Making Sense of New Ventures: Analogical and Metaphorical Reasoning and the Discursive Creation and Justification of New Ventures

Journal:	*Academy of Management Review*
Manuscript ID:	AMR-08-0442-Original
Manuscript Type:	Original Manuscript
Keyword:	Discourse Theory, Entrepreneurship, Sense Making

SCHOLARONE™
Manuscripts

Making Sense of New Ventures: Analogical and Metaphorical Reasoning and the Discursive Creation and Justification of New Ventures

Creating and sustaining novel ventures is a vital yet difficult entrepreneurial process. In this paper, we propose that, at its core, this process consists of inductive analogical or metaphorical reasoning that (a) generates a platform for the creation and commercialization of novel ventures and (b) facilitates the comprehension and justification of a venture, thus enabling a venture to acquire institutional legitimacy and necessary resources for venture growth. We model entrepreneurial venture creation as the induction of analogical or metaphorical discourse by which entrepreneurs make sense of a new venture, identify a scenario for the venture, and elaborate arguments to justify a venture to relevant others, such as their employees and investors. We argue that this discursive sensemaking process is shaped by two determinants – the applicability of prior entrepreneurial experience (prior experience) and the motivation to resolve uncertainty, establish meaning and demonstrate efficacy towards others (effectance motivation) – which interrelate to predict and explain patterns of analogical and metaphorical reasoning by novice and experienced entrepreneurs over time.

Entrepreneurship involves more than cognitive and material resources or institutionalized ventures. Instead, it is a process by which individual entrepreneurs come to imagine new ventures, refine their ideas, and after an initial investment, justify their ventures to relevant others to gain much needed support and legitimacy (e.g., McMullen & Shepherd, 2006; Shane & Venkataraman, 2000). Yet, how do entrepreneurs create and justify new ventures in such a way that they acquire institutional legitimacy and necessary resources for venture growth? Despite increasing attention to conceptualizing and specifying the process of entrepreneurship (e.g., Zott & Huy, 2007), past research fails to address this question adequately because most accounts often theoretically or empirically equate the process with antecedent cognitive scripts or characteristics of entrepreneurs (e.g., Baron, 2000; Baron & Ensley, 2006; Busenitz & Barney, 1997; Mitchell, Busenitz, Lant, McDougall, Morse & Smith, 2002; Shane, 2000) or with the achievement of legitimacy for a novel venture in an industry and performance related outcomes (Aldrich & Fiol, 1994; Starr & MacMillan, 1990; Zott & Huy, 2007). However, equating entrepreneurship with such antecedents or outcomes over-emphasizes either the individual and his or her present cognitive state or the configuration of the social context and institutional outcomes, at the expense of a more integrative understanding that bridges the individual and social levels of analysis (McMullen & Shepherd, 2006).

We argue that discursive sensemaking theory (e.g., Edwards, 1997), which emphasizes a direct relationship between the language, cognition and action of entrepreneurs, may help develop a combined symbolic and cognitive conception of the process by which the idea for a novel venture is imagined, refined and justified to others. Discourse, or language–in-use, is not just a code for communication or simply revealing of cognitive processes, but is inseparably involved with processes of thinking and reasoning. In other words, when an entrepreneur makes sense of a novel venture to himself and others, it "is as much a matter of thinking that is acted out conversationally in the world as it is a matter of knowledge and technique applied to the world" (Weick et al., 2005: 412). Adopting a discursive sensemaking approach, we develop an integrative conceptualization of how individual entrepreneurs use certain forms of discourse, specifically analogy and metaphor, to inductively create sense for themselves whilst speaking to, and being accountable to, relevant others such as employees and (prospective) investors (Edwards, 1997; Hill & Levenhagen, 1995). Within this framework, we propose that inductive discursive reasoning is an integral part of the iterative, incremental process by which entrepreneurs create new ventures and communicate about those ventures to relevant others in order to acquire needed capital to make those ventures work.

Our work follows in the footsteps of earlier entrepreneurship research that is process oriented (e.g., Farjoun, 2008; Gartner, 1990; McMullen & Shepherd, 2006; Shane &

Venkataraman, 2000). We extend this work by describing processes of induction, as ways of speaking and thinking (Hill & Levenhagen, 1995), which underpin simultaneously the entrepreneurial creation of novel ventures and an entrepreneur's discursive responses to uncertainty and legitimacy pressures surrounding their ventures. Specifically, we combine and re-conceptualize the predictions of theory on prior entrepreneurial experience (e.g., Mitchell et al., 2000) and entrepreneurial legitimacy (e.g., Lounsbury & Glynn, 2001) to understand how the inductive language and thought of an entrepreneur may converge in the context of the venture creation process and may be corrected or overcome by more deliberate reasoning or references to performance trajectories that become available over time (Hill & Levenhagen, 1995). We believe that this discursive conceptualization of entrepreneurship contributes to entrepreneurial and organizational theory in several ways. First, it provides a processual framework for analyzing shifts and changes in how entrepreneurs inductively make sense of novel ventures for themselves and others. Such processes of (individual) sensemaking and (social) sensegiving are intimately connected, as the ideas and ventures of individual entrepreneurs require the support of relevant others. Second, a discursive conception of entrepreneurship suggests that a venture, as a material opportunity, becomes legitimate to the extent that it is supported by a compelling and convincing (inductive) rationale that accounts for its existence and garners the support from relevant constituencies. Hence, discourse matters because it provides the rationale for both the entrepreneur to develop and commercialize a venture as well as for key constituencies to invest in and support the venture, enabling it to thrive and persist. Before a novel venture can institutionalize and persist, the venture must make sense. Discursive reasoning helps define what a venture means and why investment in the venture by the entrepreneur and others is both sensible and appropriate. Third, a discursive conception of entrepreneurship locates a middle ground between the predominant cognitive and institutional approaches to entrepreneurship, one in which individual entrepreneurs actively make, rather than express, sense through the language that they use and in the process gain the relevant support of key constituencies. We develop a theoretical account that suggests that this discursive sensemaking process is shaped by two determinants – the availability and applicability of prior entrepreneurial experience (prior experience) and the motivation to resolve uncertainty, establish meaning and demonstrate efficacy towards others (effectance motivation) – which interrelate to predict and explain patterns of inductive reasoning by entrepreneurs over time. When taken together, both these factors (prior knowledge and the effectance motivation) outline a process with dynamic contours that are consequential for creating and sustaining new ventures.

In this paper, we focus on the development of independent new ventures that are not sheltered by sponsoring organizations (e.g., a spin-off). By definition, such ventures are associated with high levels of uncertainty which forces an entrepreneur to make the enterprise comprehensible and meaningful to key constituencies in an effort to confront low levels of legitimacy that arise from a lack of performance history and business referents. Throughout the article, we refer to new ventures as specific product or process innovations that are imagined and rationalized by an entrepreneur in relation to specific markets and industries.

Entrepreneurial Sensemaking and Sensegiving: Current Applications and the Discursive Alternative

We conceptualize entrepreneurial sensemaking as a discursive process through which entrepreneurs make sense of markets and design and rationalize opportunities for commercial exploitation. This discursive, processual view contrasts with the predominant cognitive and institutional approaches to entrepreneurial sensemaking. The cognitive approach has focused on how language patterns in entrepreneurial sensemaking arise from mental processes, such as cognitive scripts, mental models and frames (e.g., Mitchell et al., 2002; Weick et al., 2005). Scholars in this tradition conceive of "sense" as a mental process and subdivide their attention to different features of that process such as entrepreneurs' perceptual noticing and bracketing of breaks in their experience or the richness and specificity of their cognitive prototypes, scripts or mental models (i.e., cognitive frameworks acquired through experience) (Baron & Ensley, 2006; Korunka, Frank, Luegar & Mugler, 2003; Krueger, Reilly & Carsrud, 2000; Mitchell et al., 2000). Through repeated exposure to routine activities in one's role as an entrepreneur, which are assumed to be more or less ordered and predictable, individuals build mental models or scripts of what the world is like and of what to expect (e.g., Baron & Ensley, 2006; Gioia, 1986; Mitchell et al., 2000; Weick et al., 2005). The ability of individuals to make sense of new circumstances in relation to their accumulated experiences then depends on the mental capacity of individuals to draw generalized abstractions across variations in experience and to learn from exceptions, which in turn, with sufficient regularity, can become the basis for new scripts. When they subsequently label and articulate their experiences when communicating to others, individual entrepreneurs simply externalize or express "some neutral, definitive and ready-made sense of events produced through a process such as noticing what the world is like and then putting it into words" (Edwards, 1997: 144). Language, accordingly, is seen as revealing of cognitive interpretations (Donnellon, 1986; Gioia, 1986), rather than playing a formative role in the construction of meaning.

