic environment, maximizing the strategy-opportunity-environment fit is far from easy. Porter (1991) contends that whether a firm achieves a competitive position in the market place depends on two essential elements: *initial conditions* and *"pure" managerial choice*. Initial conditions at the firm level include factors like the firm's established reputation, acquired skills, and assets; at the environment level, initial conditions capture the degree to which the setting outside the firm is favorable to its success and performance. In contrast, "pure" managerial choices are the decisions made within the firm independent of initial conditions.

3.2.2. *Resource-based view*

In contrast to the emphasis of industry structure as a determinant of firm performance, the resource-based view's (RBV) conceives of the firm as a "bundle of resources" in which the performance of the firm is driven from within (Penrose, 1995). As for the entrepreneur in our basic framework, RBV suggests his or her entrepreneurial strategy centers on the acquisition, development, and leverage of competitive advantage-granting resources or capabilities. Indeed, it would seem the earliest of entrepreneurial strategy decisions might have the most long-lived effects; take for example the decision the entrepreneur might make on where to *locate* a new venture. According to Peteraf (1993), having the foresight or good fortune to acquire a location of operations that grants resource position advantages over other firms is a prime example of an *ex ante* limit to competition. Indeed, the firm's location is likely to take on the characteristics of a non-tradable asset to the extent that the firm's sustained competitive advantage depends on a unique, advantageous location (Teece et al., 1997). Dierickx and Cool (1989) also suggest that a firm's location may be an important determinant in its ability to acquire and leverage valuable resources and capabilities.

3.2.3. *Transaction cost economics*

The fundamental premise of transaction cost economics (TCE) is that firms exist to internalize into organizational hierarchies (e.g., firm structures) those transactions made prohibitively costly by market imperfections (Coase, 1937). Given TCE, the entrepreneurial strategy decisions faced by our entrepreneur now encompass the modes of exploitation – i.e., market versus hierarchy – and the nature of the "governance structure" needed given the nature of the opportunity and the environment. When selecting the governance structure, our entrepreneur does so with "conscious foresight" based on what the evolutionary biologist Richard Dawkins refers to as the unique human ability to simulate the future in one's imagination (Williamson, 2000). In this respect, the governance structure is selected to limit, for example, the opportunistic behavior individuals now and in the future (Williamson, 2000). In more concrete terms, this means our entrepreneur will make decisions on what assets his or her firm will make or buy in the pursuit of the given opportunity. Such choices, evidence suggests, are critical factors in the success of a new venture (Mosakowski, 1991).

3.2.4. *Evolutionary theory*

The evolutionary perspective of Nelson and Winter (1982) conceives of the firm as a bundle of routines in an environment of Schumpeterian competition (Mahoney, 2005). This perspective emphasizes the tacit knowledge and skills of individuals applied in predictable patterns or routines with the firm that include, among other things, production, hiring and firing procedures, research and development, and other activities (Mahoney, 2005). A particularly central element of evolutionary theory is the concept of "search." Nelson suggests that, contrary to the central premise of our basic framework, it cannot be the case that firms seek to enact a single best strategy (Nelson, 1991). Instead, based on Schumpeter's notion of competition as "gales of creative destruction" (Schumpeter, 1934), firm profitability is modeled as function of continuous innovation and technological change rather than optimization. Such continuous change is the result of the *search* and *selection* of new routines or organizational knowledge and thus the firm's performance can be said to be a function of *Schumpeterian rents* (i.e., superior returns accruing to innovation or, more specifically, the search and selection of new combinations)[5] (Winter, 1995).

It is not clear how evolutionary theory fits with our account of an entrepreneur facing entrepreneurial strategy decisions. How do we, for example, account for our entrepreneur actively making strategic *choices* when such a decision function is virtually incompatible with a highly *deterministic* theory of routines? We could suggest that our entrepreneur should act with an eye towards establishing and nurturing key routines and repertoires within the firm, but this brings us to the same essential discussion under RBV. This is not much of a surprise since evolutionary theory serves as one of the theoretical foundations for the resource-based view (Foss, 1997). Unlike RBV, which we interpreted as suggesting that the earliest decisions made by the entrepreneur have the most long-lived effects, evolutionary theory seems to imply that, although initial conditions within the firm may have important long-term consequences, they are no more or no less significant than the firm's ability to adapt and evolve with the passing of time.

