ENTREPRENEURIAL ALERTNESS AND OPPORTUNITY DISCOVERY: ORIGINS, ATTRIBUTES, CRITIQUE

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INTRODUCTION

Israel Kirzner's concept of entrepreneurship as alertness to profit opportunities is one of the most influential modern interpretations of the entrepreneurial function. Shane and Venkataraman's (2000: 218) influential assessment defines entrepreneurship research as "the scholarly examination of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited." As such, "the field involves the study of sources of opportunities; the processes of discovery, evaluation, and exploitation of opportunities; and the set of individuals who discover, evaluate, and exploit them." Shane's *General Theory of Entrepreneurship* (2003) cites Kirzner and "Kirznerian opportunities" more than any writer other than Joseph Schumpeter. More generally, the entrepreneurial opportunity, rather than the individual entrepreneur, the startup company, or the new product, has become the centerpiece of the academic study of entrepreneurship.

In Kirzner's framework, profit opportunities result from prices, quantities, and qualities that diverge from their equilibrium values. Some individuals tend to notice, or be alert to, these opportunities, and their actions bring about changes in prices, quantities, and qualities. The simplest case of alertness is that of the arbitrageur, who discovers a discrepancy in present prices that can be exploited for financial gain. In a more typical case, the entrepreneur is alert to a new product or a superior production process and steps in to fill this market gap before others. Success, in this view, comes not from following a well-specified maximization problem, such as a search algorithm (High, 1980), but from having some insight that no one else has, a process that cannot be modeled as an optimization problem.[1] Entrepreneurship, in other words, is the act of grasping and responding to profit opportunities that exist in an imperfect world. Unlike other approaches in modern economics, the imperfections in question are not seen as temporary "frictions" resulting from ill-defined property rights, transaction costs, or asymmetric information. While those

[1] Kirzner is careful to distinguish alertness from systematic search, as in Stigler's (1961, 1962) analysis of searching for bargains or for jobs. A nice example is provided by Ricketts (1987: 58): "Stigler's searcher decides how much time it is worth spending rummaging through dusty attics and untidy drawers looking for a sketch which (the family recalls) Aunt Enid thought might be by Lautrec. Kirzner's entrepreneur enters a house and glances lazily at the pictures which have been hanging in the same place for years. 'Isn't that a Lautrec on the wall?'". See also Kirzner (1997) for his most extensive discussion of the distinction between "sheer ignorance" and asymmetric information, and the role of alertness in overcoming the former.

imperfections can be cast in an equilibrium mold—as in the modern economics of information—Kirzner has in mind a market in permanent and ineradicable disequilibrium.[2]

Kirzner's approach, like that of Knight, Schumpeter, and other key contributors to the economic theory of entrepreneurship, sees entrepreneurship as an economic function, not an employment category (i.e., self-employment) or type of firm (i.e., a startup company).[3] The main effect of the entrepreneurial function is market equilibration: by closing pockets of ignorance in the market, entrepreneurship always stimulates a tendency towards equilibrium (Selgin, 1987). While Kirzner's "pure entrepreneur," an ideal type, performs *only* this function, and does not supply labor or own capital, real-world business people may be partly entrepreneurs in this sense, partly laborers, partly capitalists, and so on. The relationship between entrepreneurial discovery and capital investment distinguishes Kirzner's approach sharply from Knight's (and, arguably, from Kirzner's mentor Ludwig von Mises's). Because Kirzner's (pure) entrepreneurs perform only a discovery function, rather than an investment function, they do not own capital; they need only be alert to profit opportunities. Kirznerian entrepreneurs need not be charismatic leaders, do not innovate, and are not necessarily creative or in possession of sound business judgment. They do not necessarily start firms, raise capital, or manage an enterprise. They perform the discovery function, and nothing else.

Kirzner's work is routinely invoked in references to the classics of the economics of entrepreneurship, alongside Knight's (1921) and Schumpeter's (1911) contributions. Kirzner's framework builds on the market-process approach associated with the Austrian school of economics and can trace its roots further back to Richard Cantillon, J. B. Clark, Frank A. Fetter, and other writers. Kirzner himself sees his contribution as primarily an extension of the work of Mises and F. A. Hayek, in effect bridging Mises's (1949) emphasis on the entrepreneur with Hayek's (1946, 1968) conceptualization of market competition as an unfolding process of discovery and learning.[4] Among mainstream economists, Kirzner has been cited in the literature on occupation-

[2] For details on Kirzner's treatment of equilibrium see Klein (2008b).

[3] See Klein (2008a) for more on the distinction between occupational, structural, and functional approaches to entrepreneurship.