The institutional approach to sensemaking draws upon a sociolinguistic conception of sensemaking where the language (e.g., narratives, symbols) that individual entrepreneurs use is seen as an outgrowth of social categories and social processes of disseminating and sharing information (Putnam & Fairhurst, 2001). Specifically, sensemaking is implied in the common language of entrepreneurs, as a social group, and the conformity of their language with the expectations of relevant constituencies. The focus is, first of all, on how the sharing of language makes individual entrepreneurs, as representatives of a particular speech community, “see” things and thus on how, once they are socialized into a community, they largely come to express rather than actively construct sense. For example, studies of entrepreneurial narratives refer to a common narrative genre (e.g., Gartner, 2007; Lounsbury & Glynn, 2001; Martens et al., 2007) with a particular repertoire of canonical plots, goals, action sequences, and so on. Secondly, there is a focus on how the language of entrepreneurs aligns with, and appeals to, commonly held opinions and beliefs of other discursive communities (e.g., Lounsbury & Glynn, 2001; Martens et al., 2007) and society in general. The underlying process by which this happens is one where common frames, or “logics”, are evoked by an entrepreneur and made more salient in a communicating text (speech, conversation, report). These frames encode the criteria for legitimacy by appealing to collective, shared understandings and norms of whether and how novel ventures are sensible, acceptable and legitimate (Aldrich & Fiol, 1994; Green et al., forthcoming; Rao, 1994).

Both of these traditions have their shortcomings as a conceptual basis for entrepreneurial sensemaking. The cognitive tradition treats the individual entrepreneur in isolation from his or her social environment, and is unable to capture or explain how individuals are creative and inductively imagine or create novel opportunities that surpass their past (cognitively accumulated) experiences (Edwards, 1994, 1997; Quinn & Worline, 2008). Cognitive scripts or mental models provide by themselves no rules or guidelines for the interpretation of, and inductive reasoning about, novel circumstances (Edwards, 1997). The institutional tradition, in its turn, ignores entrepreneurial agency and creativity, treats social structures as relatively stable, assumes fixed socially shared linguistic repertoires (Putnam & Fairhurst, 2001), and in doing so is unable to explain how individual entrepreneurs are able to *make* sense of the world around them on particular occasions. Research stemming from this tradition also does not adequately describe institutionalization as a discursive and cognitive process over time by which novel ventures are framed, elaborated and justified (Douglas, 1986). Particularly when widely shared institutional frames are absent because of the novelty or dynamism of the industry in which the venture will be based, entrepreneurs will have to use their own discursive resources to naturalize their venture and to provide a compelling and convincing rationale that accounts for its existence and appeals to others for their support (Green et al., forthcoming).

A discursive sensemaking approach, therefore, offers a fruitful alternative in that it sees language as not simply an extension or representation of past cognitive experiences or as indexing social structure but as actually formative of thought, and hence as a resource that individual entrepreneurs use to create or produce understanding and that they adapt to local circumstances and changing conditions (Edwards, 1997). Discursive sensemaking incorporates both psychological and social elements because when entrepreneurs "make sense" of their ideas they simultaneously construct accounts that help "give sense" and justify a new venture to relevant others (Hill & Levenhagen, 1995). In the early stages of entrepreneurial venture formation, for example, entrepreneurs may draw upon their available knowledge and experiences to inductively make sense of the novel venture but will also begin to construct narratives and accounts that coherently address questions about who they are, why they are qualified, what they want to do and why they think they will succeed. Consequently, when entrepreneurs create a novel venture they do not simply imagine or design a venture in isolation (that is, outside of a social context) but do so in interaction with relevant others (employees, investors) whose acceptance, support, and resources are critical to the success of the venture (Aldrich & Fiol, 1994; Lounsbury & Glynn, 2001; Martens et al., 2007). The theoretical and empirical advantage of a shift from abstracted cognitive models or socially shared language to specific discursive formulations is that it retains, but reworks, the explanatory power of scripts and frames as ways in which entrepreneurs discursively make sense of the world, while managing to deal with the specific detail, contingency and functionality of how they do so on particular occasions.

Discourse and Induction

Entrepreneurs "operate at the edge of what they do not know" (Hill & Levenhagen, 1995: 1057) and must seek to make equivocal events non-equivocal by constructing a new vision of the business environment (Gartner, Bird & Starr, 1992) and communicate this vision to others in order to gain their support (Lounsbury and Glynn, 2001). Hill and Levenhagen (1995) proposed that such visions may be perceptually or unconsciously "felt" (see also Weick et al., 2005), but are only configured into more elaborate presentations when they are verbally articulated. The intuitive, perceptual sense of an entrepreneurial opportunity is therefore "constrained by the capacity of the language, culture and context within which they [i.e., entrepreneurs] reside" (Hill & Levenhagen, 1995: 1061). As such, "context, culture, previous experiences, and language capacity compound an entrepreneur's problem of proper description of beliefs on which to base action in similar (but new) situations" (1061-62). We move beyond Hill and Levenhagen's (1995) broad description of the entrepreneurial process and theorize about how entrepreneurs make or create sense through their language and whilst speaking to, and being accountable, to others. We take as a starting point their view that the formative effects of language on thought processes (e.g., Langacker, 1991; Slobin, 1987) need to be incorporated and theorized in the context of entrepreneurial sensemaking. Sense is "created" or "made" (Morgan et al., 1983), in and through language and is not preceded by conscious internal cognitive processing. Any conscious thought instead emerges in the act of speaking, when individuals use language to create and sustain an image of the reality they are facing and "through which they make their situations rationally accountable to themselves and others" (Morgan et al., 1983: 24). Within sensemaking, language is best thought of, accordingly, not as the packaged communicative output of a separate "internal" cognitive process, but rather as formative of the sensemaking process itself.

When entrepreneurs perceptually sense or feel that there may be an opportunity for a venture in a particular industry, they make that opportunity intelligible to themselves through inductive reasoning. Specifically, they will use either analogical (Ward, 2004) or metaphorical reasoning (Hill & Levenhagen, 1995) to inductively produce an understanding of a novel venture in the absence of a performance trajectory. In both instances, specific experiences or observations are discursively extended and generalized to a new situation.

And in doing so, entrepreneurs "make the unfamiliar familiar by framing the new venture (often through metaphor and analogy) in terms that are understandable and thus legitimate" (Lounsbury & Glynn, 2001: 549). Analogies are discursively produced extensions of prior entrepreneurial experiences and observations of industries to a novel venture situation that familiarizes the new situation, reduces uncertainty and supports further inferences (e.g., Ward, 2004). Metaphors are discursively produced extensions of experiences and cultural frames outside of a specific entrepreneurial or professional context (and hence, are not literal, analogical extensions of past experiences or observations) that similarly allow entrepreneurs to make sense of new or unfamiliar situations and produces links to action by virtue of the inferences for action that they evoke (e.g., Gioia, 1986; Rindova et al., 2004).

The salience of prior entrepreneurial experiences makes an analogical inference a likely anchor or starting point when reasoning about a new venture (Ward, 2004). However, in situations where analogical links to past experiences or observations are not available or not seen as relevant by others, entrepreneurs use metaphorical language as a basis for inductive inferences about a novel venture (e.g., Hill & Levenhagen, 1995; Lounsbury & Glynn, 2001; Martens et al., 2007). The use of either analogical or metaphorical reasoning is thus conditioned by the degree to which an entrepreneur has had previous experiences in, and has learnt about, the same or similar industries in which the new venture will be based (Shane, 2000, 2003) as well as by the activation of social pressures to connect with or accommodate the salient expectations of relevant others (Aldrich & Fiol, 1994; Lounsbury & Glynn, 2001). These two determinants (which we label as prior experience and effectance) both influence the extent to which an entrepreneur uses analogical or metaphorical reasoning by altering the activation, correction or application of their discourse (and thinking) when reasoning about the target of a novel industry. We will briefly discuss each determinant before demonstrating how together they impact the entrepreneurial process by which ventures are discursively created and justified.

Prior Experience and Inductive Reasoning

When an entrepreneur has acquired entrepreneurial experience in relation to previous ventures that experience can guide choices and reasoning regarding any new venture. Through directly experiencing or learning about certain industries, entrepreneurs acquire an intuitive sense of how things may work in a different, but related industry (e.g., Baron & Ensley, 2006; Haunschild & Miner, 1997; Shane, 2000, 2003; Terlaak & Gong, 2008). They can use these intuitions to start a process of inductive reasoning about new ventures. Goodman (1955) gave a well-known account of inductive inference, one that points towards the historic practices and experiences of entrepreneurs, and in particular their language use, rather than simply the psychology of an entrepreneur (Sloman & Lagnado, 2005). Ultimately, Goodman (1955) attempted to explain inductive practices in terms of our linguistic practices: "the roots of inductive validity are to be found in our use of language" (117). Specifically, he argued that induction may consist of a mental habit formed by past observations and experiences, but language is driving whatever past regularities are selected and thus projected onto the novel, future situation. After all, it would appear that entrepreneurs, in their professional capacity and as human beings, experience a vast range of regularities and yet are prepared to project only a small subset. According to Goodman (1955: 117); "such agreement with regularities in what has been observed is a function of our linguistic practices. Thus the line between valid and invalid predictions (or inductions or projections) is drawn upon the basis of how the world is and has been described and anticipated in words". Goodman (1955) argued that the entrenchment of language effects whether certain predicates become selected and projected onto a novel, future situation. In short, a predicate is entrenched if it has a past history of use, where both the term itself, and the extension of the term, figure in this usage.