We do note, however, that Nelson and Winter's (1982) notion of search is strongly reflective of the entrepreneurial process of the ION framework. Much in the way that some, but not all, individuals may recognize a given opportunity based on their idiosyncratic prior knowledge and experiences (Shane, 2001), whether or not the firm's search routines "find" any new routines of merit depends on the routines already in existence and use within the firm. In other words, successful search depends on prior organizational knowledge (Nelson and Winter, 1982). This suggests to us that the concept of search in evolutionary theory and the concept of discovery in the entrepreneurial process have much in common, perhaps to the point where many of their underlying principles are the same or interchangeable.

3.2.5. *Real options reasoning*

Recently, real options theory has taken a position among the dominant theoretical frameworks applied to strategic management questions (Leiblein and Miller, 2003; McGrath, 1997, 1999; McGrath et al., 2004). Proponents of real options approaches to investigating ways of organizing (McGrath et al., 2004), decision-making under uncertainty (Janney and Dess, 2004), diversification (Raynor, 2002), firm boundary issues (Leiblein and Miller, 2003), and corporate strategy (Barnett, 2003). Real options theory, applied to questions of strategy, represents a fundamental departure from many of the other approaches to strategy (including those discussed above) because of the assumed central role of the manager in the process of recognizing and appreciating the value of *flexibility* in the face of uncertainty and dynamic conditions. As with financial options, at least in theory, real options logic advances the idea that the option can be valued based on the underlying real asset; and, like financial options, the longer the option lasts before it expires and the more volatile is the price of the underlying asset the greater the option's value. "Valuable *options* possess an asymmetrical performance distribution, skewed toward the upside. This is achieved when the "options-oriented investor pursues opportunities that appear to have significant upside potential in a manner that permits costs (downside risk) to be contained'' (McGrath et al., 2004).

It can be argued, however, that real options theory and the entrepreneurial process we have outlined are fundamentally incompatible. Our framework, and the ION perspective on which it is built, is grounded in the premise that the *opportunity* to produce *future* goods and services exists in the *current* period. Real options theory, on the other hand, is grounded in the assumption that the *opportunity* itself will come into existence in some *future* period and that the strategic imperative of the entrepreneur is to make investments today in anticipation of the future opportunity's discovery. This temporal inconsistency between real options reasoning and our framework complicates our conception of entrepreneurial strategizing. For real options theorists, the fundamental strategic prescription is resolving uncertainty by, in effect, preparing for the discovery of future opportunity. As a result, this perspective offers limited prescriptions to entrepreneurs exploiting given opportunities in the current period, other than to do so in a way that allows them to leverage the benefits of flexibility and entrepreneurial discretion.

3.2.6. *Synthesis*

Each of the five strategy paradigms detailed above represent a range of theoretical foundations, assumptions, perspectives, and prescriptions for establishing and sustaining a firm's competitive advantage and performance. As a whole, these various perspectives suggest that the entrepreneur in our basic framework is faced with several strategic choices including (1) which market position to occupy; (2) which resources and capabilities to acquire, develop, and leverage; (3) the structure of the venture itself; (4) establishing and maintaining search and innovation as strategic imperatives; and (5) preparing the future opportunities yet to be discovered. Our review of these theoretical perspectives is summarized in Table I.

Not surprisingly our treatment of these frameworks – however brief – reveals that these theories diverge in important ways when considered in the context of the entrepreneurial process. The theoretical focus of each theory varies from the conditions within the firm (i.e., RBV, evolutionary theory), to the interaction of internal and external factors (i.e., TCE), to the external environment (i.e., SCP), and even the passing of time (i.e., real options). As a result, the level of analysis of each varies respectively from routines, resources, and assets to firm boundaries to industry structure. More importantly, there are considerable differences in the conceptualization of the firm in each theory. SCP views the firm as a production function, RBV as a bundle of resources, TCE as a governance structure, evolutionary theory as a bundle of routines, and real options as a portfolio of investments and assets. And, of course, they differ in terms of the fundamental assumptions that underlie each theory.

