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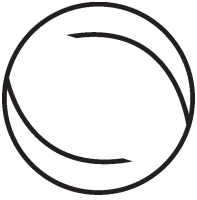
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Abstract

Although Schumpeter's theory on 'creative destruction' and Kirzner's on 'entrepreneurial discovery' dominate current entrepreneurship research in organization studies, one of the most fundamental debates in modern Austrian economics is that between Kirzner and Lachmann. Using Low and MacMillan's (1988) key specifications as a rubric, we introduce organizational entrepreneurship scholars to Lachmann's work, identify the direction in which his radical subjectivist approach would lead the field, and encourage exploring important questions from, and adopting methods consistent with, his provocative perspective. This unique disequilibrium perspective, which takes into account institutional contexts and multiple levels of analysis, offers new theoretical insight into how entrepreneurs create opportunities through expectations of an imagined future and exploit opportunities through continuous resource combination and recombination. Conceptualizing time as subjective and heterogeneous, it facilitates the examination of patterns in entrepreneurial activity, especially when combined with longer time frames. And it offers hermeneutics and ideal-types as alternatives to statistical models, for developing a theoretically sophisticated understanding of how entrepreneurial processes unfold.

Keywords: entrepreneurship, Austrian economics, opportunity creation/exploitation, disequilibrium, institutions, time, multi-level, process methods

Entrepreneurship scholars in organization studies, encouraged to 'borrow boldly' (Gartner et al. 1992), have constructed much of the field's foundation on theories adapted from other disciplines. Burt's work on 'structural holes' highlights the importance of such borrowing. Burt (1992) proposed that brokers who export ideas from one part of a social network into another, where they are less familiar, can bridge a structural hole in the network, thus adding value. 'People who stand near the holes in social structure are at risk of having good ideas,' Burt (2004: 349–350) further argues, because new concepts emerge as people reach across 'structural holes' to choose and combine alternative opinions and behaviors from different groups. In this article, we borrow boldly from Ludwig Lachmann, a figure central to modern Austrian economics, though virtually unknown in the entrepreneurship field. By bridging the structural hole that separates entrepreneurship from Lachmann's strand of Austrian economics, we hope to offer entrepreneurship scholars good, new ideas that add value to their important endeavor.

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This project is especially timely because the entrepreneurship field is passing through a critical development stage (Low 2001). On the one hand, entrepreneurship is attracting greater attention in scholarly journals, college classrooms, and public affairs (Venkataraman 1997). On the other hand, entrepreneurship scholars, increasingly frustrated by the field's incoherence and inadequate theoretical foundation, have described it as a 'cacophony of results and ideas' (Gartner 2001) and a 'hodgepodge' (Shane and Venkataraman 2000) that has generated increasing 'confusion' (Brazeal and Herbert 1999). Despite holding many 'pieces of the puzzle', entrepreneurship scholars have yet to put them together; and that, as Venkataraman observed, is 'the big task and the big problem' (cf. Sarasvathy 1999). Compounding the effects of this fragmentation is a lack of theoretical underpinning (Davidsson et al. 2001). The theories current for the past generation have failed to answer many pressing questions that entrepreneurship scholars have posed (Sarasvathy 1999). The absence and inadequacy of theory present a critical challenge that targets the core of the scholarly enterprise and threatens the legitimacy of entrepreneurship as an academic discipline (Low 2001).

For much of the field's history, entrepreneurship scholars embraced neoclassical economics' equilibrium models (Shane 2000). But these models, in which maximizing individuals with full information and perfect foresight enter into atomistic exchange, failed to adequately explain entrepreneurship, eventually leading scholars to an alternative paradigm: Austrian economics (Venkataraman 1997). Such Austrian concepts as entrepreneurs' action and interaction in time, market participants' limited and ever-changing knowledge, and the dynamics of disequilibrium processes embedded in institutional contexts provide a more appropriate foundation for the kind of process-intensive, context-rich, temporally oriented research agenda that Low and MacMillan (1988) (hereafter L&M) recommended in their watershed article.

Though long viewed as outsiders whose rebellious tenets pitted them against the mainstream, Austrian economists have gained widespread respectability over the past 30 years as a heterodox school, both within economics (Vaughn 1994) and, more recently, among organizational scholars who predict a vital role for their ideas in 21st-century organizational research (Eisenhardt 2002). Indeed, Austrian economics has become recognized in many organizational circles as the leading economic approach to entrepreneurship research (Venkataraman 1997; Shane 2000).

The two Austrian economists who have contributed the most valuable insights to this field are Schumpeter and Kirzner (Venkataraman 1997).¹ Following their lead, organizational entrepreneurship scholars have studied entrepreneurship as a disequilibrium phenomenon, in which innovative entrepreneurs occasionally disrupt the existing market equilibrium to create disequilibrium (Schumpeter 1954), and arbitraging entrepreneurs move the market from initial disequilibrium toward equilibrium (Kirzner 1973). Though these renderings of the entrepreneur may seem diametrically opposed, both consider equilibrium the ultimate reference point and hence remain closely connected to the neoclassical economics paradigm (Witt 1992), together constituting the 'Austrian-economics-as-supplement-to-neoclassical-economics' project (Vaughn 1994: 165–166). Schumpeterian and Kirznerian entrepreneurs are complementary (Boehm et al. 2000): neither has

meaning without the other (Cheah 1990). After the Schumpeterian entrepreneur disturbs the existing equilibrium, creating disequilibrium, the Kirznerian entrepreneur takes over, making corrections that initiate convergence toward a new equilibrium in which all actors' plans are fully coordinated.

While most organizational entrepreneurship scholars fully embrace the Austrian economics of Schumpeter and Kirzner, acknowledging these approaches as the field's 'two fundamental premises' (Venkataraman 1997), they have almost entirely ignored another central figure in Austrian economics: Ludwig Lachmann. Lachmann's approach — a unique blend of ideas from Menger, Weber, and Shackle — occupies the center of one of the most fundamental debates in modern Austrian economics, opposing Kirzner's (Vaughn 1994), which 'reflects the ideas of Mises and Hayek (and, to a lesser extent, Schumpeter)' (Littlechild 1986: 28). While Lachmann rejected the equilibrium-seeking assumption underpinning Mises' and Hayek's theories, he nonetheless embraced parts of their work, including Mises' emphasis on uncertainty and Hayek's notion of distributed knowledge. Although Lachmann remained a staunch advocate of the Austrian school's subjectivist and institutional roots (Gloria-Palermo 1999), emphasizing the entrepreneurial mind's radical subjectivity and ignorance, the passage of time and the genuine (Knightian)² uncertainty it implies, and the broader institutional contexts in which entrepreneurial processes are embedded, many consider his approach radical — not in its basic precepts or logical structure, but because he concluded that most markets not only never achieve equilibrium, but may never tend toward equilibrium (Boehm et al. 2000). In this respect, Lachmann, unlike Schumpeter and Kirzner, breaks cleanly with the neoclassical paradigm (Vaughn 1994). Indeed, Lachmann was a 'maverick economist' who 'battled against settled ways of thinking in Austrian circles', calling for a 'radical rejection of orthodox economics' requiring a 'radical reexamination of the way in which economic theory was developing' and, consequently, 'steering the modern Austrian school in the most novel of directions' (Boehm et al. 2000: 373–396).