Applied to entrepreneurship, this means that through depth of experience in, or learning about, one or multiple industries, entrepreneurs are able to observe regularities in terms of the key features driving success or performance of ventures in a particular industry (e.g., Baron & Ensley, 2006; Gavetti et al., 2005; Haunschild & Miner, 1997). Experienced entrepreneurs may also observe regularities for different industries and on that basis may come to distinguish industries on the basis of significant features such as the size of economies of scale, the size of customer switching costs and the heterogeneity of customer tastes (Gavetti et al., 2005). Given the breadth and content of past observations that is available to an entrepreneur, the question then becomes how do entrepreneurs select, project and validate a certain predicate in relation to a future venture in a novel industry. The principle of entrenchment suggests, first of all, that those entrepreneurs with depth of experience with ventures in one particular industry will refer to their past descriptions within that industry and will analogically project such descriptions onto the novel industry as a working hypothesis. Where an experienced entrepreneur has experienced or observed ventures in multiple industries (breadth of experience), s/he will select the description that is causally specific and will analogically project this description to the target industry as a working hypothesis. In the words of Goodman (1955: 108): "if the antecedent or consequence of one such hypothesis is much better entrenched than the corresponding predicate of a second, and if the remaining predicate of the first hypothesis is no less well entrenched than the corresponding predicate of the second, then the first has the higher initial projectibility index". For example, based on experiences in the media industry, an entrepreneur may have developed an entrenched description that "advertising is key because intrinsic product quality is hard to assess, and therefore customers' taste is easily shapeable" (Gavetti & Warglien, 2007: 7). The entrenched description of multiple, correlated features and their hypothesized similarity to a novel industry means that entrepreneurs are likely to select this description over others and project it as a working hypothesis for the novel venture. This kind of analogical induction is known as a projection-first model (Gentner et al., 2001) as the analogical reasoning involves a simple extension of a source domain (e.g., ventures in the media industry) onto a new target domain, after which it is corrected and adjusted to the target. This kind of inductive projection is assumed to deliver a useful, legitimate base for inferences because the entrepreneur establishes, in his/her reasoning, a high level of similarity in the inter-relation between significant features of ventures across the two industries (Goodman, 1955; see also Farjoun, 2008; Gavetti et al., 2005: 696). There is however a risk that the perceived close match constrains efforts to what previous experiences and entrenched descriptions suggests – labelled as the liability of the "over-reliance on the old" where descriptions of local, past experiences are exploited as bases of reasoning about new ventures (e.g., March, 1991; Simon & Houghton, 2002; Ward, 1994).

In contrast, when the similarity between a novel target and past experiences involves entrenched descriptions of isolated features of ventures in an industry as opposed to an entire description, the entrepreneur may project such features but has to align these with the provisional representation of the target before any inferences can be derived (e.g., Baker &

Nelson, 2005; Gentner et al., 2001; see also Haunschild & Miner, 1997; Terlaak & Gong, 2008). In this case, analogical inferences arise in the discursive elaboration of comparisons where descriptions of the source and target are first aligned before any likely inferences can be drawn from the source to the target (e.g., Fauconnier, 1997, Gentner et al., 2001). This kind of analogical reasoning is known as an alignment-first model as entrepreneurs will discursively project and align features of the source (past venture and industry) and target (novel venture in novel industry), and then use the results to project and elaborate on additional features of the source, which can lead to inferences when such additional features are discursively blended with the target or make additional features salient (Fauconnier, 1997; Fauconnier & Turner, 1998; Gentner et al., 2001). For example, the CareerBuilder website (www.careerbuilder.com), an internet job site, emerged when the two founding entrepreneurs aligned the possibilities of retail distribution with distribution via the internet. Initially, CareerBuilder consisted of resume management software. The alignment with the internet as an alternative distribution channel for this software however triggered further elaboration of the role of the internet in the job search/recruitment process in relation to traditional newspaper ads. The inference that followed was that CareerBuilder could be redeveloped as an interactive, sophisticated internet job site and that the company would move from being a traditional software company to a pioneering on-line company. Alignment-first models may deliver emergent inferences that, when evaluated and verified in relation to the target of the novel industry, may turn out to be legitimate and useful. However, there is also a liability associated with this kind of analogical reasoning as it may lead an entrepreneur down an interpretive route that is only and rather weakly constituted by a superficial similarity between industry features (Dunbar, 2001). This liability of “being too bold" or "taking foolish risk" (Aldrich & Fiol, 1994) involves the development of a new venture without an adequate (inductive) basis for making predictions and inferences about the feasibility of the venture.

When entrepreneurs do not have any direct analogies to hand, they face a clear sensemaking imperative (Robichaud et al., 2004; Sarasvathy, 2001, 2004) and draw upon entrenched, idiomatic words or expressions that they metaphorically extend to the new venture situation as a way of creating understanding (Goldberg, 1995; Lakoff, 1993). In the absence of institutionalized scripts or past relevant experiences and observations, entrepreneurs will induce metaphors "because of [their] proclivity for interpreting the new or less familiar with reference to what is already well established [in their language]; and [because of] the pressure of adapting a limited inventory of conventional units to the unending, ever-varying parade of situations requiring linguistic expression" (Langacker, 1991: 294-295). We predict that in these circumstances entrepreneurs will be primed to draw upon basic argument constructions because these are entrenched in language use in general and because they highlight a scene in which the entrepreneur is involved. These argument or clause-level constructions include constructions with a subject and operative verbs that include, for example, an individual causing something, someone or something moving, something causing a change or state of location, or someone or something having an effect on someone or something. These constructions (e.g., the English ditransitive, caused-motion, and resultative constructions) are grammatically entrenched in our language and "encode as their central senses event types that are basic to human experiences" (Goldberg, 1995: 39). They designate scenes essential to human experience and evoke embodied experiences (i.e., human motor actions such as, for example, bodily movement or the bodily manipulation of physical objects) which provides their use with ‘human scale’ in the sense that it acquires a “direct and experiential basis” (Gibbs, 2006: 117) and can on that basis be easily understood (Grady, 1997, 2005; Lakoff & Johnson, 1999). The idiomatic entrepreneurial phrase of “making it happen” (Sarasvathy, 2004), for example, encodes a simple scene with an entrepreneur metaphorically creating, or effectuating, the outcomes of his own actions. In prior research conducted by the authors we recorded how a novice entrepreneur had identified an entrepreneurial opportunity around the development of support tools for open software applications. He argued that the new software application had, as an object, “rough edges” but would be “shaped” to the demands and expectations of the emerging market. His reasoning was grounded in an inductive logic that sees entrepreneurial exploitation as a process of “object fitting” in which the shape of the product fits with the actual demands of the market, which itself assumes a hole or shape in which the product would fit. The use of this logic thus reifies the market and the demand for the software application, as there is an identifiable and “objectified” demand for it once it is fully developed. The scenes created through argument constructions are useful to entrepreneurs as an inductive heuristic to estimate the causality of a venture in a novel industry and the probability of success (Gaglio, 2004). The construction and elaboration of such scenes also makes them appear real (Taylor et al., 1998). For this reason, their use is subject to a potential liability of “unfounded belief” in the causality of a particular industry and in the feasibility of a new venture when such belief is to a greater extent the result of the construction and elaboration of a scene than what objective probability would warrant. Furthermore, when individual entrepreneurs induce argument constructions with themselves as instigators of the action, it may, as a consequence, lead to an ego-centric bias (Sarasvathy & Dew, 2008). Because of this bias, the induction of argument constructions may also be associated with a liability labeled as the “illusion of control” (e.g., Simon & Houghton, 2002) which occurs when an entrepreneur overemphasizes the extent to which s/he is personally able to increase performance in situations where chance plays a large role and individual ability is not necessarily the deciding factor.

The entrenchment of argument constructions in language and the advantages that they give to entrepreneurs in depicting a basic scene suggests that these constructions are likely to serve as a readily accessible, preferred base for induction when reasoning about new ventures or industries that surpass an entrepreneur’s past experiences (Goldberg, 1995; Grady, 1997, 2005; Sarasvathy, 2004). Their entrenchment, and hence preferred use for metaphorical induction, is found in Lakoff and Johnson’s (1980: 112) “embodiment hypothesis” and Lakoff and Turner (1989: 113-120) “grounding hypothesis” which suggest that the inductive creation of meaning is directed and constrained in that individuals must choose from a finite number of semantically autonomous argument constructions and their associated embodied source domains. However, the default induction of argument constructions can be corrected or adjusted when entrepreneurs have alternative descriptions (words or expressions) to hand. Such a correction or adjustment process is likely to operate as a gradual process (Epley & Gilovich, 2006; Goldberg, 1995; Sarasvathy, 2004) where based on the assessment of plausibility an adjustment away from the default inductive base is made until a satisfactory solution is reached (Goodman, 1955). Specifically this means that default basic argument constructions (such as an entrepreneur physically constructing or manipulating an object) are primed for metaphorical induction and will initially be adjusted with further information on cultural domains such as, for example, artificial design or engineering (e.g., Sarasvathy, 2004). These cultural domains still include concrete, embodied activities, but their adjustment involves further detail on the culturally specific context of such activities. When such anchoring in further cultural knowledge is still unsatisfactory, the correction process continues and shifts towards culturally specific metaphors that have a history of use but are a move away from basic argument constructions and the event types that they encode (Goldberg, 1995). For example, entrepreneurs may describe the founding of a new venture with the cultural frame of giving birth to a child (Cardon et al., 2005) although they may have never experienced this themselves directly.