It is our contention, however, that these five theories converge on a number of important points. First, the five strategy theories we reviewed suggest or imply that superior performance is a function of the firm's ability to establish or take advantage of any idiosyncrasies and asymmetries, variously defined, between firms. Such a conception fits nicely with the notion that entrepreneurial opportunities arise from disequilibrium or idiosyncrasies in the market (Holcombe, 2003; Kirzner, 1997; Shane and Venkataraman, 2000; Venkataraman, 1997). For example, given an SCP framework, a firm's performance is based on achieving a unique and defendable market position (Porter, 1991), while in RBV the firm's performance is based on the possession of unique resources (Barney, 1991). Likewise, in TCE, performance seems to be based on the firm's idiosyncratic ability to economize (Williamson, 1975) while in evolutionary theory the firm's performance is based on its unique routines and repertoires (Nelson and Winter, 1982). Finally, in real options, the performance is based on the firm's idiosyncratic flexibility to defer, delay, expedite, or decline the exploitation of a given opportunity to maximize the difference between the current and future value of real assets (Mahoney, 2005).

Second, the five strategy theories generally share ontological and epistemological views on the nature of entrepreneurial opportunity. From an ontological perspective regarding the

TABLE I
Strategy constructs and opportunity

Theory	Foundations	Type of economic rent	Normative implications	Opportunity construct	Entrepreneurial strategy
SCP/Porter	Structure-conduct-performance paradigm; firm as a production function	Monopoly rents accruing to industry structure	Assess the industry structure (five forces) to implement one of three "generic" strategies – i.e., cost-leadership, differentiation, or niche	Opportunities are objective artifacts defined by unmet needs or demand	Entrepreneur chooses a market positioning strategy; initial environment conditions and "correctness" of choices have stronger implications for new firms
Resource-based view	Political economy (Ricardo), organizational economics including evolutionary theory; firm as a bundle of resources	Ricardian rents accruing to valuable resources	Acquire and leverage valuable, advantage- granting resources; develop and upgrade core competences or dynamic capabilities	Opportunities are objective artifacts, but – in some cases – may not exist outside the context of the firm; probably defined by new resources or capabilities	Earliest decisions that influence, among other things, the ability to acquire and leverage valuable resources (e.g., location, legal form) are pivotal
Transaction cost economics	New institutional economics, firm theory, organizational economics, economics of information; firm as a governance structure for exchange	Pareto (quasi) rents accruing to assets put to first-best use	Asses the nature of the difficulties for a given transaction; select most efficient governance structure (i.e., firm, market, or hybrid)	Opportunities are objective artifacts defined by possibility for reducing or exacerbating transaction 'frictions'	Aside from the mode of exploitation (firm or market), a key decision is the governance structure and the boundaries of the firm (i.e., what to make and what to buy)

Table I
continued

Theory	Foundations	Type of economic rent	Normative implications	Opportunity construct	Entrepreneurial strategy
Evolutionary theory	Evolutionary economics (Schumpeter), behavioral theory (Cyert, March, Simon), business history; firm as a repertoire of routines	Schumpeterian rents accruing to *search* and selection of new combinations (i.e., organizational and technological innovation)	Selection of a first-best strategy is not possible, efforts to optimize lead to inefficiency	Opportunities are objective artifacts to be "found" by search routines	Less clear than other theories, but the concepts of search and discovery are strongly related
Real options reasoning	Focused on the 'components' representative of a firms total market value	Schumpeterian rents based on opportunities flowing from the options "to purchase additional productive capacity in future periods	Value of flexibility in the face of uncertainty and dynamic conditions	Opportunities representative of investments today in anticipation of future investments given uncertainty	Focused on entrepreneurial strategies that allow for the leveraging the benefits of flexibility and entrepreneurial discretion

