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The Distinctive and Inclusive Domain of Entrepreneurial Cognition Research

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Through mapping both distinctive and inclusive elements within the domain of entrepreneurial cognition research, we accomplish our task in this introductory article to Volume 2 of the Special Issue on Information Processing and Entrepreneurial Cognition: to provide a fitting backdrop that will enhance the articles you will find within. We develop and utilize a “boundaries and exchange” concept to provide a lens through which both distinctive and inclusive aspects of the entrepreneurship domain are employed to frame this special issue.

Introduction

Is the domain of entrepreneurial cognition research distinctive, inclusive, or some sort of combination? And, if a combination, then is it a mosaic? A melting pot? A hybrid?

Questions regarding the nature of the entrepreneurship research domain are not new. Despite the growing importance of entrepreneurship and the volume of research being conducted in the area, there are those who would claim that entrepreneurship researchers have only made very modest progress toward becoming a distinctive research domain (Aldrich & Baker, 1997). And given the broad cross section of researchers doing work in the area, Harrison and Leitch characterized the inclusiveness of the field as a “multidisciplinary jigsaw” with much fragmentation (1996, p. 69). One example of the current dialogue juxtaposes the characterization of entrepreneurship research

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as a distinctive domain based on the concept of opportunity identification (Shane & Venkataraman, 2000; Venkataraman, 1997) with that of a cross- and multi-disciplinary milieu, based on an inclusive domain, e.g., (MacMillan & Katz, 1992). Each has an underlying formative process that shapes its nature: focus and distinction versus multi-disciplinary inclusion.

Understandably, the tension between distinctiveness and inclusivity in entrepreneurship research is also manifest in the area's research subdomains, such as entrepreneurial cognition research. Here, the distinctiveness of entrepreneurship must be reconciled with the inclusivity necessary to exchange ideas with psychology, the more-established parent discipline of cognitive psychology, since the area of cognitive psychology¹ provides a major foundation for our research in entrepreneurial cognition. Thus, through our considered response to the distinctive/inclusive tension, the boundaries of cross-disciplinary exchange (Aldrich, 1999) in entrepreneurial cognition research are gradually established. The development of meaningful research questions helps to create such boundaries, and, through the enactment of the research process, to invoke the cross-boundary—organizing mechanisms necessary for the progression of the field.

On the one hand, study of entrepreneurial cognition needs to create a distinct position within the context of existing research (Harrison & Leitch, 1996). The domain of entrepreneurial cognition research cannot simply be a net importer of theory from cognitive psychology and other domains, and expect thereby to establish its legitimacy. It must instead develop interesting research questions (Davis, 1971) and make progress in answering those questions by building and extending theory in its own domain. Entrepreneurial cognition distinctiveness is therefore most likely to be established when questions, concepts, and relationships are proposed that are different from those proposed by scholars in other areas like cognitive psychology, but which are overlooked by them when using their research lenses.

On the other hand, research associated with a specific domain also needs to be inclusive: to have the ability to attract the attention of and be beneficial to scholars working in other domains: to foster cross-boundary exchange among multiple domains of study. Ironically, the building of distinctiveness can have implications for inclusivity as well. When a given research domain properly studies and pursues its research questions, important and beneficial exchange can occur. The resulting contributions in the exchange can help to articulate concepts that have previously gone undetected and have perhaps only been vaguely specified. For example, those who are conducting entrepreneurial cognition research engage in boundary-spanning exchange with those from other fields of study, such as leadership or cognitive psychology. The exchange process can enhance and clarify the identity of each respective domain, and encourage constructive interaction that enhances the strengths of both (Aldrich, 1999; Katz & Gartner, 1988).

1. The use of the term cognitive psychology should itself be carefully situated with respect to both distinction and inclusion. Distinctiveness applies where cognitive psychology scholars strongly assert and maintain the boundaries of their research (i.e., when compared to that of, for example, social psychologists and I/O psychologists). Inclusiveness also applies because cognitive psychology covers a broad range of topics and methods, some of which may be, and others of which may not be, germane to entrepreneurship research. One possible approach to resolving distinctiveness/inclusiveness tension in the case of this parent discipline might be to consider that many of the ideas that have influenced the area of *managerial cognition* have come from social psychology, I/O psychology, as well as cognitive psychology. It is possible that some key linkages may therefore also exist between entrepreneurship and managerial cognition research (as defined and developed in the Academy of Management). We encourage consideration of these possibilities as well.