The Effectance Motivation and Inductive Reasoning

Whilst making sense about, and identifying, new opportunities for ventures plays a central role in the process of entrepreneurship, it is not sufficient to simply envision and identify an opportunity. Rather, for an opportunity or venture to succeed entrepreneurs need to publicly convince relevant others (e.g., investors, employees) of the feasibility and legitimacy of the venture (Aldrich & Fiol, 1994; Starr & MacMillan, 1990; Zott & Huy, 2007). Given that most start-ups or new ventures lack proven track records, obvious asset value, and profitability, entrepreneurs need to construct accounts that help explain, rationalize and promote a new venture and reduce the uncertainty typically associated with it (Aldrich & Fiol, 1994; Lounsbury & Glynn, 2001). Such accounts ultimately have to demonstrate the feasibility of any new venture and its potential for wealth creation. The need for such accounts stems from the "liability of newness" (Stinchcombe, 1965) associated with novel ventures with resource providers likely to be reluctant to become part of any novel undertaking for which there is no conclusive evidence that their efforts will eventually be rewarded (Brush, Green & Hart, 2001). This liability is compounded by the information asymmetry (Zott & Huy, 2007) between an entrepreneur and external resource providers in relation to the potential of a novel venture (Shane, 2003).

The novelty of the venture and the asymmetry in information leads to high levels of uncertainty and ambiguity about the venture in the eyes of others such as investors and employees. Both uncertainty and ambiguity are drivers of an entrepreneur's need for effectance (White, 1959). Effectance is defined as the general motivation to "interact effectively with one's environment" (White, 1959: 297) and consists of activities and accounts that reduce uncertainty and ambiguity about the venture and about one's ability as an entrepreneur to make the venture successful. In particular, entrepreneurs must act "as if equivocal events are non-equivocal" (Gartner et al., 1992: 18) and "behave "as if" the activity were a reality…[in order to] convince others of the tangible reality of the new activity" (Aldrich & Fiol, 1994: 651).

In other words, the use of analogies and metaphors in entrepreneurial accounts to others should be heightened by two major factors. First, the use of analogies and metaphors should be heightened by uncertainty regarding a new venture. This uncertainty may arise because the venture is novel and unknown, because the success of the venture cannot easily be predicted, because the venture is a break from past experiences and expectations about a particular industry, or because the causal mechanisms driving the success of the proposed venture are unknown or unobservable (e.g., Gartner et al., 1992; McMullen & Shepherd, 2006). Second, by the incentives associated with gaining social acceptance or cognitive legitimacy (comprehension and taken-for-grantedness) for a new venture (e.g., Aldrich & Fiol, 1994; Zimmerman & Zeitz, 2002). When incentives for legitimacy are high, because of the absence of rival entrepreneurial ventures with similar innovations or rival firms operating in the same industry, the use of analogies and metaphors should also increase. Without a known precedent, new ventures may not gain the necessary acceptance and legitimacy to gain resources to survive. In such cases, in order to achieve social acceptance for a new venture, the use of analogies and metaphors that naturalize a new venture should increase.

These two main factors lead to specific predictions regarding the influence of the effectance motivation on the use of analogies and metaphors in entrepreneurial accounts that are relayed to relevant others. Effectance entails, first of all, the need for an entrepreneur to reduce the uncertainty and ambiguity of a venture in the eyes of others, at least in part with the goal of attaining common understanding, demonstrating the predictability of a venture and the entrepreneur's control over its success in order to acquire resources. Predictability refers to uncertainty about the probability of the success of the new venture and/or uncertainty stemming from a lack of information about cause-effects relationships in a particular industry. Control refers to the entrepreneur's proven ability to master a venture and carry it through to success, which aids in establishing predictability about the venture. Depending on what kind of prior experience an entrepreneur can claim, s/he either uses analogies or metaphors to provide a structured understanding and to increase predictability. When entrepreneurs can make relevant links to experiences with ventures in related industries or to certain competencies acquired in relation to previous ventures, these can be analogically referred to as a way of strengthening trust in a venture in a novel industry and hence increase its predictability. Zott and Huy (2007) and Martens et al. (2007), for example, report how entrepreneurs communicate analogical links between novel ventures and preliminary or interim achievements that their previous ventures had realized, such as partially working products and technologies. Entrepreneurs can also draw analogical links between industries to account for a novel venture and to predict its success. Etzion and Ferraro (2007) present a case study of how the Global Reporting Initiative, a new venture around sustainability reporting, was presented on the basis of a similarity in scope and principles with the established practice of financial reporting. This strong case of analogical transfer was prominent in the communication strategy about the novel venture and helped in assuring constituencies of the feasibility of the new venture and its predictability. The analogy specifically suggested that based upon the recognized need in the business community for sustainability reporting (similar to financial reporting), there will be demand for a reporting protocol that in its scope and principles is as rigorous as financial reporting. In response to uncertainty about the predictability of a venture, entrepreneurs may also be primed to use metaphors. Lounsbury and Glynn (2001) and Martens et al. (2007), for example, demonstrate how in the emergent, early stages of new venture creation entrepreneurs relay metaphorical or allegorical narratives that “aim to cue plausibility and build confidence that the entire enterprise can succeed” (Lounsbury & Glynn, 2001: 551). Narratives involve the discursive ordering of a venture into a sequence of actions in which the entrepreneur and other rival firms are involved; narratives with beginnings, middles and endings (e.g., Lounsbury & Glynn, 2001; Pentland, 1999). They are typically built around argument constructions (Goldberg, 1995) that present the novel venture as going through some kind of development (e.g., the venture is an “up-and-coming player” or “on the brink of commercialization”); a development that is often characterized metaphorically as physically moving ahead towards a valued endpoint (see Martens et al., 2007). Entrepreneurial narratives are thus metaphorical scenes or scenarios that are “structured by a SOURCE-

PATH-GOAL schema in the time domain" (Lakoff, 1987: 285-286) with the initial state as the source, the final state as a destination or goal, and the activities as locations on a path towards the destination. Such narratives easily resonate with a target audience of investors or employees because they are grounded in basic grammatical constructions and related human embodied experiences (e.g., physical movement) (e.g., Goldberg, 1995; Lakoff, 1987) and because they are typical of common cultural experiences with the ordering and purpose of narratives (i.e., narrative fidelity) (Lounsbury & Glynn, 2001).

The predictability of a venture also crucially depends on the degree to which the entrepreneur is perceived to be able to control the success of the venture (Lounsbury & Glynn, 2001; Zott & Huy, 2007). Control refers to the entrepreneur's proven ability to master a venture and carry it through to success, which also aids in establishing predictability about the venture. This need to demonstrate control is particularly salient for novice entrepreneurs (e.g., Martens et al., 2007) and for entrepreneurs operating in dynamic or volatile environments in which investments are risky (e.g., Brush, Green & Hart, 2001). Entrepreneurs can refer to certification of their past accomplishments in the form of industry awards (e.g., Rao, 1994, Zott & Huy, 2007) or in the form of academic degrees from prestigious business schools (Zott & Huy, 2007) which, it is suggested, indicate their capability to drive the new venture and make it successful. Such references are based on analogical transfer because it is assumed that the experiences underlying those past accomplishments can successfully be leveraged in relation to the new venture (Thompson, Gentner & Loewenstein, 2000). Alternatively, when entrepreneurs cannot refer to certified or acknowledged past accomplishments, they are likely to metaphorically invoke basic argument constructions to attribute control to themselves. This attributional activity is also likely to increase the entrepreneur's feeling of efficacy in social interaction (Epley & Gilovich, 2006). Martens et al. (2007), for example, report how entrepreneurs used argument constructions that evoked images of physically manipulating ventures as objects (e.g., "leverage client base", "build market awareness", "expand market share", "acquiring market acceptance") (Martens et al., 2007: 1118) in their accounts towards (prospective) investors at the time of their initial public offering. These metaphors, by themselves or as part of a larger narrative, cue an image of an (embodied) operator who physically manipulates a venture and hence can control and direct the likelihood of its success. In other words, the embodied nature of these metaphors establishes an image of entrepreneurial agency and control.