Schumpeter and Kirzner have taught us much about the entrepreneurial process. Entrepreneurship scholars, building on these important Austrian economists' work, have contributed enormously by identifying the need to view entrepreneurship as a disequilibrium process. But they do not go far enough. Despite mounting evidence that entrepreneurship is a continuous process tending toward disequilibrium (Chiles et al. 2004; Meyer et al. 2005), most entrepreneurship scholars — even those who acknowledge the role of disequilibrium — continue to privilege equilibrium by invoking punctuated equilibrium (Schumpeter), a general tendency toward equilibrium (Kirzner), or both. We recommend an even more radical approach. Specifically, we argue that a conceptual framework based on Lachmann's work can benefit entrepreneurship scholars in three important ways. (1) Because Lachmann's approach is consistent with many seemingly disparate ideas that dot the entrepreneurship literature — the entrepreneur's imaginative capacity to envision the future (McGrath and MacMillan 1995), the continuous combination and recombination of resources (Lichtenstein and Brush 2001), the existence of perpetual disequilibrium (Stevenson and Harmeling 1990) driven by creative entrepreneurial action (Sarasvathy 2001a,b) and continuously changing knowledge (Garud and Karnøe 2001) — his work can provide a single

conceptual framework that promises to bring greater coherence to a fragmented literature. Despite claims that no overarching theory of entrepreneurship is possible (Gartner 2001; Low 2001), Lachmann may offer the beginnings of such a theory. (2) Lachmann's approach will promote clarity in entrepreneurship and reduce the confusion that results from unwittingly commingling his ideas with Schumpeter's and Kirzner's, as often happens (e.g. McGrath and MacMillan 1995; Shane and Venkataraman 2000). (3) By offering a distinct alternative to the conceptual frameworks of Schumpeter and Kirzner, Lachmann's provocative approach opens entirely new directions for theorizing and researching dynamic entrepreneurial phenomena, and allows entrepreneurship scholars to slip the shackles of neoclassical economics and the yoke of equilibrium — liberties that Schumpeter's and Kirzner's approaches preclude (Vaughn 1994). Assumptions about equilibrium profoundly affect our mindsets, theories, and methods. 'General linear models' (GLMs) rooted in Newtonian mathematics and infused with equilibrium assumptions have produced a mindset that Abbott (2001: 39) calls 'general linear reality' (GLR): a deep-seated belief that the 'processes of social life' can be mapped onto the 'algebra of linear transformations'. GLM tools and GLR mindsets, in turn, shape and are shaped by what could be termed 'general linear theories' of the variance type (Van de Ven and Poole 2005). As Meyer et al. (2005: 456) argue, 'This amalgam of mutually reinforcing beliefs, theories, and methods honoring the notion of equilibrium has ... blocked the investigation of a family of interesting problems of great practical import.' Among those interesting and important problems in entrepreneurship are such disequilibrium processes as opportunity creation and exploitation and organizational emergence.

Thus we take a critical first step toward strengthening the coherence and theoretical underpinnings of entrepreneurship research. First, we review the main arguments and central criticisms of the two Austrian school approaches dominating the current conversation in entrepreneurship. (For detailed analyses see Vaughn 1994; Gloria-Palermo 1999.) Next, we articulate an alternative approach to entrepreneurship based on Lachmann's work, organizing our arguments according to L&M's widely used categorization scheme. We attempt to demonstrate that Lachmann provides a solid theoretical foundation for the kind of new entrepreneurship paradigm essential to the field's progress (Busenitz et al. 2003). Finally, we summarize the value of Lachmann's approach for entrepreneurship research.

The Dominant Austrian Approaches

Schumpeter

Widely regarded as the first modern scholar to contribute significantly to entrepreneurship theory, Schumpeter saw entrepreneurs as heroic figures uniquely possessing the will to introduce revolutionary 'new combinations' — of products, production techniques, markets, supply sources, or organizational forms — that attack the very foundations of existing firms and destroy the prevailing equilibrium at rare and irregular intervals. But the profit that such innovating

entrepreneurs capture invites imitators, who eventually compete away the innovators' gains and establish a new equilibrium (Schumpeter 1934).

Although Schumpeter's work has contributed immensely to entrepreneurship research, scholars have recognized numerous limitations and flaws in his understanding of entrepreneurship. (1) Despite his famous phrase 'creative destruction', Schumpeter rejected the subjectivism of the human mind (in favor of human will) and, consequently, failed to address entrepreneurial creativity that produces something entirely new; thus, he could explain only the dissemination of novelty, not its emergence (Witt 1992). Despite acknowledging invention (which begets innovation), he assumed inventions are 'trivially and abundantly available and known to all sorts of people' (Witt 1992: 219). (2) In theorizing that equilibrium is the economy's natural state, and that entrepreneurs disrupt one equilibrium only to attain another, Schumpeter completely ignored — or, if we accept Witt's (1992) interpretation, deliberately avoided — a central question: why should entrepreneurs suddenly intrude into equilibrium, a system in which all options have been considered and the best choices already made? (3) Schumpeter's (1947: 167) most damning and decidedly non-Austrian idea was that 'socialism can work'. He predicted that entrepreneurship would ultimately become obsolete, destroyed by its own success, with entrepreneurs becoming increasingly insignificant, as modern science enabled central planners to process more information and calculate production quantities and costs more accurately than individual entrepreneurs, an argument contrasting sharply with current thinking that entrepreneurial action drives economic progress (Venkataraman 1997). (4) Finally, Schumpeter drew a sharp distinction between capitalists and entrepreneurs. Consequently, his entrepreneur 'operates outside the usual constraints imposed by resources owners' and hence is not an 'integral part of the firm's operation', which includes (re)arranging resources to exploit opportunities (Foss and Klein 2005: 58).

All these criticisms result from Schumpeter's pursuing Austrian themes while clinging to neoclassical assumptions and techniques (Vaughn 1994). Schumpeter's infatuation with neoclassical economics led him to a theoretical impasse (Langlois 2003) because he could not reconcile its static equilibrium assumption, rooted in objectivism, with the dynamic Austrian framework, based on subjectivism.

Kirzner

During the past four decades, no economic theorist has devoted more attention to the entrepreneur than Kirzner. By focusing on equilibrium results rather than on the process by which equilibrium is attained, he argues, neoclassical models ignore the entrepreneur — an arbitrageur who, through superior alertness, discovers opportunities and corrects inefficiencies in disequilibrium, initiating a coordination process that moves the market toward equilibrium (Kirzner 1973). Though Kirzner appeared to depart significantly from the neoclassical paradigm, scholars quickly noted his entrepreneurship theory's affinities with the neoclassical model (Vaughn 1994).

Despite its importance, Kirzner's approach has received numerous criticisms. (1) Kirzner (1973) argues that entrepreneurs do not create opportunities ex nihilo,

but merely discover existing opportunities; thus, they cannot introduce true novelty into the system (Vaughn 1994). (2) For Kirzner, absent external intervention, the market always tends toward perfect coordination. This implies an exhaustible set of opportunities in the economy. Entrepreneurs need not (indeed, cannot) create more opportunities; they can only rely on exogenous change to generate them (Vaughn 1994). (3) Kirzner's concept of entrepreneurship has come under fire because he does not acknowledge that entrepreneurs can perceive incorrectly, only that they discover and correct others' past errors in overlooking profit opportunities, moving the market toward equilibrium (Vaughn 1994). Because his entrepreneur cannot err 'through actions based on faulty perceptions', Kirzner cannot offer an endogenous explanation of either entrepreneurial failure or disruptive change (Vaughn 1994: 143) — necessities in entrepreneurship theory (Stevenson and Harmeling 1990; Sarasvathy 2001a). (4) Scholars have criticized Kirzner for ignoring that entrepreneurs need capital to exploit opportunities (Foss and Klein 2005). Indeed, for Kirzner (1973) — who, like Schumpeter, distinguishes sharply between capitalists and entrepreneurs — pure entrepreneurship requires no capital. Rothbard (1985: 283) calls these 'fundamental and fatal flaws'. (5) Finally, by separating entrepreneurs from capital, focusing on past error, and neglecting the passage of time, Kirzner fails to meaningfully address uncertainty (Vaughn 1994; Foss and Klein 2005), an essential feature of entrepreneurship (Venkataraman 1997).