Our purpose in this introductory article to Volume 28 of the ET&P Special Issue on Entrepreneurial Cognition Research is to map both distinctive and inclusive elements within the domain of entrepreneurial cognition research and to provide a fitting backdrop that will enhance the articles you will find herein. Consistent with the foregoing discussion, we use the boundaries and exchange concept to provide a helpful lens through which to understand the progress and legitimization of the entrepreneurial cognition domain (and by extension, possibly even some aspects of the entrepreneurship domain itself). We consider the unique features of entrepreneurial cognition research that then enable us to develop both the boundary implications for a distinctive domain, and the exchange-based commonalities needed for an inclusive domain of entrepreneurial cognition research. Following this analysis, we introduce each of the articles in this special issue, and offer our concluding comments.

The Unique Features of Entrepreneurial Cognition Research

Fundamental to our discussion of boundaries and exchange is the assumption that cognitive psychology and entrepreneurial cognition fields of study each have a distinctive territory within which they work, but that there is also a region of shared territory. Thus, while each domain has some unique territory, they are also partially overlapping, as illustrated in the Venn diagram in Figure 1. We note that while other domains, such as leadership, may overlap with cognitive psychology and entrepreneurial cognition research, in this special issue we limit our discussion to the intersection between cognitive psychology and entrepreneurship research. The domain of cognitive psychology is historically more established, and has developed its own research stream along with dedicated journals. The entrepreneurial cognition domain is still very much in the emergent stage, but some distinct research questions are surfacing.

Table 1 provides examples of some of the research questions that are germane to the domains of cognitive psychology and to entrepreneurial cognition. The center column

Figure 1

Conceptual Domain of Cognitive Psychology and Entrepreneurial Cognition

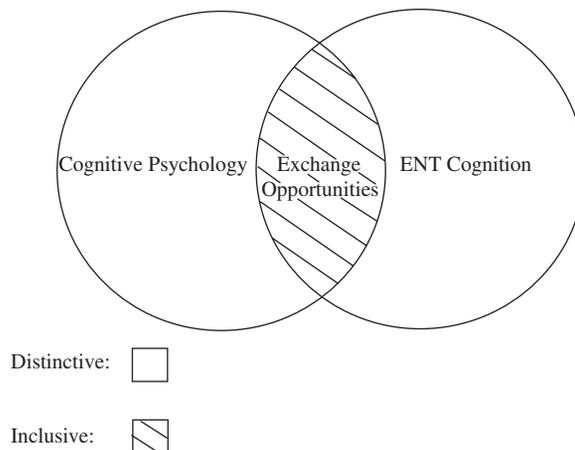


Table 1

Some Examples of Boundary and Exchange Elements and Opportunities in Cognitive Psychology and Entrepreneurial Cognition Research

Questions and Issues Specific to the Cognitive Psychology Domain	Exchange Opportunities for the other Domain	Questions and Issues Specific to the Entrepreneurial Cognition Domain
How do people think? Barsalou (1992) What are the cognitive mechanisms through which we acquire, transform, and use information? Simon (1979)	<i>Foundational understanding of human cognition.</i>	
Does regulatory focus theory explain how people engage in self-regulation? Higgins (1998) Does counterfactual thinking affect human decision-making. Roese (1997)	<i>Examples of the development of specific cognitive theory. More specifically, how do entrepreneurs engage in multi-tasking?</i>	
Creative cognition is usually the reflection of the balance between novelty and familiarity. Ward & Sifonis (1997)	<i>An understanding of the basic mental operations of creativity.</i>	
What are the mental processes that lead people to depart from the rational model of decision making? Pitz & Sachs (1984) Kahneman & Lovallo (1994)	<i>The nature of human decision making and potential problem areas.</i>	
What are the mental processes that account for expert performance?	<i>Explanation of new venture formation as use of expert scripts</i>	
Methodology: Scale development of challenging concepts/theory. Hinkin (1995)	<i>Measurement and scale development.</i>	
	<i>Do cognitive differences lead to meaningful differences such as career choices?</i>	Why do some people and not others choose to become entrepreneurs? Simon, Houghton, & Aquino (2000)
	<i>Generalizability issues. Implications of creative people working in complementary careers.</i>	Why do some persons but not others recognize opportunities for new products or services that can be profitably exploited? Gaglio & Katz (2001)
	<i>Provides focus for why the examination of different decision processes is important. Also, explains adjustments to theory boundaries.</i>	How do entrepreneurs think and make strategic decisions? How do these differences lead to competitive advantages and disadvantages? Busenitz & Barney (1997) Mitchell et al. (2000, 2002). How do these differences lead to competitive advantages & disadvantages? Alvarez & Busenitz (2001)
	<i>Research into alertness, biases, heuristics, transaction cognitions, and so forth.</i>	Do entrepreneurs think differently than other business people? Busenitz & Barney (1997); Gaglio & Katz (2001); Mitchell et al. (2002); Mitchell (2003)
	<i>Dealing with measurement issues outside laboratory settings.</i>	Measurement of cognitive concepts in nonlaboratory settings. Mitchell, 1994; Mitchell et al. (2000)