existence of opportunity, all five theoretical perspectives generally support the notion that opportunities are objective, not subjective, phenomena that theoretically exist independent of the individual. Real options logic, however, introduces the possibility that the opportunities themselves, not just the prospect of new products and services, come into existence in the future. From an epistemological point of view, these perspectives – with the exception of evolutionary theory – generally suggest that the formulation of entrepreneurial strategy is achieved to some degree by individuals' consideration of the facts and information at hand. We acknowledge that this is a broad-brush statement, but nevertheless we suggest that building perceptions and judgments that differ between individuals into the foundation of these strategy perspectives, rather than treating such factors as theoretical extensions, is one way that entrepreneurial perspectives in general, and the ION framework in particular, can contribute to the field of strategic management.

4. The under-exploitation of opportunity

In the preceding sections, we summarized the ION framework and the emphasis on the *actions* of individuals to discover, evaluate, and exploit entrepreneurial opportunity; to this, Holcombe (2003) adds the notion that the entrepreneurial process leads to the emergence of new entrepreneurial opportunities. Our extension of Holcombe's (2003) discussion – namely, the concept of entrepreneurial strategizing – integrates the underlying strategic management perspective into the exploitation aspect of the ION framework. Specifically, we equate the execution of competitive strategy from the former with the exploitation of opportunity in the latter. In doing so, we consider the effort of the entrepreneur to "match" the best strategy to the given opportunity in light of a dynamic environment and outline a strategy choice set comprised of five essential elements (market positioning, resource leveraging, firm structure, innovation and search, and flexibility). We defined this relationship as the strategy-opportunity-environment fit.

In most cases, the actions of the entrepreneur in the process of discovery, evaluation, and exploitation results – as Holcombe (2003) contends – in the emergence of new opportunities for future entrepreneurs to exploit. As in Holcombe's example, the exploitation of the opportunity for the personal computer begat opportunities for application software, components, peripherals, and complimentary products for others to pursue and exploit. With that said, however, Figure 1 also encapsulates our contention that the exploitation of a given opportunity is likely to be flawed in execution. Indeed, we suggest that plagued by uncertainty in a dynamic environment, an entrepreneur's best efforts to assure a good strategy-opportunity-environment fit likely results in a "mismatch". Such a mismatch ultimately leads to the given opportunity being *under-exploited* in the sense that the effort ultimately falls short of awarding the entrepreneur the full value of the opportunity. Thus, in sum, whether entrepreneurial activity creates a *new* opportunity as Holcombe (2003) suggests, the entrepreneur's effort is also very likely to leave the original opportunity available for other entrepreneurs to pursue.

As Casson (2003) points out, entrepreneurial decisions are by definition "judgmental" in the sense that the choices made in the current period are based on an individual's belief or interpretation of what the future is to hold; such beliefs and conjectures about the future, however, are based primarily on the information and knowledge initially at hand. Thus, in the parlance of the Crusoe allegory, the decision to build the boat is based on Crusoe's judgment that the boat will remain a valuable way for him to catch fish even after he completes its construction. Given the reality that the environment is dynamic in both the real and allegorical sense, there is the very real possibility that Crusoe's belief will ultimately be wrong. This idea is entirely consistent with the strategic perspectives considered in the previous section since *all* suggest that such strategic choices are made in the current period in anticipation of *future* environmental conditions.

A dynamic environment raises the specter of uncertainty as a central complicating factor in the entrepreneurial strategizing process. In this context, we specifically mean Knightian uncertainty where the individual making the decisions cannot know the range of possible outcomes that determine the future value of the exploited opportunity (Knight, 1921). For our purposes, it does not matter if the distribution of future outcomes does not exist or is simply unknowable; in either case, the entrepreneurial process of discovery, evaluation, and exploitation proceeds on the judgments of the individual and without the benefit of knowing how the future may unfold. There is no doubt that such uncertainty plays havoc with any of the decisions made at the discovery, evaluation, and exploitation phases of the entrepreneurial process. It could be, for example, that the conjecture that defines discovery, the evaluation of the opportunity, the chosen mode of exploitation, or any combination thereof are flawed given the prospect of uncertainty. In our framework, however, we choose to focus our attention on the role uncertainty plays in the entrepreneurial strategy portion of the exploitation phase.