Without a known precedent or common, established industry frame of reference, new ventures may also not gain the necessary acceptance and legitimacy to gain resources to survive. In such cases, in order to acquire acceptance for a new venture, the use of analogies and metaphors that naturalize a new venture should increase. The absence of rival entrepreneurial ventures with similar innovations or rival firms operating in the same industry, for example, means that there are no references that can legitimate a new venture. Analogical and metaphorical reasoning facilitates the comprehension of a novel venture. Analogies and metaphors may also lead to acceptance of a new venture as they naturalize the new situation in terms that are already well understood and taken-for-granted (Davis et al., 1994; Douglas, 1986; Suchman, 1995). Douglas (1986) argued that the source of legitimacy for new ventures arises from a "naturalizing" analogy or metaphor that sustains the venture by demonstrating its fit with the natural order. When the analogy or metaphor points to strong parallels with relations "found in the physical world, or in the supernatural world, or in eternity, anywhere, so long as it is not seen as a socially contrived arrangement" (Douglas, 1986: 48) it may acquire acceptance and legitimacy for a new venture by virtue of its strong correlation with other common understandings of the way the world works (Davis et al., 1994). When incentives for legitimacy are low, the use of analogies and metaphors should decrease. For example, over time when an industry grows, knowledge about ventures and what is needed to succeed in an industry will spread (Aldrich & Fiol, 1994). When entrepreneurial ventures and activities in an industry become familiar, well-known and taken for granted, there is less incentive to use analogies and metaphors and entrepreneurs will instead refer to information on accepted practices or point to evidence regarding the performance and reputation of their venture vis-à-vis rival firms (Aldrich & Fiol, 1994; Zott & Huy, 2007).

The predictions that follow are that in order to reduce uncertainty and justify and legitimate a new venture to others (Aldrich & Fiol, 1994; Lounsbury & Glynn, 2001), entrepreneurial accounts not only need to emphasize the distinctiveness of a new venture but also its symbolic congruence with, and hence grounding in, either (a) past entrepreneurial experiences in the same or similar industries (e.g., Martens et al., 2007; Zott & Huy, 2007), (b) established practices in other industries (Etzion & Ferraro, 2007) or (c) single metaphors and narratives that depict the development of a venture, the control of the entrepreneur and the likely success of the venture (e.g., Aldrich & Fiol, 1994; Lounsbury & Glynn, 2001; Martens et al., 2007). Based on the interests and expectations of potential constituencies, we predict specifically that where entrepreneurs are seen to have a track record of successful ventures, entrepreneurs will use references to past entrepreneurial experiences or accomplishments to reduce uncertainty and claim legitimacy for the new venture. Where constituencies are unsure about the applicability of prior experiences because of the novelty or dynamism of the industry in which the venture will be based, we predict that entrepreneurs will reduce uncertainty and conventionalize their novel ventures by aligning them with conventional, established practices in other industries or with individual metaphors and metaphorical narratives. Strong analogical links with established, institutionalized practices will be communicated when such practices are widely-known by constituencies and taken-for-granted by them (Etzion & Ferraro, 2007; Suchman, 1995; Zott & Huy, 2007). The taken-for-granted nature of the established practice is then used to justify the reasonableness and likely success of the new venture (Douglas, 1986). However, when such analogical links are non-existent or when constituents are furthermore unsure about the personal abilities of the entrepreneur to control the success of the venture, entrepreneurs will use metaphors and metaphorical narratives from which legitimacy and a sense of control flows. These metaphors and narratives tend to emphasize symbolic congruence with general expectations about a venture as embedded in and naturalized through the general format of a narrative (Lounsbury & Glynn, 2001) and stress control by mobilizing the vantage point of the entrepreneur and related embodied metaphors of, for example, physical manipulation or movement (Lakoff, 1987).

Processes of Entrepreneurial Sensemaking and Sensegiving in Action

The two determinants (prior experience and effectance) both influence the extent to which an entrepreneur uses analogical or metaphorical reasoning by reinforcing or altering the analogical or metaphorical application of descriptions to the target of a novel industry. We have argued that the determinant of prior experience conditions inductive reasoning, independent of the immediate pressures of a social context. We also argued that this sensemaking process may be guided or modified by an effectance motivation. High levels of effectance motivation should similarly exert influence on the inductive reasoning of an entrepreneur when speaking to others. Both determinants, separately and combined, lead to predictions about the tendency of an entrepreneur to use analogical or metaphorical reasoning to create, commercialize and justify a novel venture to relevant others. Table 1 summarizes the predictions derived from each determinant separately.

INSERT TABLE 1 ABOUT HERE

We have thus far discussed both determinants largely in isolation but have suggested that they work together and function synergistically in the venture creation process. We have already argued that when entrepreneurs create a novel venture, they do not simply imagine or design a venture in isolation but do so in interaction with relevant others (employees, investors) whose acceptance, support, and resources are critical to the success of the venture (Hill & Levenhagen, 1995). On this basis, we argue that in most situations we should not draw too sharp a distinction between entrepreneurial sensemaking for oneself and sensegiving to others (Gioia & Chittipeddi, 1991). When put in a social context which necessitates that entrepreneurs provide intelligible accounts of their actions to others, such instances integrate social pressures for persuasion and justification with linguistic and cognitive processes of sensemaking (Tetlock & Manstead, 1985). This leads us to the following general hypothesis which we label as the scene encoding hypothesis:

Scene encoding hypothesis: once a venture is encoded in terms of a basic scene, this scene will be reinforced in subsequent entrepreneurial sensemaking and sensegiving over time.

In the early stages of venture formation, entrepreneurs draw upon their own available knowledge and experiences as well as initial feedback from others to articulate a likely scenario for their novel ventures. At the same time, they need to start elaborating accounts or narratives for others whose support they seek, coherently addressing questions about who they are, what they want to do and why they think the venture will succeed. At this stage, it is likely that once entrepreneurs have encoded the venture in terms of a particular scene, they will reinforce this scene in their subsequent sensemaking to oneself as well as their sensegiving to relevant others such as employees and (prospective) investors. Specifically, depending on what they have learned, entrepreneurs may analogically project or align descriptions of past industries with that of the novel industry to encode a scene or trajectory for the venture. Alternatively, in the absence of any relevant prior experiences, they may metaphorically draw upon argument constructions and elaborate these into predictable scenes for their ventures. Once such scenes are constructed, they have in the early stages of venture formation a particular claim on subsequent actions, and movements away from this path will only be triggered when analogies or metaphors break down in the face of sustained uncertainty about the venture or continued low levels of legitimacy. Over time, when further information about a novel industry becomes publicly available and/or when a venture has achieved a certain performance trajectory, the value of inductive reasoning decays and encoded scenes will be adjusted or supplanted with this alternative knowledge (Aldrich & Fiol, 1994; Hill & Levenhagen, 1995).

The general scene encoding hypothesis leads to three further specific hypotheses that stipulate whether the activation of prior experience and effectance leads to a thickening, coasting or tuning of the initially encoded scene. We term the process of reinforcing an existing scene with subsequent elaborating elements “thickening”, because it leads to an increasingly thicker description of the scenario for the venture. Thickening is thus a process at the level of a given basic scene. It occurs when prior, entrenched descriptions serve as an automatic base for the induction of a basic scene that is subsequently elaborated in response to a persistent need for effectance and until uncertainty and legitimacy are satisfied, at which point the motivation diminishes. For example, novice entrepreneurs are likely to metaphorically draw on argument constructions that depict their own actions and encode a trajectory for their ventures. Based on perceived pressures for effectance, the construed basic scene of the venture is then elaborated with further details on their own abilities, relevant others (e.g., employees) and further characteristics of the market (e.g., Lounsbury & Glynn, 2001; Martens et al., 2007). In other words, basic scenes are thickened into narratives based on the persistence of the effectance motivation. This process of thickening accounts for how entrepreneurial narratives that are relayed to others are elaborations and extensions of basic, initial scenes (e.g., Goldberg, 1995; Lakoff, 1987).

However, if the core basic scene is not elaborated or extended over a given period of time, it is characterized as “coasting”. Coasting happens when the effectance motivation is absent or fairly quickly diminished, allowing the entrepreneur to sustain the basic scene without much more effort or further elaboration needed to convince constituencies. Coasting is likely to occur when at the outset entrepreneurs and relevant others share the same norms, expectations or background knowledge, which can help speed appraisal and mitigate possible doubts (Zott & Huy, 2007: 94-95). For example, when constituencies are familiar and comfortable with the context of a venture, the motivation for effectance is diminished. In this situation, communicating a basic scene for the novel venture may suffice to win support (Zott & Huy, 2007). Coasting is also likely to happen when constituencies are easily and quickly persuaded, lowering the subsequent pressures for effectance, because of their instant familiarity with, and acceptance of, the scene that is depicted. This may be the case, because the depicted scene is a simple extension of an entrepreneur's past experiences in related industries, and as such is seen as a relatively low risk venture, or because the scene is grounded in inductive reasoning that draws upon a taken-for-granted understanding of a relevant source domain (Douglas, 1986). For example, the Global Reporting Initiative, as a new venture around sustainability reporting, was accepted by important business constituencies on the basis of a claimed extension of taken-for-granted practices of financial reporting. As a result of their strong familiarity with financial reporting, constituencies quickly accepted the basic scene of sustainability reporting without asking for much further elaboration of, for example, the auditing process (Etzion & Ferrara, 2008).