suggests ways in which the nonhome domain stands to benefit from the other's research (for example, how entrepreneurial cognition scholars can benefit from the work of cognitive psychology scholars). At present, the prevailing assumption in cross-domain research appears to be that entrepreneurship scholars have much to gain from importing developed work from other disciplines (e.g., Baron, 2004). The research questions and statements in the left-hand column of Table 1, along with the supporting center column, are consistent with this assumption. For example, cognitive psychology's probing of questions, such as "How do people think?" and "What are the cognitive mechanisms through which we acquire, transform, and use information?" provide a rich foundation for understanding human cognition. Valuable tools are in place therein that entrepreneurship scholars can use to better understand entrepreneurs. Overall, research in cognitive psychology provides entrepreneurship scholars with numerous theoretical and empirical tools with which to explore phenomena relevant to our domain.

The right-hand column notes some of the questions in which entrepreneurship scholars are specifically interested. For example, "Why do some individuals and not others choose to become entrepreneurs?" and "How do entrepreneurs think and make strategic decisions?" (e.g., Baron, 2004). Or, "Do entrepreneurs think differently from other business people?" (e.g., Mitchell et al., 2000, 2002.) While cognitive scientists tend not to be directly interested in these types of questions, they are of central importance to entrepreneurship scholars. For entrepreneurial cognition to continue to develop as a domain, it has to be able to identify and then make progress in addressing important and meaningful questions.

Then, when the ideas of entrepreneurial cognition scholars start to be recognized as interesting and important by other disciplines, the exporting process ensues: informed cognitive scientists might find it beneficial to utilize some of the research findings within the entrepreneurial cognition research stream. For example, research on entrepreneurial decision-making has led to some interesting conclusions about the potential advantages and disadvantages of different decision-making patterns, that may lead, in turn, to competitive advantage as well as competitive disadvantage (Alvarez & Busenitz, 2001).

Within this special issue we see both Sarasvathy and Gaglio also providing conceptual building blocks for the larger academy. Sarasvathy, for example, echoing Herbert Simon, suggests that through use of the cognitive perspective, which situates individuals and their thinking processes at the center of a nexus of economic creation, that the firm might thereby be viewed as an artifact that involves creative cognition. In a similar vein, Gaglio examines entrepreneurial alertness by delineating how mental simulations and counterfactual thinking, as cognitive heuristics, guide reasoning and the opportunity identification process.

There is also room for exchange in connection with measurement and other methods-based issues. Cognitive scientists have carefully developed a number of instruments for measuring a variety of phenomena. Entrepreneurial cognition scientists have much that can contribute to exchanges here. As entrepreneurship researchers—who generally have to move outside the laboratory to collect empirical data—begin to contribute their measurement models (e.g., script cue recognition, Mitchell et al., 2000, 2002), the opportunities for bilateral exchange will increase.

At the 2002 Victoria Conference on Information Processing and Entrepreneurial Cognition, it was recognized in our discussion sessions that for entrepreneurial cognition research to advance, a clear delineation of both quantitative and qualitative methods was necessary. We are fortunate to have in this special issue two articles that address, respec-

tively, each of these topics: the article by Baron and Ward, which focuses on quantitative methods, and the article by Hindle, which addresses qualitative methods.