Again, in the example of the personal computer, we suggest that Michael Dell's opportunity to manufacture and sell personal computers emerged from prior manufacturer's under-exploitation of the given opportunity. In its entrepreneurial strategizing, for example, IBM did not or could not foresee, given uncertainty, the enormous opportunity of the customized personal computer sold directly to the consumer. Although IBM's initial strategy was appropriate given the initial environmental, advances in information technologies and changes in consumer preferences (e.g., for customized machines) rendered IBM's retail, one-size-fits-all strategy unable to capture the full value of the opportunity. In short, the opportunity that IBM pursued was under-exploited to the benefit of Dell.

4.1. *Imperfect and incomplete exploitation*

Characterizing the mismatch is an important extension of our basic framework because it follows that how an entrepreneur might go about pursuing an *underexploited* opportunity might vary according to the reason for the sub-optimal strategy-opportunity-environment fit. Consider, for example, the possibility that a sub-optimal strategy is selected from the outset resulting in what we call *imperfect exploitation*.

In the personal computer example, IBM's decision to outsource the operating system software and microprocessor was ultimately to the benefit of Microsoft and Intel, respectively. From the start, IBM unwittingly conceded to other firms the two components that arguably define the heart of the personal computer and its value. In contrast, the possibility that an optimal strategy is initially selected, but that the strategy becomes increasingly mismatched as the environment changes, we call *incomplete exploitation*. This seems to be the case with the example above in which IBM's inability to foresee and adapt to environmental changes was to the benefit of Michael Dell.

4.2. *Strategic and tactical errors*

Although imperfect or incomplete exploitation results in the under-exploitation of a given opportunity, we suggest that the strategy-opportunity-environment mismatch can be further characterized by the nature of the error made in strategy selection. Indeed, we suggest that *strategic error* is made when the wrong strategy framework is selected; that is, as an example, it could be that IBM was thinking in terms of transaction cost economics (TCE) when it presumably underestimated the "specificity" of the operation system and microprocessor and sourced both from outside firms. In contrast, a resource-based view might have highlighted the unique character and value of both components resulting in their being sourced within the firm. It may also be the case that, even if the optimal strategy paradigm is selected, the wrong strategy prescriptions within the given perspective are heeded to the entrepreneur's detriment; we call this a *tactical error*. Again, in the IBM example, it may be the case that TCE was the correct perspective, but the choice to outsource rather than integrate two key functions ultimately proved a tactical error.

Why should the origins of the strategic mismatch matter in an entrepreneurial context? We contend that the sources of the strategy-opportunity-environment mismatch shape the characteristic of the underexploited opportunity and thus influence why, when, and how a given individual might recognize it as such and take action to exploit it. A mismatch resulting from imperfect exploitation, for example, should yield an opportunity that looks very different from one resulting from incomplete exploitation. It may well be that under-exploitation given imperfect, rather than incomplete, exploitation offers the most attractive scenario to would-be entrepreneurs because, by definition, at no time was the executed strategy optimal. In the case of incomplete exploitation, for example, the entrepreneurial strategy is optimal at least for some time prior to the change in the environment. The same might be said for strategic or tactical errors; here, the magnitude of the strategic error in comparison to a tactical error suggests more "room" for another entrepreneur to pursue the under-exploited opportunity. These remarks are, of course, only a beginning, but we expect that characterizing the nature of the mismatch in our basic framework with an eye towards understanding the emergence of underexploited opportunities is a fruitful area for further examination.