Lachmann's Radical Austrian Approach

We now introduce a Lachmannian approach to entrepreneurship, one that jettisons neoclassical economics to pursue Austrian economics in its radical subjectivist form. To organize our argument and identify the direction in which Lachmann's unique brand of Austrian economics might lead the field, we use L&M's key specifications: purpose, theory, focus, levels, time, and methods. These six specifications provide a useful framework for evaluating current developments and identifying future directions in entrepreneurship research. Introduced in L&M's field-defining article, they were later the theme of a 2001 special issue of *ET&P* (Davidsson et al. 2001), in which each article addressed a different specification. Because these specifications are widely accepted by entrepreneurship scholars as a legitimate framework for addressing future research directions, they provide both a familiar format for introducing Lachmann's theoretically radical message and a useful rubric for explaining how Lachmann's ideas would change the direction of entrepreneurship research. This change would affect primarily the dominant (mostly US) school in entrepreneurship (e.g. Shane and Venkataraman 2000; Busenitz et al. 2003), rather than the alternative (mostly European) school (e.g. Pitt 1998; Dodd 2002; Jack and Anderson 2002; Steyaert and Katz 2004) with its Lachmannian slant.

Purpose

Low and MacMillan, defining entrepreneurship as the 'creation of new enterprise', urged entrepreneurship researchers to 'explain and facilitate the role of

new enterprise in furthering economic progress' (1988: 141). After lengthy debate, scholars appear to be converging on a common purpose for entrepreneurship research: discovering, creating, and exploiting opportunities to generate future goods and services, new economic activity, new organizations, etc. (Venkataraman 1997; Gartner 2001). The consequence of such entrepreneurial discovery, creation, and exploitation by individuals and organizations is economic progress for societies (Venkataraman 1997). Despite this emerging common purpose, entrepreneurship researchers have limited their attention almost entirely to Kirznerian discovery (Shane 2000) and Schumpeterian exploitation (Shane 1996) of opportunities, largely ignoring how or why entrepreneurship promotes economic progress (Venkataraman 1997). Lachmann sheds fresh light on entrepreneurial creation, a topic Kirzner and Schumpeter neglect; opens new ways of thinking about entrepreneurial exploitation as a continuous recombinative process (rather than an episodic one, as Schumpeter posited); and fills a gap in the literature regarding the causal connection between entrepreneurship and economic progress. Specifically, Lachmann developed his own brand of market process theory, in which entrepreneurs engage in creative imagination, and his own variety of capital theory, in which entrepreneurs exploit opportunities by continuously combining and recombining intermediate goods to produce consumer goods. Together, these two theories explain how entrepreneurial action at the individual and organizational levels, respectively, leads to economic progress at the societal level.

Lachmann's Market Process Theory

Lachmann, like all Austrian scholars, views the market as an economic process, driven by entrepreneurial action, rather than merely a place for economic exchange. However, by extending subjectivism beyond individuals' interpretation of past experience, to include expectations of an imagined future, Lachmann charts new territory, consistent with Hayek's dictum that 'every important advance in economic theory during the last hundred years was a further step in the consistent application of subjectivism' (1952: 31). Lachmann's argument that entrepreneurs form *plans* based on their *subjective knowledge and expectations* retains the Austrian focus on the former but emphasizes the latter. Because expectations are oriented to an unknown and unknowable future, entrepreneurs must imagine possible futures and choose from among these subjective mental creations. Here choice is an inherently creative act. *Creative imagination* (Lachmann 1986) differs significantly from both Kirznerian discovery, which uncovers what already exists (Gloria-Palermo 1999), and Schumpeterian innovation, which eschews creating the truly novel through human subjectivity (Witt 1992). For Lachmann, entrepreneurs create ex nihilo, through what Ford (2002: 641) calls the forward-looking process of imagining that allows them to 'think outside the box', where the 'box' is defined largely by the limits of knowledge rooted in interpretations of the past. (This was Albert Einstein's point in saying, 'Imagination is more important than knowledge,' and Wayne Gretzky's in stating, 'I skate to where the puck is going to be, not to where it has been.') These ideas are especially congenial with work on effectuation (Sarasvathy 2001a,b), opportunity anticipation (West and Meyer 1997), entrepreneurial enactment (Gartner et al.

1992), and mindful deviation (Garud and Karnøe 2001). However, Lachmann goes beyond those entrepreneurship researchers who deny *ex nihilo* creation (Ward 2004), or avoid imagination in their creativity-based models of opportunity recognition (Hills et al. 1999). (Indeed, the term ‘opportunity recognition’, so pervasive in the organizational entrepreneurship literature, assumes opportunities are discovered and ignores their creation.)

Lachmann further argues that plans guide action, which occurs over time. Because individuals interpret the past and construct the future subjectively, their knowledge differs and their *expectations diverge*. These differences lead them to form different plans, which interact over time to drive an ongoing process whose outcome is largely indeterminate. As Lachmann explains:

‘The market process consists of a sequence of individual interactions, each denoting the encounter (and sometimes collision) of a number of plans, which ... are incoherent ... The process would not go otherwise.’ (1976a: 131)

Such interaction means that while some entrepreneurs’ plans may succeed, many will fail, leading to the *continuous revision of plans* based on new information that the market process generates endogenously over time. Lachmann views the market process as the outward manifestation of an endless stream of information continuously converted into new knowledge and new expectations; hence, plans are incessantly formed and revised. The spontaneous and creative action of individual entrepreneurs in such a market process ultimately engenders the kind of relentless, often unexpected change observable in market economies; such change in turn brings about economic progress for societies (Boehm et al. 2000).

Lachmann’s Capital Theory

Although less familiar than his market process theory, Lachmann’s capital theory is essential to understanding the purpose of entrepreneurship, because it addresses opportunity exploitation. As Lachmann argues:

‘it is hard to see how entrepreneurs can exploit profit opportunities without having to invest their capital for at least a few years and thus running the risk of seeing the opportunity vanish before the capital is amortized.’ (1986: 66)

Here Lachmann’s approach differs significantly from Kirzner’s, wherein entrepreneurs make no such capital investments and hence can neither exploit opportunities nor, as Foss and Klein (2005) observe, bear any uncertainty.

Building on the work of Hayek, Menger, and Böhm-Bawerk, Lachmann eschews the idea of a capital stock (treating capital goods in an economic system as a homogeneous aggregate in equilibrium to ensure objective measurement and analytic tractability). Instead, Lachmann (1978) attends to the *capital structure*, or the structure of production, as a constantly evolving, complex network of capital or intermediate goods that entrepreneurs deploy at particular times to produce consumer or final goods. The capital structure is traceable to the plans and, hence, the subjective knowledge and expectations of individual entrepreneurs, who construct capital equipment capable of yielding future returns. Thus, the capital structure is a *heterogeneous* arrangement, ‘complex beyond comprehension’ (Baetjer 1998: 4) but, as in Schumpeter (1954),

not an 'amorphous heap' (Lachmann lecture quoted in Lewin 1997: 528): 'There is some order to it' (Lachmann 1978: xv). Heterogeneity refers not to physical differences in capital goods, but to differences in their economic use. Although capital goods are material objects, it is the knowledge they embody that is key. They are best viewed as *embodied knowledge*; capital heterogeneity thus implies knowledge heterogeneity (Baetjer 1998).

Entrepreneurs usually cannot produce output with single capital goods, but rather must combine them. Understanding *capital combination* requires understanding the *complementarity* among capital goods: 'their interdependencies and synergies, the way they enable, augment, or extend one another's effectiveness' (Baetjer 1998: 21, summarizing Lachmann 1978). Lachmann (1986) distinguishes two types of complementarity: *plan complementarity* of capital combinations within a firm, obtained directly through planned action; and *structural complementarity* of capital resources belonging to different firms that trade with one another, obtained indirectly through the interaction of their plans in the market.