Research Implications

In a more general sense, the present dialogue within entrepreneurship research juxtaposes the characterization of entrepreneurship research as an opportunity identification-based distinctive domain (Shane & Venkataraman, 2000; Venkataraman, 1997) with that of a cross- and multi-disciplinary milieu-based inclusive domain (e.g., MacMillan & Katz, 1992), with each having an underlying formative process that shapes its nature. The process of arriving at a defensible distinctive domain is “ablative” in nature: steadily stripping from the various surfaces of the object in question the superfluity that does not support a narrowly bounded and well-defined research focus. In contrast, the process of arriving at a sufficiently inviting and inclusive domain is “accretive”: steadily stimulating a kind of conceptual stickiness that, like definitional “Velcro” binds and connects ideas across levels, disciplines, and methods. We argue that in the case of entrepreneurial cognition research, the binary characterization in this juxtaposition is incomplete. In certain key respects, the domain of entrepreneurial cognition research is both distinctive *and* inclusive. Expressed in terms of research validity, we think that our domain must be both internally valid: our research says something unique; and externally valid: our research can inform other fields.

Implications for a Distinctive Domain

It has been suggested that the distinctive domain of entrepreneurship research includes “the study of sources of opportunities; the processes of discovery, evaluation, and exploitation of opportunities; and the set of individuals who discover, evaluate, and exploit them” (Shane & Venkataraman, p. 218, 2000). Research in the domain of entrepreneurial cognition would then rightly inform questions about how and why individuals discover, evaluate, and exploit opportunities. Since discovery necessitates sufficient a priori knowledge related to new information delivery such that hypotheses can be formed about new combinations, Simon (1995) referred to this process as the accumulation of information chunks, and believed new insights were gained once approximately 50,000 chunks of related information had been accumulated. The cognitive process of discovery is arguably distinctly within the domain of entrepreneurial cognition research.

Next, evaluation necessitates the cognitive ability to value a discovered business opportunity. Entrepreneurs must have the cognitive map that allows them to evaluate the potential success of the business, and the risk/return equation. Entrepreneurs must evaluate strategic, market, and financial variables against decision heuristics developed from a life of experience. It may therefore be argued that the cognitive process of evaluation is also distinctly within the domain of entrepreneurial cognition research.

Additionally, exploitation necessitates the willingness to engage in the entrepreneurial process, the arrangements necessary to carry out the work of the organization, and the opportunity/ability to orchestrate the arrangements effectively and efficiently (Leddo & Abelson, 1986). Understanding exploitation requires the cognitive understanding of willingness and the opportunity/ability script (Mitchell et al., 2000, 2002). The opportunity/ability script may present itself in a causal understanding of the means/ends relationships required to exploit the opportunity or it may manifest itself

in more of an effectuation process (Sarasvathy, 2001). We therefore argue that the cognitive process of exploitation is also distinctly within the domain of entrepreneurial cognition research.

Implications for an Inclusive Domain

We have previously noted that research in the domain of entrepreneurial cognition distinctly informs questions about how and why individuals discover, evaluate, and exploit opportunities. However, the discovery, evaluation, and exploitation of opportunities is not unique to new firms, and we should, according to our previously presented logic, expect insights discovered in one context to inform another. While some elements of this transfer may be obvious, there are other inclusive elements that may not be.

For example, discovery at one level of analysis may have implications for fields searching in another. While entrepreneurial cognition is by and large an individual level phenomenon, the decision by an entrepreneur to exploit an opportunity may create value at the firm and community level. There is significant research extolling the benefit of entrepreneurship within our economy: from the generation of jobs, to the improved standard of living common to high entrepreneurship communities (e.g., for a summary please see Shane, 1996). How can we reconcile this with the large number of failures at the individual level without a more broadly inclusive framing of the issue?

We may also find inclusive benefits for researchers who choose to study new ventures through the lens of other domains. New ventures are attractive as a research setting because they offer less “noise” in some contexts. For example, international scholars looking to isolate specific variables have a difficult time when choosing to study multinationals that have many more variables with which to contend. The same study on a new venture may be much easier to control. A similar argument could be made for the study of top management teams, where access is easier and numbers likely smaller, or the study of marketing decisions where we may be able to isolate effects, since resource allocations elsewhere in the firm are less likely and therefore not a confounding effect.

Thus, as we set the articles in this special issue into a domain-based context, we make a core assumption in our consideration of the distinctiveness and inclusiveness of the domain of entrepreneurship research: that to be properly constituted, a domain will likely consist of both elements.

The Articles in This Special Issue

Given the foregoing analysis and discussion, we are now able to situate the articles in this special issue according to the previously defined dimensions, as suggested in Table 2.