One further process that relates to the scene encoding hypothesis is "tuning": the tuning of an encoded scene and its associated elaborating elements towards a particular constituency audience. The pressure for effectance may be stronger or weaker depending on the audience (Zott & Huy, 2007). The understanding of an encoded scene may vary between constituencies, and based on their familiarity with the scene, it may have to be embellished or thickened or alternatively can be coasted without much further effort. Hill and Levenhagen

(1995) argued that "…it is difficult for an organization to be formed until the central ideas underlying a business concept can be articulated" and hence entrepreneurs need to first convince their employees of a venture which then "allows and promotes organization around a commonly understood purpose" (Hill & Levenhagen, 1995: 1071). At a later point, and when an initial investment has been made, entrepreneurs need to "tune" their messages with relevant details to different constituencies with these additional and "later verbal articulations [providing] a framework for developing shared understanding" with these constituencies (Hill & Levenhagen, 1995: 1071). The mentioned example of the CareerBuilder website emerged from an analogical match between familiar retail distribution and unfamiliar distribution via the internet that led to an emergent scene of the company operating as an interactive, sophisticated internet job site. Employees immediately understood the new encoded scenario for the venture. However, given the insecurity surrounding the commercial possibilities of the internet at the time (early 1990s) and the need for the novice entrepreneurs behind the company to demonstrate control, the encoded scene was thickened with a further narrative that emphasized the commercial growth potential of the internet and the venture's strategic position to move along with, and hence capitalize from, such growth. Hence, tuning suggests that successful sensegiving depends, at least in part, on how the entrepreneur can adjust the encoded scene to the expectations and reactions of relevant others with whom he or she is communicating.

The concepts of scene encoding, thickening, coasting, and tuning allow us to describe the developmental paths of entrepreneurial sensemaking and sensegiving. These concepts are tied to the two determinants (prior experience and effectance) and their activation over time. Both determinants are likely to follow different time courses of activation and application. In particular, the reliance on prior experience in inductive reasoning decays over time and can be corrected or overcome by competing knowledge or information that becomes available about a venture and its industry (Hill & Levenhagen, 1995). As mentioned earlier, this suggests that analogies and metaphors serve as an automatic base for induction but may subsequently be overcome by deliberate reasoning that is based on more direct and performance-related experiences with a new venture. The motivational process of effectance, in contrast, follows the opposite temporal pattern by increasing in strength over time until uncertainty is satisfied and legitimacy attained, at which point the motivation diminishes. Once activated, the effectance motivation increases the tendency to use, thicken and tune inductive logics until uncertainty and low levels of legitimacy are overcome. As such, the motivation may conceivably overrule the activation of alternative knowledge (e.g., market and performance figures) that becomes available as a substitute for inductive reasoning.

Based on the activation of these two determinants, we have described four processes; scene encoding, thickening, coasting and tuning, that form a grammar (Pentland & Rueter, 1994) that can be used to provide consistent descriptions of the developmental paths of different entrepreneurs and their ventures. Specifically, we hypothesize that depending on their prior experiences and the pressure to interact effectively with relevant others, entrepreneurs will encode scenes for their ventures, in and through their language, and will sustain and reinforce these scenes in their sensegiving to others in order to decrease uncertainty and attain acceptance and legitimacy for their ventures. Discourse matters in this process because it creates the rationale for both the entrepreneur to develop and commercialize a venture as well as for key constituencies to invest in and support the venture, enabling it to thrive and persist.

DISCUSSION

We offer two main contributions to the study of entrepreneurship. Our account specifies the variety and determinants of inductive reasoning within new venture creation that bridges cognitive and institutional theoretical perspectives in entrepreneurship. These contributions, in turn, affect how entrepreneurship scholars conceptualize basic constructs and study the process of new venture creation.

Induction in Entrepreneurship and New Venture Creation

A core component of our theoretical account involves a specification of varieties of inductive reasoning about novel ventures. Whilst induction is recognized as central to how entrepreneurs envision and identify novel opportunities (e.g., Shackle, 1979; Shane & Venkatarman, 2000), very little of the existing research has provided an account of when and how entrepreneurs use varieties of analogies and metaphors as an inductive anchor to reason about a venture in a novel, unfamiliar industry. Most existing research addresses cognitive characteristics or traits of entrepreneurs and the accuracy or functionality of inductively derived industry descriptions (e.g., Baron, 2000; Baron & Ensley, 2006; Gavetti et al., 2005; Mitchell et al., 2002; Ward, 2004) but does not provide an account of the variety and determinants of inductive reasoning itself. Although interesting and important, the accuracy or functionality of inductively derived descriptions is simply orthogonal to the discursive processes and conditions that give rise to such descriptions in the first place (see also Gentner et al., 2001; Fauconnier & Turner, 1998). Within the entrepreneurship literature as a whole, induction has been generally considered an invariant and automatic psychological process that is simply a chronic feature of the judgment of entrepreneurs, and experienced entrepreneurs in particular (e.g., Baron & Ensley, 2006; McMullen & Shepherd, 2006; Shane, 2000). We attempted to redress this gap by providing a discursive account of the process of induction itself. The major benefit of this account is the conceptualization of induction as involving analogical or metaphorical reasoning and the ability to predict variability in inductive reasoning of experienced and novice entrepreneurs and hence variability in the consequences that follow from induction as well. For example, previous research has documented that experienced entrepreneurs have ready accessibility to prior knowledge of previous industries in which they have worked (e.g., Baron & Ensley, 2006; Shane, 2000). Following this lead, our account predicts that prior industry-related experience makes an analogical inference a likely anchor or starting point when reasoning about a novel venture in what is perceived as a related industry. In doing so, we provide an explanation for how an experienced entrepreneur uses analogical reasoning to envision or identify novel opportunities (e.g., Shane, 2000; Shane & Venkataraman, 2002; Venkataraman, 1997). Our account also predicts that both novice and experienced entrepreneurs may use metaphorical reasoning to "effectuate" a course for their ventures, which may include a basic scene of both cause and effect but may leave many essential elements initially undefined (Sarasvathy 2001, 2004). We also predict that entrepreneurs are more likely to use argument constructions and embodied source domains than cultural domains as a basis for metaphorical induction; a prediction that provides a coherent explanation for isolated observations about the use of embodied and cultural metaphors by entrepreneurs (e.g., Cardon et al., 2005; Dodd, 2002; Hill & Levenhagen, 1995; Martens et al., 2007; Sarasvathy, 2004). By identifying these varieties of inductive reasoning, we point to a number of integrated predictions and explanations as a means to begin studying processes of inductive reasoning in new venture creation.

Combining Prior Experience with Efficacy in Social Interaction

Because an individual entrepreneur must ultimately act and convince others to realize a novel venture (Higgins & Krulanski, 2000; McMullen & Shepherd, 2006), we propose that prior experience and effectance both guide and modify how entrepreneurs reason about a novel venture. Very little of the existing research on entrepreneurship bridges the individual and social realms in the process of new venture creation (see McMullen & Shepherd, 2006). Much research has focused on antecedent cognitive scripts or cognitive characteristics of individual entrepreneurs as a basis for explaining how entrepreneurs envision novel ventures (e.g., Baron, 2000; Baron & Ensley, 2006; Mitchell et al., 2002; Shane, 2000). Recently, however, scholars have started to suggest that in addressing antecedent cognitions most of this work has tended to overlook the very *process* by which entrepreneurs "move beyond their existing knowledge to produce novel creations" (Baron & Ward, 2004: 566). This stream of cognitive research has also been criticized as remaining silent on the social context in which entrepreneurs enact new ideas and legitimize novel ventures to key constituencies and, as such, is seen to neglect the "broader social and cultural dynamics that embed start-ups" (Lounsbury & Glynn, 2001: 546). Research within institutional entrepreneurship, on the other hand, has located entrepreneurship within a social context and has focused on cultural and symbolic realms of meaning construction around new ventures (e.g., Martens et al., 2007; Zott & Huy, 2007). However, this stream of research is equally silent on how the content or structure of discourse reflects and shapes the institutionalization process and how entrepreneurs, through inductively generated symbolic associations and arguments, claim and establish social acceptance and legitimacy for their ventures (e.g., Douglas, 1986; Zott & Huy, 2007). Institutional theorists have repeatedly called for a revitalization that examines the discursive and cognitive foundations of institutional theory, including the institutionalization of novel ventures (Aldrich & Fiol, 1994; Lounsbury & Glynn, 2001). However, as DiMaggio (1997) points out, the rather different scholarly traditions and methods associated with interpretive sociology and positivist psychology have left a significant gap. In this paper, we have set out to bridge this gap by providing a discursive conceptualization of entrepreneurship that bridges the individual and social realms and in doing so extends and integrates the cognitive and institutional traditions. Our account extends the cognitive tradition by specifying processes and conditions of inductive reasoning by which entrepreneurs envision and identify opportunities for novel ventures. Within the cognitive tradition, these processes have often been implied rather than directly theorized. We also provide a coherent set of predictions and explanations that extends the institutional tradition. Prior research in this tradition has identified a range of symbolic associations and narrative logics (e.g., Lounsbury & Glynn, 2001; Martens et al., 2007; Zott & Huy, 2007) that entrepreneurs use to acquire cognitive legitimacy for their ventures. However, research has to date failed to provide a coherent set of explanations of the underlying analogical or metaphorical basis of such associations and narratives and of the effectance conditions that trigger the communication of such associations or narratives to relevant others (Green et al., forthcoming). In making these contributions, we demonstrate that the process of creating and legitimating a novel venture is essentially a discursive production that is achieved over time.