If the plans associated with structural complementarity differ because expectations differ, their interaction means some plans will fail, and the capital required to implement them will have been invested in error. Such malinvestment means material objects will persist as 'fossils' of abandoned plans (Lachmann 1986: 75) and serve purposes other than those originally intended. For example, three blocks from the authors' offices, a restaurant now occupies a building originally intended, and for many years operated, as a movie theater. Lachmann called this recombinative quality *capital regrouping*. In a world of incessant change, in which plans constantly collide, fail, and evolve, capital goods will be continuously reshuffled into *new combinations*. In our example, as a movie theater the building was combined with a projector, screen, and theater seats; but as a restaurant it was recombined with a grill, oven, tables, chairs, and booths. While Lachmann's new capital combinations resemble Schumpeter's, the *continuous nature* of the former contrasts with the episodic nature of the latter. Moreover, the knowledge required to construct Lachmann's combinations derives from the forward-looking entrepreneurial imagination, whereas Schumpeter assumes such knowledge already exists in the elements.

The evolution of the capital structure resides at the core of Lachmann's explanation of economic progress. Re-interpreting Böhm-Bawerk's idea that productivity increases as the economy develops and production becomes more 'roundabout', Lachmann argues that it does so as capital accumulates over time, lengthening the capital structure. So a Cuisinart has a much longer, more complex capital structure than a spoon (Baetjer 1998). This *increasing complexity* of the capital structure implies increasing knowledge embodied in capital goods, allowing entrepreneurs to benefit from the specialized knowledge of countless others dispersed over time and space, without themselves having to possess this knowledge.

Lachmann's work in capital theory anticipates entrepreneurship researchers' use of Penrose's idea that imaginative entrepreneurs bundle and re-bundle resources as new ventures grow (Lichtenstein and Brush 2001). For example, Garud and Nayyar (1994) explain how entrepreneurs continuously create and

exploit opportunities through resource recombination (as well as through the inter-temporal transfer of bits and pieces of technological knowledge and resources). Such research has been limited to the organization in which resources are located. Lachmann's capital theory sheds new theoretical light on these firm-level studies and points to additional research opportunities beyond the focal firm, offering a more complete understanding of entrepreneurship. Its attention to capital reshuffling across organizations, for example, gives Lachmann's capital theory the potential to provide a much-needed theoretical foundation for network-based research in entrepreneurship (Hoang and Antoncic 2003) and to inform studies such as Garud and Karnøe's (2003), which found that entrepreneurs create technologies using multiple actors' heterogeneous resources. More recently, Foss et al. (in press) employed Lachmann's capital theory to address how entrepreneurs create and organize heterogeneous resources, moving beyond capital as a homogeneous factor of production 'given' to the entrepreneur. Lachmann's work, in both capital and market process theory, also anticipates entrepreneurship (Stevenson and Harmeling 1990; Peterson and Meckler 2001) and organizational (Chiles et al. 2004; McKelvey 2004) scholars' interest in complexity theory, which emphasizes complex adaptive systems where myriad interacting agents generate an increasingly complex systemic order far from equilibrium. Finally, researchers have found, consistent with Lachmann, that entrepreneurs create *ex nihilo* and industries emerge from divergent expectations (Garud and Rappa 1994).

In summary, Lachmann shares with entrepreneurship scholars the belief that entrepreneurs must employ both creative imagination and capital resources; or, as Thomas Edison put it, 'To invent, you need a good imagination and a pile of junk.' Indeed, opportunity creation and exploitation, and their relation to economic progress, occupy the very center of entrepreneurship scholars' research. However, they lack theoretical frameworks with which to make sense of these ideas, often erroneously considering them within Schumpeterian or Kirznerian frameworks, as when McGrath and MacMillan (1995) applied the Kirznerian label of discovery-driven planning to the Lachmannian idea of entrepreneurial imagination. Moreover, Lachmann, unlike Schumpeter or Kirzner, stresses the predominance of failure in error-strewn market and capital (re)formation processes as a central fact of entrepreneurship in a world of real time, radical (Knightian) uncertainty, and disequilibrating change. Because Lachmann recognized that entrepreneurial imagination in opportunity creation is a central feature of the market process, and that continuous resource combination and recombination is essential to exploiting opportunities, his market process and capital theories offer frameworks ideally suited for understanding these phenomena and their connection to economic progress, as well as the pervasiveness of endogenously generated human error and disruptive change in the entrepreneurial process.

A Lachmannian approach that emphasizes creatively imagining possible futures enables entrepreneurship scholars not only to ground the idea of 'opportunity' theoretically in an expectancy-oriented framework, as researchers have recommended (Gartner et al. 1992), but also to take a decisive lead in the organizational sciences, where 'dynamic models describing processes related to creativity ... have generally underrepresented forward-looking cognitive processes

that guide choice' (Ford 2002: 641). By treating opportunity exploitation as a continuous recombinative process, entrepreneurship scholars can (1) address the ongoing nature of entrepreneurship, moving beyond the idea that resources needed to exploit an opportunity are relevant only in the context of start-up financing; (2) use a disequilibrium framework to study a disequilibrium phenomenon, moving beyond equilibrium-based approaches to opportunity exploitation (Shane 1996, 2000; Choi and Shepherd 2004) and equilibrium logic, wherein entrepreneurial resources are 'given' (Sarasvathy 2001b), which those who have grappled with this understudied topic have been forced to use. With this background, we can now explore disequilibrium in more detail, as a key premise underlying Lachmann's approach to opportunity creation via market process theory and opportunity exploitation via capital theory.

Theoretical Perspective

One of the most important choices entrepreneurship scholars must make, L&M argued, is that of theoretical perspective: 'the field will be better served in the future if the issue of theoretical perspective is addressed directly and unstated assumptions are avoided' (1988: 146). To organize their review of the entrepreneurship literature, they chose the theories of strategic adaptation and population ecology. Both theories make the same fundamental assumption about system dynamics: systems are driven toward predictable equilibrium states (Chiles et al. 2004). Over a decade later, entrepreneurship scholars continue to embrace, and build the very foundation of the field on, theories with the same assumption (Venkataraman 1997; Shane and Venkataraman 2000). Schumpeter (1934), for example, posits that infrequent exogenous disturbances move the system from one equilibrium position to another, while Kirzner (1973) proposes that alert entrepreneurs discover opportunities in disequilibrium, and this knowledge spreads to less alert entrepreneurs, providing greater coordination of entrepreneurial plans, which drives the system toward equilibrium. Lachmann, however, explicitly rejects the idea of equilibrium as a resting point or as a position toward which the economy naturally tends, emphasizing instead the *continuously disequilibrating nature of entrepreneurship*.

By incorporating not only past knowledge but also (and especially) future expectations into the plan concept, Lachmann sets the stage for a very different kind of market process theory, in which entrepreneurs' divergent knowledge and expectations prevent coordination of their plans. Although the market process can diffuse and coordinate knowledge, it cannot diffuse and coordinate expectations (Lachmann 1976b), 'for each individual in each moment of time may imagine different future economic situations and revise his or her plans as a consequence of his imaginative ability' (Gloria-Palermo 1999: 126, summarizing Lachmann). Entrepreneurs' plans, thus, will never be fully coordinated — a position that challenges the equilibrating tendency of the market process. However, Lachmann does adopt a *both/and* view in which 'both equilibrating and disequilibrating forces' are at work (1986: 9). Market processes, Lachmann argues, are 'propelled by the forces of equilibrium and the forces of [disequilibrating] change' (1976b: 61). While Lachmann (1986: 61) clearly does not deny

that equilibrating mechanisms operate, he, like entrepreneurship scholars adopting the complexity perspective (Stevenson and Harmeling 1990), emphasizes disequilibrating mechanisms and the long-run tendency of many markets toward disequilibrium:

'In a kaleidic society the equilibrating forces, operating slowly ... are always overtaken by unexpected change before they have done their work, and the results of their operation disrupted before they can bear fruit.' (Lachmann 1976b: 61)

Lachmann (1986) eventually proposed a more specific, two-stage market process, in which early equilibration, attributable to *close imitation* of innovators' products, eventually yields to disequilibrium, attributable to *secondary innovations* that differentiate their products from competitors'.