In her article “Making It Happen: Beyond Theories of the Firm to Theories of Firm Design,” Sarasvathy argues the need to refocus entrepreneurship research on the entrepreneur as a designer of organizations. This thesis implicitly identifies one of the distinctive elements of entrepreneurship research to be the entrepreneur as a unit of analysis. Sarasvathy identifies three reasons that a refocus on the entrepreneur would help advance the field: (1) entrepreneur success or failure is distinct from firm success or failure, so the domains are distinct; (2) the recognition that entrepreneurs make things happen by reshaping external forces and that their goals are substantively heterogeneous makes non-issues of firm level questions like “Why are firms different?”; and (3) the assumption that entrepreneurs are intelligent altruists, not simply opportunists or pure altruists, leads to

Table 2

Summary of the Articles in the SI

Author	Thesis	Distinctiveness	Inclusiveness
Sarasvathy	Entrepreneurs are the designers of organization.	The entrepreneur as unit of analysis.	Understanding firm design through the lens of symbolic & semantic processing implicates multiple disciplines.
Gaglio	The first step in a theory of entrepreneurial cognition is to better understand how entrepreneurs think and reason.	Opportunity identification is a distinctive skill of entrepreneurs.	Investigating opportunity identification may involve the exploration of forms of intelligence beyond recall & verbal modality.
Baron & Ward	Interesting entrepreneurial cognition issues could be addressed if the contents of the research toolbox were expanded.	Specific entrepreneurship-based research questions can make a needed contribution.	There are methods developed in cognitive science that are not currently deployed in entrepreneurial cognition research.
Hindle	Entrepreneurship, and entrepreneurial cognition research will be compromised without broader acceptance of methodological variety. A “canonical development approach” (CDA) specifies three interrelated domains for choosing qualitative research methods: philosophical context, methodological context, and research question domains.	A focused perspective arises from the content area, e.g., the research question domain ensures the specificity of entrepreneurship research.	Multiple perspectives are invited, and to some extent outlined by CDA, e.g., the philosophical context domain and the methodological content domain.

new and potentially more fruitful research questions about the design of firms that will require the inclusion of new concepts and methods from multiple disciplines.

Recasting the entrepreneur at “center stage,” Sarasvathy draws on the work of Simon (1996) to conceptualize the firm as an evolving artifact, an outcome of serious design forged by dynamic entrepreneur-stakeholder networks, that involves creative cognition. She further suggests that key research questions stemming from this perspective, such as, how to build better, different, or new firms or institutions, given particular classes and categories of entrepreneurs, would be informed by two relatively new sets of implements in the cognitive research toolbox: symbolic processing (SP) and semantic processing (SC). SP draws upon the more familiar problem-solving approach of cognition that includes “proven methods from the studies of scientific discovery and other forms of expertise.” These include effectual reasoning, a set of nonpredictive, emergent strategies that Sarasvathy suggests are the heart of a theory of design in the context of “Knightian uncertainty, Marchian goal ambiguity, and Weickian enactment,” where imaginative fiction is preferred to analytical forecast in the creation of new realities. SC draws on concepts from linguistics, sociology, and anthropology, such as semantic categorization, metaphorical projection, and individual and social meaning. Sarasvathy suggests that these concepts may be as important (if not more) to firm design than information processing and problem solving and their exploration requires the use of experimental and

qualitative methods, such as “think aloud protocols” and linguistic, literary, and textual analysis, to understand entrepreneurial cognition. The call for the integration of these new concepts is an example of the need for inclusiveness of new concepts and methods in entrepreneurship research.

The basic thesis of the next article in this special issue by Connie Marie Gaglio, entitled, “The Role of Mental Simulations and Counterfactual Thinking in the Opportunity Identification Process,” is that a first step in developing a theory of entrepreneurial cognition is to better understand how entrepreneurs think and reason. Positioning opportunity identification as a distinctive skill of entrepreneurs and focus of entrepreneurship research, Gaglio helps to open the “black box” of entrepreneurial alertness by developing twelve propositions that delineate how mental simulations and counterfactual thinking, two related cognitive heuristics, may guide entrepreneurial reasoning and enhance the opportunity identification process. Drawing on concepts and findings in cognitive psychology, Gaglio deeply develops the concepts of mental simulations and counterfactual thinking, and their application to opportunity identification. In doing so, she presents, in her words, “a challenging research agenda for entrepreneurship investigators” that encourages researchers to consider questions about the dynamics and contingencies of opportunity identification. Doing so requires new methodologies (such as designing studies that capture the actual thinking of entrepreneurs, rather than just their recall of previous experience), and the inclusion of new variables such as motivation and affect, that are currently neglected in the cognitive perspective. Gaglio also offers the insight that it may also be important to understand how opportunity identification processes operate in the context of other forms of intelligence beyond the current focus on the verbal modality.