Conclusion

Our theory of induction within new venture creation reveals how inductive reasoning is not only central to how entrepreneurs envision and identify an opportunity for a novel venture but also to the way in which they communicate about that venture for it to be made understood, acceptable and legitimate in the eyes of key constituencies. Building on these observations, we demonstrate that varieties of inductive reasoning are guided and shaped by the prior experience of an entrepreneur and the need to demonstrate efficacy towards key constituencies when novel ventures are perceived as uncertain and as lacking legitimacy. Taken together, both determinants (prior knowledge and the effectance motivation) outline a process with dynamic contours that are consequential for the entrepreneurial process by which new ventures are created and sustained. These contributions can be used to reconceptualize and guide the study of how entrepreneurs envision and identify novel opportunities and of how they simultaneously develop and legitimize new ventures to exploit such opportunities.

Table 1: Key Determinants, Categories of Independent Variables and Predicted Sources of Influence from Specific Variables on Induction

Key determinants	Specific independent variables	Dependent variables (type of induction)
Prior experience		
Breadth and depth of experience in, or observations about, other industries	Entrenched description of multiple, inter-related features of a venture in an industry	Use of analogy whereby a description of a source venture or industry is projected onto the novel and unfamiliar target venture and industry (projection model)
	Entrenched description of isolated features of a venture in an industry	Use of analogy whereby a described feature of a source venture or industry is first aligned with the (provisional) description of a novel and unfamiliar target venture in a target industry, and then elaborated by blending additional features of the source representation with the novel target (alignment model)
Absence of relevant or fully formed entrepreneurial experiences or observations about other industries	Entrenched argument constructions including a subject and operative verb	Use of embodied metaphors that may be elaborated into imaginary scenes for the venture in the novel industry
	Entrenched cultural descriptions in the entrepreneur's discourse	Use of cultural metaphors that frame the venture in the novel industry and its trajectory
Effectance		
Perceived uncertainty about the predictability and controllability of success of the venture in the novel industry	Symbolic congruence between past activities and objectives and tasks in the novel industry	Reference to past accomplishments that are analogically claimed in an entrepreneur's communication as a basis for success of the venture in the novel industry
	Symbolic congruence between a novel venture and established practices in other industries	Reference to the established nature of practices in another industry to suggest the reasonableness and predictability of the venture in a novel industry
	Lack of prior accomplishments or practices (for comparison) and need for control	Use of metaphorical storylines to elaborate a trajectory for the venture in the novel industry and to suggest an image of entrepreneurial agency and control
Incentives for cognitive legitimacy associated with the venture in the novel industry	Lack of knowledge about the novel industry	Use of metaphorical storylines to naturalize and hence legitimate the existence of the venture in the novel and unfamiliar industry
	Existence of knowledge about comparable industries	Use of analogical reference to the established nature of practices in another industry to legitimate the venture in the novel, unfamiliar industry

REFERENCES

Baker, T. & Nelson, R.E.. 2005. Creating something from nothing: Resource construction through entrepreneurial bricolage. ***Administrative Science Quarterly***, 50:329-366.

Baron, R.A. 2000. Counterfactual thinking and venture formation: The potential effects of thinking about what might have been. ***Journal of Business Venturing***, 15: 79–92.

Baron, R., & Ensley, M. 2006. Opportunity recognition as the detection of meaningful patterns: Evidence from comparisons of novice and experienced entrepreneurs. ***Management Science***, 52: 1331–1344.

Baron, R.A., & Ward, T. 2004. Expanding entrepreneurial cognition's toolbox: Potential contributions from the field of cognitive science. ***Entrepreneurship Theory and Practice***, 28: 553-573.

Brush, C. G., Greene, P. G. & Hart, M. M. 2001. From initial idea to unique advantage: The entrepreneurial challenge of constructing a resource base. ***Academy of Management Executive***, 15: 64-78.

Busenitz, L.W. & Barney, J.B., 1997. Differences between entrepreneurs and managers in large organizations: biases and heuristics in strategic decision-making. ***Journal of Business Venturing*** 12: 9–30.

Cardon, M. S., Zietsma, C., Saparito, P., Matherne, B. P. & Davis, C. 2005. A tale of passion: New insights into entrepreneurship from a parenthood metaphor. ***Journal of Business Venturing***, 20: 23-45.

Davis, G.F., Diekmann, K.A. & C.H. Tinsley 1994. The decline and fall of the conglomerate firm in the 1980s: The de-institutionalization of an organizational form. ***American Sociological Review,*** 59: 547-570.

DiMaggio, P.J. 1997. Culture and cognition. ***Annual Review of Sociology,*** 23: 263-87.

Dodd, S. 2000. Metaphors and meaning: A grounded cultural model of US entrepreneurship. ***Journal of Business Venturing,*** 17: 519-535.

Donnellon, A. 1986. Language and communication in organizations: Bridging cognition and behavior. In Sims, H., & Gioia, D.A. (eds.). ***The Thinking Organization***: 136-164. San Francisco: Jossey-Bass.

Douglas, M. 1986. ***How institutions think***. Syracuse: Syracuse University Press.

Dunbar K. 2001. The analogical paradox: Why analogy is so easy in naturalistic settings yet so difficult in the psychological laboratory. In Gentner D., Holyoak K.J., & Kokinov B.N.

(eds). ***The Analogical Mind: Perspectives from Cognitive Science****:* 313-334. Cambridge, MA: MIT Press.

.

Edwards, D. (1994). Script formulations: A study of event descriptions in conversation. ***Journal of Language and Social Psychology***, 13: 211-247.

Edwards, D. (1997). ***Discourse and cognition***. London: Sage.

Epley, N., & Gilovich, T. 2006. The anchoring and adjustment heuristic: Why adjustments are insufficient. ***Psychological Science****,* 17: 311–318.

Etzion, D., & Ferraro, F. 2007. *Accounting for sustainability: Analogical work and the Global Reporting Initiative*, working paper IESE business school.

Farjoun M. 2008. Strategy making, novelty and analogical reasoning—commentary on Gavetti, Levinthal, and Rivkin (2005). ***Strategic Management Journal***, 29: 1001–1016.

Fauconnier, G. 1997. ***Mappings in thought and language***. Cambridge: Cambridge University Press.

Fauconnier, G., & Turner, M. 1998. Conceptual integration networks. ***Cognitive Science***, 22: 133-187.

Fauconnier G., & Turner M. 2002. ***The way we think: Conceptual blending and the mind's hidden complexities*****.** New York: Basic Books.

Gaglio, C.M., 2004. The role of mental simulations and counterfactual thinking in the opportunity identification process. ***Entrepreneurship Theory and Practice***, 28: 533-552.

Gartner, W.B. 2007. Entrepreneurial narrative and a science of the imagination. ***Journal of Business Venturing***, 22: 613-627.

Gartner, W. B., Bird, B. J. & Starr, J. A., 1992. Acting as if: Diffentiating entrepreneurial from organizational behavior. ***Entrepreneurship Theory and Practice***, 16: 13-31.

Gavetti G., Levinthal D.A., & Rivkin, J.W. 2005. Strategy-making in novel and complex worlds: The power of analogy. ***Strategic Management Journal***, 26: 691-712.

Gavetti, G., & M. Warglien 2007. *Recognizing the new: A multi-agent model of analogy in strategic decision-making*. Harvard Business School Working Paper, No. 08-028, October 2007.

Gentner, D., Bowdle, B., Wolff, P., & Boronat, C. 2001. Metaphor is like analogy. In D. Gentner, K.J. Holyoak and B.N. Kokinov (eds.), ***The analogical mind: Perspectives from cognitive science***: 199-253. Cambridge, MA: MIT Press.

Gibbs, R.W. Jr. 2006. ***Embodiment and cognitive science***. Cambridge: Cambridge University Press.

Gioia, D.A. 1986. Symbols, scripts, and sensemaking: Creating meaning in the organizational experience. In Sims, H.P. Jr., & Gioia, D.A. (eds.), ***The Thinking Organization***: 49-74. San Francisco: Jossey-Bass.

Gioia, D.A. & Chittipeddi, K. 1991. Sensemaking and sensegiving in strategic change initiation. ***Strategic Management Journal***, 12: 433-448.

Goldberg, A.E. 1995. ***Constructions: A construction grammar approach to argument structure***. Chicago: University of Chicago Press.