Lachmann argues that interaction between firms with different production plans renders capital, like markets, 'always in disequilibrium' (1986: 64). This emphasis on disequilibrium is rooted primarily in (divergent) expectations: 'In a world of unexpected change investment is necessarily governed by expectations, not by past results' (Lachmann 1986: 17). When divergent expectations collide, some plans will fail, and the capital investments they prompted will prove mistaken. As Lachmann argues, 'there can be no such thing as "equilibrium growth", which is of course incompatible with malinvestment' (1970: 6). Although Lachmann does not explicitly say so, the increasing complexity/heterogeneity of the capital structure implies an increasing level of disequilibrium (Lewin 1997).

The challenge for entrepreneurship researchers is to recognize, as their colleagues in organization theory have begun to do (Meyer et al. 2005), that the equilibrium assumptions underlying theoretical approaches such as Schumpeter's and Kirzner's block progress on myriad important problems (Stevenson and Harmeling 1990). Contrary to most economists steeped in positivism, the realism of our assumptions does matter (Stevenson and Harmeling 1990). These assumptions must mirror reality if we hope to understand a range of entrepreneurial phenomena, from organizational emergence (Gartner et al. 1992) to creative imagination (Sarasvathy 2001a,b) to entrepreneurial expectancy (Gatewood et al. 2002). Lachmann, unlike Schumpeter and Kirzner, is wedded to neither equilibrium assumptions nor equilibrium outcomes. By addressing the subjectivity of expectations, he offers an important Austrian approach that treats disequilibrium and disequilibrating change seriously.

Focus

L&M acknowledged and encouraged a shift from 'trait-based' toward more process- and context-oriented entrepreneurship research. Although the details of such an approach remain fluid (Ucbasaran et al. 2001), researchers seem agreed that the study of entrepreneurship must include both the process by which entrepreneurs act and interact (Sarasvathy 2001b), and the broader organizational, industrial, and societal context in which they operate (Thornton 1999). We have already discussed two processes central to Lachmann's approach: market and capital (re)formation processes. These processes themselves provide an entrepreneurial context. In market processes, entrepreneurs act on the basis of expectations, and

interact with other entrepreneurs and market participants (e.g. customers) who represent important contextual elements. Similarly, in capital (re)formation processes, entrepreneurs combine and recombine capital resources within a focal organization and interact with other organizations that constitute its supply chain. While Lachmann's market process and capital theories address a limited set of entrepreneurial contexts, his institutional theory comprises a much broader set, including economic, political, legal, social, and religious institutions. This range of contexts offers many connections to network-based research in entrepreneurship, including network dynamics, content, and governance (Hoang and Antoncic 2003).

Lachmann's Institutional Theory

Building on the work of Weber and the Austrian institutional tradition established by Menger and elaborated by Hayek, Lachmann (1970) tackles three main points in his institutional theory. (1) Lachmann (1970) argues *institutions* serve as *points of orientation* enabling millions of individuals to coordinate their expectations based on taken-for-granted rules and norms. For Lachmann, these institutional rules and norms are really stockpiles of knowledge shared by actors capable of attributing similar meaning to their actions. 'Institutions', as Lachmann put it, 'enable ... coordinating the actions of millions whom they relieve of the need to acquire and digest detailed knowledge about others and form detailed expectations about their future action' (1970: 49–50). By coordinating the plans of myriad entrepreneurs to a *common signpost*, institutions provide a degree of order in an otherwise largely undetermined world. For example, standards serve as institutions that 'assist in coordination by helping align expectations' (Langlois and Savage 2001: 151):

'In the classic case ... the convention that we all drive on the same side of the road is a standard that reduces "transaction" costs of ascertaining the intentions of each oncoming driver, not to mention the resource costs of failed coordination ... The convention ... brings order out of disorder.' (Langlois and Savage 2001: 151–152)

Thus, disequilibrium market and capital (re)formation processes appear embedded in and stabilized by institutional contexts, echoing entrepreneurship scholars' argument that institutional context does not merely facilitate entrepreneurial action but also shapes and constrains it (Busenitz et al. 2000; Steyaert and Katz 2004). (2) Lachmann (1970) explains the need to build a coherent *institutional order* not only on *coherence and permanence*, but also on *flexibility and change*. To guide and coordinate individual action, institutions must be fixed and stable. At the same time, they must adapt and change, as the environment changes. Older institutions may assume new functions (as old functions are discarded) or be replaced entirely by new institutions. New institutions arise in deliberate and emergent ways: through legislation or as the unintended consequence of individuals acting in their own interest without any overall design (Lachmann 1970). In either case, Lachmannian entrepreneurs play an important and active role in the creation and subsequent evolution of institutions. Indeed, far from merely reacting to 'changing circumstances', they are the driving force behind institutional emergence and change (Lachmann 1970: 79). In the entrepreneurship literature, how such 'institutional entrepreneurs' create new institutions or

replace old institutional functions with new ones is poorly understood, but organizational scholars are beginning to make progress on these topics (Garud et al. 2002; Dorado 2005; Munir and Phillips 2005). (3) Lachmann (1970) claims the institutional order comprises complementary *external and internal institutions*, with 'a few fundamental [external] institutions, not mutable at all provid[ing] a firm outer structure' comprising 'frequently mutable [internal] institutions in a definite sphere of action, ... a sphere in which change must be expected to be frequent' (1970: 90). For example, economic institutions (e.g. stock exchanges) allow entrepreneurs to adjust flexibly to frequent changes, but they are embedded in much more immutable legal institutions (e.g. property and contract) and social institutions (e.g. religion and norms of reciprocity, fairness, and obligation). Entrepreneurship scholars have largely ignored the relationship between entrepreneurial action and different types of institutions. For researchers who, like Busenitz et al. (2000), recognize that the narrow cultural lens currently emphasized cannot adequately explain how and why levels of entrepreneurship vary across societies, Lachmann's wider institutional lens may prove more powerful.

Lachmann's approach thus invites us to focus on entrepreneurs as *both* engaged in market and capital (re)formation processes *and* embedded in institutional contexts, as confronting *both* institutional stability *and* change, as influencing, and influenced by, *both* external *and* internal institutions. Such a *both/and* world moves beyond the current state of entrepreneurship research (Ucbasaran et al. 2001) to an even broader field than the one L&M envisioned.

Levels

L&M emphasized conducting entrepreneurship studies at multiple levels of analysis (individual, group, organization, industry, and society) and suggested integrating these different levels. A decade later, Davidsson and Wiklund (2001) found that, although 'exemplary research' at different levels has slowly increased since L&M, analysis at the micro (individual and firm) level continues to dominate the field, while cross-level studies remain virtually nonexistent. Lachmann's work is inherently multi-level; his theories on market processes, capital, and institutions include different levels of analysis, from individual through firm, industry, market, and supply chain to the broader institutional environment. In recognizing the interdependence and mutual causality of these levels, his work is also inherently cross-level. And, as described above, these theories are themselves interrelated: opportunities created through market processes must be exploited through capital (re)formation processes, and these disequilibrium processes are, in turn, embedded in stabilizing institutional environments. Thus, Lachmann's work can be considered an attempt to develop a multi-level and cross-level theory of entrepreneurship.