Baron and Ward introduce a broad array of quantitative research tools available in the cognitive science toolbox, which may significantly advance our understanding of entrepreneurial cognition. In providing an overview of recent entrepreneurial cognition research that outlines the research questions examined and methods employed, Baron and Ward conclude that while entrepreneurial cognition researchers have investigated a broad range of topics and issues, and have generally found that cognitive factors play an important role in key aspects of the entrepreneurial process, there remain interesting issues not addressed that would be informed by methods developed by cognitive scientists, whose methods are not yet deployed in entrepreneurship research. Paraphrased, these issues include: (1) Do entrepreneurs prefer heuristic to systematic thinking?; (2) Do entrepreneurs possess different knowledge structures than others, and do they apply them more effectively?; (3) Do entrepreneurs have greater capacity to focus their attention on pertinent information?; (4) Do entrepreneurs reason or make decisions differently than other persons?; and (5) Are entrepreneurs better than others at recognizing complex patterns and is that related to opportunity identification? These, and related, issues are consistent with Sarasvathy’s call for refocus on the entrepreneur as a distinctive unit of analysis in entrepreneurship research.

To begin to address these issues and broaden the range of issues that could be addressed in entrepreneurship research, Baron and Ward advocate the inclusion of new cognitive science methods by entrepreneurial cognition researchers. Reaction time and the number and pattern of correct responses and errors are two types of measures that provide quantifiable means for investigating cognitive processes that cannot be directly observed. The nature and structure of knowledge possessed by entrepreneurs could be identified by identification tasks, such as naming or lexical decision, listing procedures, and rating procedures that are the “tools of the trade” for cognitive scien-

tists. Priming tasks, where two stimuli are presented in succession, can be used to understand and “map” how various kinds of information are related or interconnected in the cognitive systems of entrepreneurs. Memory measures such as free recall, the Stroop task, and recognition tasks can be used to understand working memory and the ability of entrepreneurs to focus on important information and to ignore extraneous information, and assess declarative knowledge (factual information), procedural knowledge (how to do things), and prospective memory (remembering to do the things one intends to do in the future). Decision making and choice tasks can be used to understand decision-making strategies and positive and negative use of heuristics. Creative activities and creative generation tasks can be used to understand the generative thinking of entrepreneurs. Finally, Baron and Ward discuss how behavioral and neuropsychological measures, such as eye movements, electroencephalography, or functional magnetic resonance, could be used to draw conclusions about the nature of underlying cognitive representations and mental processes.

In his article “Choosing Qualitative Methods for Entrepreneurial Cognition Research: A Canonical Development Approach,” Hindle introduces and prescribes a canonical development approach for how entrepreneurship researchers can determine the domain of entrepreneurship research and the set of research questions, methods, techniques of data collection, and techniques of data analysis within. At the heart of his treatise is the thesis that the fields of entrepreneurship research in general, and entrepreneurial cognition in particular, will be severely compromised unless researchers, reviewers, and editors adopt a broader acceptance of qualitative methods and methodological variety. He argues that because the field of entrepreneurial cognition is most concerned with the vulnerabilities of human rationality, it is appropriate that this subdomain lead the way in determining a structured, manageable approach to the problem of which, if any, of the sets of techniques, loosely labeled “qualitative methods,” are appropriate to the advancement of the field.

The canonical development approach, similar to the building of canon-law, uses precedents established in practice and debate as a base from which innovation in new issues, new methods, and new insights can both be grounded in prior learning and perspectives, and be the basis by which such learning and perspective are shaped or changed as a field progresses. Fundamental to this approach, Hindle argues for open-mindedness and “an attempt to understand and value multiple perspectives without resiling from the ultimate need to make a judgment.” By overcoming our particular biases in perspective, being tolerant and understanding of other perspectives, and being clear on where we position our work in the “philosophical quartet” of axiological, epistemological, logical, and ontological issues, we can begin to engage in principled debate of which research methods, as strategic devices, are appropriate for which research issues and questions. To guide the development of such a canon, Hindle identifies Forbes’ (1999) review of 34 entrepreneurial cognition articles as a starting point and integrated this with a framework for choosing qualitative research methods that specifies three interrelated domains: a philosophical context domain, a research question domain, and a methodological content domain, and outlines basic choices within. The philosophical context domain and the methodological content domain are inclusive—common to scientific inquiry. It is the research question domain that is unique to the field of interest. Hindle does not advocate any particular approach or any particular set of methods, but does provide illustrative application of the use of the canonical development approach to the specification and justification of methodologies appropriate for specific research questions. By offering this canonical approach, Hindle raises the bar of debate, and effects grounds for a more inclusive approach to entrepreneurship and entrepreneurial cognition research.