In sum, we suggest that, although the action of exploitation has likely resulted in the creation of some new opportunity, it is our position that when entrepreneurial strategizing occurs under conditions of uncertainty, an inevitable 'mismatch' between the exploitative strategy and the opportunity-environment will result. Moreover, we further contend that this mismatch generally one of two conditions result: (1) the given opportunity is under-exploited (maximum rents are not returned to the firm) because the entrepreneur has selected a sub-optimal strategy from the start, or (2) the opportunity is under-exploited because the environment has changed such that what may have been an optimal strategy at one time is no longer optimal to maximize return to the firm. Before discussing what insights our basic framework yields, however, we next turn our attention to some of the dominant paradigms in strategic management to explore the extent to which they theoretically accommodate our conception of the opportunity construct and the entrepreneurial process.

5. Towards a theory of entrepreneurial opportunity

What, then, does this discussion tell us about the origins of opportunity? At its core, our discussion of the entrepreneurial process resulting in new opportunities while leaving existing opportunities underexploited serves to highlight one of the central challenges to our understanding of, and theorizing about, the origins of opportunity: At any given moment, the opportunities exploited by entrepreneurs may not be objectively "new." It may well be that Michael Dell *perceived* the opportunity for his computer venture as new, but from the perspective of our basic framework it may be that it was not. Thus, if we are to conjecture as to the *true* origins of opportunity, a theoretical model for doing so will need to distinguish the opportunities that are genuinely new from those that have not been "used up" by prior entrepreneurial activity. This is the metaphorical equivalent of separating the wheat from the chaff and as a theoretical issue the matter is not trivial.

There is an interesting parallel between our arguments here and a provocative suggestion made by Professor Herbert Simon: a "mythical visitor from Mars, not having been apprised of the centrality of markets and contracts" (1991, p. 27) would find it surprising that a good portion of economic (not to mention, management) theory places greater emphasis on market transactions than on organizational (within-firm) transactions; after all, such an otherworldly visitor would observe not a "market economy", *per se*, but rather an "organizational economy" in which economic activity occurs predominantly within, rather than between, firms. Such a conclusion implies, Simon contends, that that the variables considered of central importance to a "first-order theory" of economic activity may not be as important as scholars might contend. We wonder whether the same could be said for entrepreneurial opportunities: if it were the case that the majority of opportunities exploited by entrepreneurs are previously underexploited, rather than new instances of opportunity, one might expect that some theories of entrepreneurship, and their normative prescriptions, would need revision.

This point leads to a second insight that the exploitation of opportunity is not a zero-sum proposition. We interpret Holcombe's (2003) arguments, for example, as implying that, once an opportunity is discovered and exploited by a given entrepreneur, it is no longer available to others to pursue even if they too recognize the opportunity as such. In contrast, in our basic framework we contend that more than one entrepreneur might seek to exploit the same opportunity given the likely possibility of under-exploitation. Indeed, nothing about our framework suggests that the pursuit of the same opportunity by more than one entrepreneur is sequential as in the IBM/Dell example; our notion of imperfect exploitation, for example, suggests that a strategy-opportunity-environment mismatch early in the exploitation phase may mean that a given opportunity may be pursued more or less concurrently by multiple entrepreneurs.

This relates to a third insight from our discussion. The "successful" exploitation of a given opportunity depends not only on environmental conditions, but also on the chosen entrepreneurial strategy. In fact, under-exploitation might well result from a strategy-opportunity mismatch independent of any changes in the environment. Thus, even if the environment – whether defined in terms of appropriability or institutional conditions, for example – favors a given opportunity, the entrepreneur's ability to formulate and execute a successful exploitation strategy is paramount. This notion that strategy matters is an obvious point and one often made when teaching entrepreneurship at the undergraduate or graduate level. The point, however, is that the choices and actions of individual entrepreneurs – a particular domain of management scholars, especially concerning the entrepreneur's cognitive dimensions – must be understood in the context of the broader environmental conditions – a particular domain of economists and policy thinkers – and vice versa. In other words, interdisciplinary and meso-level research may not only be fruitful, it may be *required* as part of the development of a theory of opportunity.