As noted previously, individuals act on plans based on their subjective knowledge of the past and expectations of the future. Entrepreneurs, pursuing their interests, interact with other entrepreneurs and market participants, unintentionally bringing about a market order — as when Silicon Valley 'sprouted spontaneously' in the late 1960s when 'several complementary forces gelled' to

generate 'a mutually supportive spiral of [individual] entrepreneurship and innovation', spawning in turn a 'critical mass' of high-tech firms unattributable to a 'single event or grand plan' (Bahrami and Evans 2000: 168). In other words, individuals interacting at a lower level spontaneously generate higher-level market order without intervention by a central controller (Lachmann 1976a) — a multi-level process with cross-level influences that scholars term *emergent self-organization* (Chiles et al. 2004). Accordingly, the market process spans levels of analysis from the individual to the market.

Lachmann's capital theory spotlights entrepreneurs who, within the organizational context, use capital resources to produce products and services for other market participants. However, the productive potential of these resources can be realized only by combining them, both with other capital resources within the organization and with those of other organizations. This situation generates a complex production network comprising myriad industries in an organization's supply chain. Accordingly, the theory spans multiple levels, from the individual through the organization to the vast inter-industry supply chain, revealing possibilities beyond the narrow confines of entrepreneurship research conducted at the organizational level of analysis (Lichtenstein and Brush 2001). Following Menger, Lachmann (1978) also uses the concept of *ordered goods*, consumer goods being 'goods of the first order' and capital goods being 'goods of higher order'. First-order goods are produced by second-order goods, second-order goods by third-order goods, and so on, depending on the length of the capital structure for a particular consumer good. This conceptualization highlights the importance of the cross-level influences so pervasive in the structure of production. Although Venkataraman (1997) emphasized the importance of factor markets in entrepreneurship research, most researchers have focused only on the entrepreneurial production of consumer goods. Venkataraman's (1997) advice is entirely consistent with a Lachmannian perspective; however, Lachmann requires a multi-level approach often going far beyond second-order goods, a degree of complexity that Venkataraman (1997) did not anticipate.

Lachmann (1970) considers institutions from a variety of sectors, as noted above. He views the social world as a *series of nested institutions*: a hierarchy in which agents at lower levels interact to produce higher-level institutions. Hence, according to Lachmann, institutions result from entrepreneurial action at lower levels that, in turn, shape and constrain such action. Moreover, market or subsidiary market institutions (e.g. stock markets) are themselves embedded within higher-level institutions (e.g. legal systems). Lachmann's explicit emphasis on the recursive interaction between entrepreneurs and institutions interestingly parallels a structural view of entrepreneurship (Garud and Karnøe 2001, 2003; Jack and Anderson 2002), and his recognition that institutions are embedded within higher-level institutions resonates with a sociological view of entrepreneurship (Thornton 1999).

As L&M suggested, multi-level studies can provide unique insights and promote richer understanding than single-level studies. Lachmann's theories are decidedly multi-level. He recognizes the intimate connections among different levels, with higher-level processes, capital goods, and institutions affecting lower-level processes, capital goods, and institutions, even as lower-level actors

interact to produce higher-level phenomena. Lachmann's unique theoretical approach lends itself to multi- and cross-level research in a field where the inability to understand entrepreneurship as an inherently multi-level phenomenon subject to cross-level influences (Gartner 2001) has become a major obstacle to scholarly progress (Busenitz et al. 2003).

Time Frame

Edward Hall noted that 'everything in life occurs in a time frame' (Bluedorn 1998: 110). L&M explicitly specify the time frame of analysis as one of six factors entrepreneurial research must address. Unfortunately, this prescription has been largely ignored. In the special issue of *ET&P* devoted to the effects of L&M's original recommendations, time frame is the only one of their six specifications not addressed in a separate article. This absence likely reflects a dearth of work on time frames and the narrowness of L&M's time-frame concept.

Several scholars have argued for an expanded view of time and an explicit role for it in organizational research (Garud and Karnøe 2001; Antonacopoulou and Tsoukas 2002; Bluedorn 2002). Ford provides perhaps the best case: 'Making time a more central aspect of our theoretical language will promote better process descriptions that are likely to reflect the experiences of organizational members more directly' (2002: 645). How might Lachmann's approach give time a larger role in the theoretical language of entrepreneurship? Our answer begins with the rationale underlying L&M's prescription to attend to time frames, and then illustrates how a scholar following Lachmann's approach would examine entrepreneurial phenomena.

Because they believed observing all stages of development during start-up is vital for understanding 'the pattern of new business formation' (Low and MacMillan 1988: 152), L&M advocated time frames encompassing the full process. Like longer time perspectives generally, this approach enables researchers to detect patterns with longer wavelengths (Bluedorn 2002).

Although this wide-time-frame-research prescription parallels Lachmann's thinking about time, his ideas suggest that some approaches using longer time frames work better than others. A naturalistic concept of time (the 'physicist's *t*') — particularly the view that time is objective and homogeneous (Lachmann 1977) — should be avoided. Given its dominance in western thought (Bird and West 1997), this view of time is difficult to banish. Lachmann's caveat anticipates contemporary social science thinking, emphasizing the *subjectivity and heterogeneity of time* (Bluedorn 2002). The extraordinary predictive success of models in physics incorporating the 'physicist's *t*' may explain its attraction for neoclassical economists. But Lachmann was a subjectivist — indeed, a 'radical subjectivist' who extended subjectivity into the realm of expectations — who understood that what people 'will do in a given situation depends largely on their interpretation of it and on the direction of their imagination' (1977: 92). People are not particles. Lachmann advocates treating time as market participants actually experience it, recognizing that different participants experience time differently. For example, Nobel laureate Elias Canetti asked, 'And what if you were told: One more hour?' (1989: 114) — to which Bluedorn (2002: 3)

added, 'Who would argue that with such foreknowledge of one's final hour that any other hour would be its equal?' Canetti's question reveals time's subjectivity (the emotion that would color perception of one's final hour), Bluedorn its heterogeneity (no hour would be its equal). Lachmann, less dramatically, would extend the observation to all of us at every moment: No two hours are ever experienced in exactly the same way — whether by two different people or by the same person in different circumstances.

Lachmann's subjectivist view of economics, and social phenomena in general, leads to a second caveat: prediction. Lachmann would certainly agree with the aphorism that prediction is difficult, especially about the future. Indeed, in a world of real time and radical uncertainty, he considered prediction largely impossible and therefore pointless. Rather than pursuing the chimera of prediction, he emphasized understanding and interpreting processes *after* they occur. Thus, instead of trying to pinpoint the hours and dates start-ups move from one stage to the next, a researcher might observe how these transitions occur and explain the unfolding process. Rather than mechanical clockworks with predictable events and timing, Lachmann sees markets as organic processes unfolding in real, historical, or subjective time, 'the dimension of unexpected change' (Lachmann 1986: 74).

Lachmann's objection to prediction reflects his view of time itself, often called 'Lachmann's law': 'As soon as we permit time to elapse, we must permit knowledge to change' (1977: 92). Here, Lachmann includes in knowledge both interpretations of past experience and expectations of future possibilities (Gloria-Palermo 1999). This *continuous change in knowledge*, with its continual interpretation and re-interpretation of experience, its continual forming and re-forming of expectations, makes accurate prediction of the future not merely difficult but largely impossible. Emphasizing continuously changing human expectations frees scholars to investigate unfolding processes, and teaches entrepreneurs — and managers generally — to accommodate continuously revised plans, because the perpetually arriving future will differ from the anticipated future.³

Because most research is cross-sectional, and the 'physicist's *t*' view of time dominates the entrepreneurship literature generally and longitudinal studies specifically (Bird and West 1997), time's role in entrepreneurial processes has been little understood (Chandler and Lyon 2001). Despite this gap, entrepreneurship scholars, like their colleagues in organization studies generally, are awakening to the importance of subjective time in the phenomena they investigate (Bird and West 1997; Busenitz et al. 2003). Lachmann's thinking and advice about this fundamental phenomenon can benefit both groups.