Goodman, N. 1995. ***Fact, fiction, and forecast***. Cambridge, MA: Harvard UP.

Grady, J. 1997. ***Foundations of meaning: Primary metaphors and primary scenes***. PhD. Dissertation, University of California, Berkeley.

Grady, J. 2005. Primary metaphors as inputs to conceptual integration. ***Journal of Pragmatics***, 37: 1595-1614.

Green, S.Jr., Li, Y., & Nohria, N. forthcoming. Suspended in self-spun webs of significance: Conceptualizing institutionalization as change in argument structure, ***Academy of Management Journal***, in press.

Haunschild, P.R., & Miner, A.S. 1997. Modes of interorganizational imitation: The effects of outcome salience and uncertainty. ***Administrative Science Quarterly***, 41: 472-500.

Higgins, E. T., & Kruglanski, A. W. 2000. ***Motivational science: Social and personality perspectives.*** Philadelphia: Psychology Press.

Hill, R. & Levenhagen, M. 1995. Metaphors and mental models: Sensemaking and sensegiving in innovative and entrepreneurial activities. ***Journal of Management***, 21: 1057-1074.

Korunka, C., Frank, H., Luegar, M. & Mugler, J. 2003. The entrepreneurial personality in the context of resources, environment, and the startup process – a configurational approach. ***Entrepreneurship Theory and Practice***, 28: 23-42.

Krueger, N. F., Reilly, M. D. & Carsrud, A. L. 2000. Competing models of entrepreneurial intentions. ***Journal of Business Venturing***, 15: 411-432.

Lakoff, G. 1987. ***Women, fire, and dangerous tings: What categories reveal about the mind***. Chicago: University of Chicago Press.

Lakoff, G. 1993. The contemporary theory of metaphor. In Ortony, A. (ed.), ***Metaphor and thought***: 202-251. Cambridge: Cambridge University Press, second edition.

Lakoff, G. & Johnson, M. 1980. ***Metaphors we live by***. Chicago: University of Chicago Press

Lakoff, G. & Johnson, M. 1999. ***Philosophy in the flesh: The embodied mind and its challenge to Western thought***. New York: Basic Books.

Lakoff, G. & Turner, M. 1989 ***More than cool reason: A field guide to poetic metaphor***. Chicago: University of Chicago Press.

Langacker, R.W. 1991. ***Foundations of cognitive grammar: Volume II descriptive applications***. Stanford: Stanford University Press.

Lounsbury, M., & Glynn, M. 2001. Cultural entrepreneurship: Stories, legitimacy, and the acquisition of resources. ***Strategic Management Journal***, 22: 545-564.

McMullen, J., & Shepherd, D. 2006. Entrepreneurial action and the role of uncertainty in the theory of the entrepreneur'. ***Academy of Management Review***, 31: 132–52.

March, J.G. 1991. Exploration and exploitation in organizational learning. ***Organization Science,*** 2: 71-87.

Martens, M. L., Jennings, J. E. & Jennings, P. D. 2007. Do the stories they tell get them the money they need? The role of entrepreneurial narratives in resource acquisition. ***Academy of Management Journal***, 50: 1107-1132.

Mitchell, R. K., Busenitz, T., Lant, P. P. & McDougall, E. A. 2002. Towards a theory of entrepreneurial cognition: rethinking the people side of entrepreneurship. ***Entrepreneurship Theory and Practice***, 27: 93-104.

Mitchell, R.K., Smith, J.B., Seawright, K.W., & Morse, E.A. 2000. Cross-cultural cognitions and the venture creation decision. ***Academy of Management Journal***, 43: 974-993.

Morgan, G., P.J. Frost, & Pondy, L.R. 1983. Organizational symbolism. In Pondy, L.R., Frost, P.J., Morgan, G., & Dandrige, T.C. (eds.), ***Organizational symbolism***: 3-35. Greenwich, CT: JAI Press.

Pentland, B.T. 1999. Building process theory with narrative: from description to explanation. ***Academy of Management Review,*** 24: 711–724.

Pentland, B.T. & Reuter, H.H. 1994. Organizational routines as grammars of action. ***Administrative Science Quarterly***, 39: 484-510.

Putnam, L.L. & Fairhurst, G.T. 2001. Discourse analysis in organizations. In Jablin, F.M. & Putnam, L.L. (eds.), ***The new handbook of organizational communication***: 78-136. Newbury Park, CA: Sage.

Quinn, R. & Worline, M.C. 2008. Enabling courageous collective action: Conversations from United Airlines flight 93. ***Organization Science***, 19: 497-516.

Rao, H. 1994. The social construction of reputation: Certification contests, legitimation and the survival of organizations in the American automobile industry 1895-1912. ***Strategic Management Journal***, 13: 29-44.

Rindova, V., Becerra, M. & Contrado, I. 2004. Enacting competitive wars: Actions, language games, and market consequences. ***Academy of Management Review***, 29: 670-687.

Rips, L. J. 1975. Inductive judgments about natural categories. ***Journal of Verbal Learning and Verbal Behavior,*** 14: 665–681.

Robichaud, D., Giroux, H. & Taylor, J.R. 2004. The metaconversation: Recursivity of language as a key to organizing. ***Academy of Management Review***, 29: 617-634.

Sarasvathy, S. D. 2001. Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. ***Academy of Management Review,*** 26: 243-288.

Sarasvathy, S. D. 2004. Making it happen: Beyond theories of the firm to theories of firm design. ***Entrepreneurship Theory and Practice***, 28: 519-531.

Sarasvathy, S.D. & Dew, N. 2008. Effectuation and over-trust: Debating Goel and Karri. ***Entrepreneurship Theory and Practice***, 32: 727–737.

Shackle, G.L.S. 1979. ***Imagination and the nature of choice***. Edinburgh: Edinburgh University Press.

Shane, S.A. 2000. Prior knowledge and the discovery of entrepreneurial opportunities. ***Organization Science***, 11: 448-469.

Shane, S. 2003. ***A general theory of entrepreneurship: The individual-opportunity nexus***. Cheltenham, U.K.: Elgar.

Shane, S. & Venkatarman, S. 2000. The promise of entrepreneurship as a field of research. ***Academy of Management Review***, 25: 217-226.

Simon, M. & Houghton, S. 2002. The relationships among biases, misperceptions, and the introduction of pioneering products: examining differences in venture decision contexts. ***Entrepreneurship Theory and Practice***, 27: 105-124.

Slobin, D. 1987. Thinking for speaking. In ***Proceedings of the Thirteenth Annual Meeting of the Berkeley Linguistics Society***: 435-445. Berkeley, CA: Berkeley Linguistics Society.

Sloman, S.A., & Lagnado, D. 2005. The problem of induction. In Holyoak, K. & Morrison, R.
(eds.), ***The Cambridge handbook of thinking and reasoning***: 95-116. New York: Cambridge University Press.

Starr, J.A., & MacMillan, I.C. 1990. Resource cooptation via social contracting: Resource acquisition strategies for new ventures. ***Strategic Management Journal***, 11: 79-92.

Stinchcombe, A.L. 1965. Social structure and organizations. In March, J.G. (Ed.), ***Handbook of organizations***: 142-193. Chicago: Rand-McNally.

Suchman, M.C. 1995. Managing legitimacy: Strategic and institutional approaches. ***Academy of. Management Review***, 20:571-610.

Taylor, S. E., Pham, L. B., Rivkin, I., Armor, D.A. 1998. Harnessing the imagination: Mental simulation and self-regulation of behavior. ***American Psychologist***, 53: 429-439.

Terlaak, A. & Gong, Y. 2008. Vicarious learning and inferential accuracy in adoption processes. ***Academy of Management Review***, 33: 846-868.

Tetlock, P.E. & Manstead, A.S.R. 1985. Impression management versus intrapsychic explanations in social psychology: A useful dichotomy? ***Psychological Review***, 92: 59-77.

Thompson, L., Gentner, D., & Loewenstein, J. 2000. Avoiding missed opportunities in managerial life: Analogical training more powerful than case-based training. ***Organizational Behavior and Human Decision Processes,*** 82: 60–75.

Venkataraman, S. 1997. The distinctive domain of entrepreneurship research. In J. Katz, (Ed.), ***Advances in entrepreneurship, firm emergence and growth***: 119-138. Greenwich: JAI Press.

Ward, T.B. 2004. Cognition, creativity, and entrepreneurship. ***Journal of Business Venturing***, 19: 173–188.

Weick, K. E., Sutcliffe, K. M. and Obstfeld, D. 2005. Organizing and the process of sensemaking. ***Organization Science,*** 16: 409-421.

White, R.W. 1959. Motivation reconsidered: The concept of competence. ***Psychological Review,*** 66: 297–331.

Zimmerman, M.A., & Zeitz, G.J. 2002. Beyond survival: achieving new venture growth by building legitimacy. ***Academy of Management Review***, 27: 414-431.

Zott, C. & Huy, Q.N. 2007. How entrepreneurs use symbolic management to acquire resources. ***Administrative Science Quarterly***, 52: 70-105.