One final point we wish to make is that the language of opportunity presents a serious obstacle to the development of full-fledged theory of opportunity and the entrepreneurial process. We offer that the language of "new means-ends" in particular leads to easy confusion and the confounding of ideas. Indeed, whether the word ''means'' includes or excludes Dell's unique business model not only allows us to question if his opportunity was, in reality, ''new'' it also opens the possibility to question whether it was ''entrepreneurial''. If entrepreneurial opportunities are indeed a sub-set of all opportunities for profit and are a central focus of entrepreneurship research, it would seem that a clearer definition of what makes an opportunity entrepreneurial is needed. At the very least, it suggests that scholars be very clear in their definition and use of the ''means-ends'' terminology. Indeed, we argue that distinguishing ''means'' and ''ends'' from a notion of the method of exploitation (which we have called here ''entrepreneurial strategizing'') is part of a resolution to the issue of semantics.

6. Conclusion

Our essay, as the title suggests, presents a collection of ideas that we suggest require further thought and attention on our part and on the part of entrepreneurship scholars more generally. We expect that subsequent theorizing will and should focus on distinguishing between those opportunities in the economy that are genuinely new and those that are, in fact, underexploited instances of existing opportunities. Indeed, the possibility of a dynamic model of ''an opportunity lifecycle'', if plausible and meaningful, may well be the pivotal contribution to the study of entrepreneurship. This review highlights a need to link the efforts of the most micro-analytic research aimed at understanding the individual with the most macro-level social or economic theory to understand the origins of opportunity. This is not merely a suggestion for a cross-fertilization of ideas between economists and management scholars; instead it is our contention that the choices and actions of individual entrepreneurs, and the origins of the opportunities they exploit, may be best understood in the context of the broader environment and vice-versa.

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Notes

[1] In our discussion the term ''objectively new'' means, in the simplest sense, that the opportunity is new to everyone. That is, the existence of the opportunity is not dependent on a particular actor, but rather exists in real, yet intangible, form available to anyone to exploit; its novelty is grounded in the new knowledge emerging at the boundaries of society's knowledge frontier (e.g., technological advances). We are not assuming away, however, the idea that not all actors – based on, for example, idiosyncratic prior knowledge or cognitive abilities – will recognize the opportunity as such.

[2] The structure of this essay implies that we first developed our basic framework for linking strategy to the entrepreneurial process and then reviewed the relevant strategy literature. In truth, the reverse is true. To help the reader understand how and where strategy considerations fit into the entrepreneurial process and the central implications thereof, we first describe our basic framework and then summarize five of the dominant paradigms in the strategy literature.

[3] Acknowledging that the notion of a 'best' strategy can be operationalized to define disparate outcomes – e.g., applying a socio-cognitive lens, 'best' would be defined as a function of the extent to which the outcomes of exploitation satisfied the goals and motivations of the entrepreneur (Fiske and Taylor, 1991) – we define 'best' to describe a strategy that maximizes the entrepreneur's returns from exploitation (Kirzner, 1979).

[4] We acknowledge that our review is by no means exhaustive, as strategy research has also focused a number of theoretical lenses to investigate performance questions in the context of agency problems, behavioral aspects, property rights, and institutions. Our exclusion of these frameworks is admittedly somewhat arbitrary, but it is not without some justification. First, behavioral theories of the firm – e.g., March and Simon (1958) and Cyert and March (1963) – while applicable to the study of firm performance – arguably fall in the domain of organizational behavior. Similarly, we excluded the property rights and institutional economics literature given Williamson's own contention

that his transaction cost economics perspective is an outgrowth of the broader New Institutional Economics (Williamson, 1998). Finally, we excluded agency theory under the assumption that, given its shared conceptual roots with TCE (Hoskisson et al., 1999), a review of its application in strategy research would not yield any distinct insights into the nature of entrepreneurial opportunity.

[5] Winter's (1995) definition is slightly narrower than Mahoney and Pandian's (1992) meaning of "Schumpeterian rents". In the latter case, Schumpeterian rents are achieved by risk-taking or entrepreneurial insight in an uncertain environment. In either case, this is a dynamic concept of rent in an evolutionary context.

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