Methods

L&M urged entrepreneurship researchers to design more rigorous studies employing theory-driven formal models and sophisticated statistical analyses to test a priori hypotheses about the relationships between variables. Chandler and Lyon's (2001) review of the empirical entrepreneurship research that appeared in the decade after L&M suggests that researchers heeded their directive, the

vast majority pursuing statistical analyses of formal models in the 'variance theory' tradition of social science research (Van de Ven and Poole 2005). However, their goal of establishing causal linkages among variables, using longitudinal studies, was more elusive: a full 80% of the studies continued to employ cross-sectional designs. Lachmann suggests a very different approach to empirical research in entrepreneurship.

Because entrepreneurship does not resemble Newtonian mechanics, Lachmann (1970) argues, its complex, dynamic social phenomena cannot be understood using a Newtonian paradigm — a point echoed by a small but influential group of entrepreneurship scholars (Bygrave 1989; Stevenson and Harmeling 1990; Gartner et al. 1992). Lachmann rejects formal variance models, which embed a small set of well-developed variables in a nomological net and use statistical techniques to test specific predictions about the relationships between variables. Instead, Lachmann embraces the 'process theory' tradition of social science research (Van de Ven and Poole 2005), arguing that, to narrate the emergence and evolution of complex social phenomena, researchers must explain a sequence of events in time and context, paying particular attention to their temporal ordering, myriad interactions, and institutional environments. As Van de Ven and Engleman (2004) stress, this approach is necessary to understand how entrepreneurial processes unfold, yet entrepreneurship researchers have woefully neglected it, and the few who have attempted to study such processes have typically used the wrong methodology: variance methods, the only methodology most know.

At the core of Lachmann's methodological approach are the Weberian concepts of *Verstehen* and *Idealtypus*. Lachmann (1970) adopted the historical method of *Verstehen* (understanding through interpretation), the traditional method of classical scholarship before the rise to dominance of the deterministic 'scientific method' in social science, with its emphasis on predictive models. Because no two minds are alike and because entrepreneurs act spontaneously and creatively, Lachmann argues, we cannot accurately predict the future, but we can explain the past. The researcher's task becomes historical analysis, helping us understand the emergence and evolution of higher-level, complex social phenomena, including organizations, markets, and industries, resulting from lower-level entrepreneurial action and interaction occurring over time and within a particular institutional context. Lachmann (1990) later used the word 'hermeneutics', a method of interpreting a text's original meaning, to describe *Verstehen*. Pitt's (1998: 387) study, which interprets the 'context-particular, experiential knowledge of entrepreneurs' by treating 'their narrative explanations of how their firms have developed as quasi texts containing implicit, personal theories of managerial action', provides an example, in the entrepreneurship literature, of this method.

The preceding discussion may imply Lachmann advocates exhaustive descriptive histories. Such is not the case. Instead, he champions ideal-types as a theoretical 'foil against which to hold "real events", so as to bring out particular properties of the latter by comparison' (Lachmann 1986: 34). This approach permits researchers to gauge historical events' distance from a theoretical ideal (Lachmann 1970), an important strategy for process theorizing

known as *pattern-matching* (Langley 1999). A special *processual form of the ideal-type*, such as Lachmann's market process theory, is particularly useful for interpreting historical sequences of events (Lachmann 1986). Researchers prefer this approach for studying such complex phenomena as organizational emergence (Garud and Rappa 1994; Chiles et al. 2004) because, unlike the variance methods appropriate for studying 'simple phenomena', processual ideal-types allow them to make theoretical sense of 'complex phenomena' (multi-level systems comprising numerous interdependent elements, which arise from myriad lower-level event sequences and interactions) (Hayek 1967; Tsoukas and Chia 2002).

Ideal-types differ significantly from formal models, in several important ways (Lachmann 1970). While any distance between a model's prediction and the actual event is a 'serious defect', such distance is a 'positive virtue' for ideal-types, because it 'offers us "space" in which to display the ordering of observed events' (Lachmann 1970: 27). Models are the tool of choice of positivists, who seek specific predictions using statistical techniques. They are entirely appropriate for answering one of the two general questions in entrepreneurship studies: 'What are the antecedents or consequences of entrepreneurship?' (Van de Ven and Engleman 2004: 355). Ideal-types, on the other hand, are Lachmann's tool of choice for organizing detailed explanations using narrative techniques. They are entirely appropriate for answering the other general question in entrepreneurship research: 'How does the entrepreneurship process unfold over time?' (Van de Ven and Engleman 2004: 355). Variance theories and methods allow us to explore the former question, while process theories and methods allow us to explore the latter (Van de Ven and Engleman 2004).

In conclusion, Lachmann's approach to empirical research challenges the entrepreneurship researcher to be part historian and part social scientist, blending historical evidence and social science theory into a coherent understanding of entrepreneurial action unfolding in time and embedded in context. It sheds a different light on what constitutes 'good' entrepreneurship research and calls into question the methodological direction established by L&M and followed by a generation of entrepreneurship scholars (Chandler and Lyon 2001). It casts doubt on whether entrepreneurship scholars should pursue even more sophisticated formal models and statistical methods, as Chandler and Lyon (2001) suggested, emphasizing, instead, the need to overcome 'physics envy' (Bygrave 1989) — to recognize that 'rigor does not demand deterministic linear models or statistics describing central tendencies' (Meyer et al. 2005: 469) — and to adopt methods more suitable to the phenomena under study (Bygrave 1989), such as using ethnographic, case study, or discourse methods to analyze qualitative accounts (Gartner and Birley 2002; Hoang and Antoncic 2003; Munir and Phillips 2005). It suggests an unorthodox methodological approach, emphasizing strategies for making sense of process data, especially (but not exclusively)⁴ narrative and pattern-matching strategies (Langley 1999), while rejecting predictive variance-theoretic models. And it underscores a pressing need to fill a large and important gap in the literature, by conducting longitudinal research (Chandler and Lyon 2001) with wider time frames, in order to better detect and match patterns.

Conclusion

This article offers an alternative Austrian approach to entrepreneurship, based on Lachmann's work. We aspire to move the entrepreneurship field beyond the dominant Austrian approaches, which, despite overcoming some of the limitations of neoclassical economics, remain committed to an equilibrium paradigm that has failed to adequately explain the disequilibrium phenomena with which entrepreneurship is primarily concerned. Lachmann, on the other hand, breaks with equilibrium beliefs, theories, and methods, providing entrepreneurship scholars 'a new direction' and an 'alternative way of looking at things' (Boehm et al. 2000: 368–383).

Using L&M's specifications as a rubric, we introduced Lachmann's work and identified the direction in which a Lachmannian approach would lead the entrepreneurship field. Specifically, this approach suggests scholars pay more attention to two central, but largely neglected, issues in entrepreneurship research: (1) the creation of opportunities through human imagination directed toward an envisioned future, and (2) the exploitation of opportunities through continuous resource combination and recombination. It emphasizes the use of theories, in particular Lachmann's unique brand of market process and capital theory, rooted in assumptions that reflect a world of radical uncertainty, widespread heterogeneity, and perpetual disequilibrium. It suggests focusing on the ongoing interaction between entrepreneurs and other market participants (e.g. rivals, suppliers, customers), and on the broader institutional contexts in which such processes are embedded. It adopts a multi-level view of market processes, capital structures, and institutional orders, in which cross-level influences operate, from the individual through the organization, industry, market, and supply chain, to the broader institutional environment. It supports entrepreneurship scholars' calls for longer time-frame studies but also exhorts them to move beyond an objective, mechanistic, linear notion of time, as well as the chimera of predicting specific outcomes that such a notion implies. And finally, it offers the process methods of hermeneutics and ideal-types as alternatives to statistical models, for developing a theoretically sophisticated understanding of how entrepreneurial processes unfold.