Discussion and Conclusion

One of the core notions supporting entrepreneurship research is the need to explore the processes whereby new value is created. On the basis of this observation, we can construct arguments that justify both distinctive and inclusive elements in entrepreneurial cognition research. For example, Neisser's (1967) definition (where cognitions are defined as all processes by which sensory input is transformed, reduced, elaborated, stored, recovered, and used) bounds the extent of human value cognitions. The implication of this type of boundary setting for an assertion that opportunity identification, for example, is a key marker that distinguishes entrepreneurship research from other disciplines, is that certain kinds of cognitions are to be excluded from this "distinctive" domain. However, the application of Neisser's definition also suggests inclusivity as well, because within sensing, transformation, reduction, elaboration, storage, and recovery of initial input, additional elements exist beyond opportunity identification that bear upon value creation.

Because of its vantage point with respect to the treatment of level of analysis, multiple disciplines, and research methods, entrepreneurial cognition research offers a bridge between distinctiveness and inclusivity. With respect to level of analysis, for example, entrepreneurial cognition research both bounds and includes: recognizing that such phenomena as value cognitions are resident in minds that operate only at the individual level of analysis, but which, because of human sociality result in the aggregation of individuals into ventures, ventures into industries, industries into economies, and so forth provide compositional (Rousseau, 1985) consistency/inclusivity across levels of analysis. Another way in which entrepreneurial cognitions research effects both distinctiveness and inclusivity across levels of analysis concerns such conceptualizations of level of analysis made possible by cognitive science that do not at all depend upon the aggregation of minds as the basis for the construction of levels of analysis, but instead utilize such conceptions as "proximity to consciousness," the levels of analysis being anchored by motor memory on one end, and by the executive processing system on the other (e.g., Gordon, 1992). Such alternative conceptualizations of level of analysis made possible through use of the entrepreneurial cognition research lens make it possible to bound, define, and link to the distinctive domain of entrepreneurship research such concepts as entrepreneurial intuition that appear to operate across levels of consciousness, and entrepreneurial scripts that tend to be situated at a particular level of consciousness, while (as suggested earlier) enabling such conceptualizations to support the inclusivity of exchange with other interested disciplines.

In this introductory article we have also suggested that the specific papers in this second volume of the special issue, and also entrepreneurial cognition research in general, operate in the dual roles of boundary and exchange, suggesting the boundary and exchange nature of entrepreneurial cognition research. With respect to distinctiveness, entrepreneurial cognition research assists scholars who consider opportunity identification (e.g., as suggested by Shane & Venkataraman, 2000) to be the distinctive domain of entrepreneurship research to more thoroughly dimensionalize, define, and operationalize opportunity identification-based concepts and models. With respect to inclusivity, the lens offered by entrepreneurial cognition research suggests a viewpoint where the imputed barriers to entry in the subdiscipline (which demand that entrepreneurship must be unique to be legitimate) are not to be equated with the actual barriers to entry (which suggest that human value cognitions, for example, while being a unique phenomenon associated with the cognitions of entrepreneurs are nevertheless ubiquitous, when considered as to their presence within the human family as a whole). Once again, distinctiveness and

inclusivity appear to have a substantial zone of compatibility when viewed through the lens of entrepreneurial cognition research.

We began this introductory article with the questions: Is the domain of entrepreneurial cognition research distinctive, inclusive, or some sort of combination? And, if a combination, then is it a mosaic? A melting pot? A hybrid? Throughout our discussion of these questions, which has permitted us to offer particular substance to the framing of the articles within, we have developed, as a response to these questions, the idea that entrepreneurial cognition research is a particular sort of combination: at least a mosaic, but unlikely to be a melting pot or a hybrid.

We once again thank all those who have participated in the review process, and who have made this special issue possible. We hope that you will enjoy the articles that you will find presented herein.

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