Entrepreneurship researchers have already begun to employ a Lachmannian approach to entrepreneurship, although most have not explicitly invoked Lachmann. Throughout this article, we provided examples showing connections between the entrepreneurship literature and Lachmann's work, and suggested directions for future research. In concluding, we offer three final examples that we believe point the way for entrepreneurship scholars wishing to adopt this approach:

Sarasvathy (2001a: 1) argues that 'economics has failed to develop a useful theory of entrepreneurship because of its inability to break out of the static equilibrium framework'. To rectify this situation, she calls for 'a new vocabulary for entrepreneurship' that places 'entrepreneurial process', 'creative action', and 'human imagination' at 'center stage' (2001a: 1, 12), just as Lachmann suggested. Throughout, Sarasvathy emphasizes the importance of entrepreneurial processes taking place 'over time' (2001a: 12) and concludes with the temporal issues of futurity and the impossibility of prediction:

'At its heart, entrepreneurship is about the future. Not the future that has already happened and is therefore predictable ... but the future that is barely imagined today and can only be known in the creation of it tomorrow.' (2001a: 15)

Sarasvathy's economic approach to entrepreneurship is decidedly Lachmannian.

Sarasvathy et al. (2003) challenge the assumptions underlying equilibrium-based economic theories of entrepreneurship, which slight the creation of entrepreneurial opportunities. They argue that, because opportunities must be created before they can be 'recognized' (neoclassical view) or 'discovered' (Kirznerian view), 'the creative view might be more general than and prior to the other two views' (2003: 157). They explore 'institutions' as an important factor leading to 'stability in expectations', which reduces uncertainty for entrepreneurs (2003: 153). Although this work is one of only a handful of studies actually citing Lachmann, the authors' use of his ideas in explicating 'the creative process view' is limited, and rather than using Lachmann's theory of institutions in their discussion of expectations and institutional stability, they place it (incongruously) under 'the discovery process view'.

Chiles et al. (2004: 512–516) explain how the population of musical theaters in Branson, Missouri came into being and was periodically transformed over a century, explicitly using Lachmann's work on (1) entrepreneurs' 'creative imagination'; (2) their 'continual recombination' of resources as a driver of novelty, diversity, and value creation; (3) 'institutions as "common signposts" for entrepreneurs to orient their behavior and stabilize the system'; and (4) organizational evolution as 'a state of perpetual disequilibrium' in which 'disequilibrium and disequilibrating change' are 'natural and ongoing rather than exceptional and episodic', and a 'self-organizing process that operates alongside and within the context of stabilizing social, political, and economic institutions'. This study uses methods consistent with Lachmann's suggestions for conducting empirical research, employing processual ideal-type (pattern-matching) and hermeneutic (narrative, grounded theorizing, visual mapping) approaches (cf. Langley 1999) to provide a theoretical explanation of organizational emergence. And it employs a quantification strategy (Langley 1999) in the form of Poisson regression analyses, not in the traditional hypothetico-deductive way, but in the spirit of *Verstehen* and *Idealtypus*. This study provides an example of how researchers can develop Lachmann's ideas and use them to explain how entrepreneurs spontaneously generate organizations, as well as organizational forms, populations, and communities that, in turn, catalyze regional economic development.

While we believe Lachmann provides an Austrian approach to entrepreneurship that is more consistent ontologically and epistemologically than the dominant Austrian approaches (cf. McMullen and Shepherd 2006), we certainly do not claim it is the only valid approach, or without its own shortcomings. Nor would Lachmann have made such a claim (Boehm et al. 2000). Indeed, he never constructed a systematic treatise (Boehm et al. 2000) and has been criticized for this omission (Vaughn 1994). What he offered was 'a large message in small packages' (Lavoie 1994: 19), in which he examined issues at the very core of economic theory: the subjectivity of expectations, capital in disequilibrium, the unknowability of the future, subjective time, and the role of institutions (Lewin 1997; Boehm et al. 2000). His market process, capital, and institutional theories

provide scholars with three frameworks with which to begin organizing and making sense of the many fragmented ideas dotting the organizational entrepreneurship literature, bringing greater theoretical coherence and underpinning to the field. Together, these frameworks offer not only an important meta-theory of entrepreneurship, but also a strong new paradigm for the field. Further, his unique brand of Austrian economics offers a distinct alternative to the dominant Austrian approaches, and entrepreneurship scholars can now organize Lachmannian ideas within a Lachmannian framework, rather than shoehorning them into those of Schumpeter or Kirzner.

Entrepreneurship scholars could also enrich the Lachmannian approach, both by building firmer connections between Lachmann's trio of theories and by systematically testing and elaborating those theories (Boehm et al. 2000), which Lachmann and his proponents have been criticized for failing to do (Vaughn 1994). To accomplish this, however, they must be open to shifting their focus from familiar variance theories and methods, useful for determining entrepreneurship's antecedents, moderators, and consequences, to novel process theories and methods, necessary for understanding how complex entrepreneurial processes unfold.

We believe that an entrepreneurship research agenda based on the Lachmannian approach represents a significant advance that would re-orient the field by (1) emphasizing the continuing dynamic of entrepreneurship as a fundamentally temporal — and decidedly subjective — process; (2) treating entrepreneurship as an inherently creative, continuously recombinative, and perpetually disequilibrative process — a largely indeterminate process propelled by the spontaneous action and interaction of purposeful individuals, and stabilized by a complex array of social, political, and economic institutions; (3) re-tooling the field methodologically to humbler, yet more appropriate, techniques grounded in the historical contexts of the complex, dynamic phenomena under investigation; and (4) requiring a more holistic, multi-level frame of analysis replete with cross-level influences. These large claims reveal the potential for entrepreneurship research inherent in Lachmann's work, a potential we hope will motivate other scholars to join in the effort to develop entrepreneurship research based on this approach.

Notes

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- 1 While many economists would not consider Schumpeter a member of the Austrian School, most organizational scholars see him as the preeminent Austrian economist. What seems unarguable is his pursuit of Austrian themes (Vaughn 1994).
- 2 Knight (1921: 224–226) distinguished between risk (*'a priori* probability'), uncertainty (*'statistical probability'*), and *'true'* uncertainty (*'the probability connected with an estimate'*). The latter, which has come to be known as *Knightian uncertainty*, is the same as what Lachmann calls *'genuine'* or *'radical'* uncertainty.
- 3 Entrepreneurs' anticipations are valuable subjects of study in their own right. Research on counterfactual thinking and the tendency to underestimate completion times (Baron 1998) suggests potentially important insights into entrepreneurs' anticipations and behaviors, as does work on time constraints, opportunity evaluation, decision-making speed (Busenitz et al. 2003), and opportunity anticipation (West and Meyer 1997).
- 4 For example, a quantification strategy employing event count or event history models, used in the spirit of *Verstehen* and *Idealtypus* and combined with other strategies, can increase understanding (Langley 1999). Chiles et al. (2004) used this strategy, treating econometrics as a historical tool (Vaughn 1994), to study organizational emergence. A grounded theory-building

strategy (Langley 1999), especially one that generates ideal-types, such as Dodd's (2002) study of the metaphors that entrepreneurs use to make sense of entrepreneurial processes, can also improve understanding.

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