[4] More specifically: "The key to understanding the market process is to understand the dynamic character of market competition. But the neoclassical focus on perfect competition as an equilibrium *state of affairs* prevented appreciation of this insight. It was not until Hayek's pioneering, but insufficiently-appreciated work on the dynamically competitive market as a process of mutual discovery, that Austrian economics was able explicitly to grapple with this embarrassing hiatus. It was particularly in the work of Ludwig von Mises that this writer discovered, in the

al choice, and there have been a few attempts to formalize his model of the market process (Littlechild, 1979; Yates, 2000) and a few experimental investigations (Demmert and Klein, 2003; Kitzmann and Schiereck, 2005). Kirzner has explained the Austrian model of the entrepreneurial market process to readers of the prestigious *Journal of Economic Literature* (Kirzner, 1997). Still, his work has been more influential among management scholars than among economists. Thus, his approach underlies much of the opportunity-discovery or opportunity-recognition branch of the modern entrepreneurship literature (Shane and Venkataraman, 2000; Gaglio and Katz, 2001; Shane, 2003) which makes opportunities, and their discovery and (potential) exploitation, the unit of analysis for entrepreneurship research. This has given rise to a large theoretical, empirical, and experimental literature looking into the various antecedents of such opportunity discovery. As we shall argue, this literature goes much beyond Kirzner's work, making opportunity discovery and its determinants the key feature of the theory, whereas Kirzner's real interest lies in explaining market equilibration, a higher-level phenomenon.

This chapter traces the origin and development of the concept of entrepreneurial alertness. In particular, we place Kirzner's contribution within the broader context of the Austrian school of economics, comparing and contrasting it with other Austrian conceptions of entrepreneurship. We argue that while Kirzner's contribution is often thought of as *the* Austrian conception of the entrepreneur, there is in fact an alternative Austrian tradition that emphasizes the entrepreneur as an uncertainty-bearing, asset-owning individual and that this tradition offers some advantages over the discovery approach (whether in the Kirznerian or modern-management incarnations). We also critically discuss the way Kirzner's work has been interpreted and used in the opportunity discovery approach in recent management research on entrepreneurship.

THE AUSTRIAN SCHOOL OF ECONOMICS

Menger

The Austrian tradition begins with Carl Menger (1871), who sought to develop a causal, realistic account of price formation (and other economic phenomena) in contrast to the inductive, historicist approach that dominated late-nineteenth-century German economics. Menger's approach emphasized the subjectivity of economic value, marginal analysis, resource heterogenei-

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Misesian entrepreneur and in the Misesian dynamically competitive process, what he believed (and believes) to be the true solution. My 1973 work was written in order to spell out this solution" (Kirzner, 2009: 147).

ty, distributed knowledge, and the time-structure of production. The entrepreneur figures prominently in Menger's account of production, though not in the sense emphasized by Kirzner. The entrepreneur is described by Menger (1871: 68) as a coordinating agent who is both capitalist and a manager:

> Entrepreneurial activity includes: (a) obtaining information about the economic situation; (b) economic calculation—all the various computations that must be made if a production process is to be efficient (provided that it is economic in other respects); (c) the act of will by which goods of higher order (or goods in general—under conditions of developed commerce, where any economic good can be exchanged for any other) are assigned to a particular production process; and finally (d) supervision of the execution of the production plan so that it may be carried through as economically as possible.

This formulation emphasizes the importance of uncertainty and knowledge, and the deliberate, decisive action of the entrepreneur in arranging the productive resources at his disposal. Menger also makes the entrepreneur a resource owner, as do Knight (1921) and Foss, Foss, Klein, and Klein (2007).

In the 1880s and 1890s an Austrian school coalesced around Menger and his disciples, most notably Eugen von Böhm-Bawerk and Friedrich Wieser. Mises, a student of Böhm-Bawerk, and Mises's younger colleague Hayek, more a student of Wieser than of Böhm-Bawerk, would develop and extend the Austrian tradition in the early twentieth century, with Kirzner, Murray Rothbard, both Mises students, and Ludwig Lachmann, a Hayek student, making critical contributions in the 1950s, 1960s, and 1970s. Recent scholars have noted considerable variety within the Austrian school, particularly in its modern interpretations. Salerno (1993), in particular, argues that there are two distinct strands of Austrian economics, both tracing the origins to Menger. One strand, manifest in the works of Wieser, Hayek, and Kirzner, emphasizes disequilibrium, the informational role of prices, discovery of already existing opportunities, and profit-seeking behavior as an equilibrating force. Another strand, developed by Böhm-Bawerk, Mises, and Rothbard, focuses on monetary calculation and forward-looking, uncertainty-bearing, entrepreneurial appraisal and investment, rather than discovery.[5] The concept of entrepreneurship as alertness to profit opportunities created by disequilibrium comes out of the Wieser–Hayek–Kirzner strand. There are, however, important precursors to both strands.

Cantillon, Clark, and Fetter: Precursors of Both Austrian Views on the Entrepreneur

Richard Cantillon, often considered a forerunner of the Austrian tradition (Rothbard, 1995; Thornton, 1999) was the first economist to analyze the entrepreneur systematically. In *Essai sur la nature du commerce en general*, Cantillon (1755) recognized three classes of economic agents, landowners, wage workers, and entrepreneurs whose main purpose is to engage in arbitrage, motivated by the profit that may stem from "buying at a certain price and selling at an uncertain price" (Cantillon, 1755: 54):

> Entrepreneurs work for uncertain wages, so to speak, and all others for certain wages until they have them, although their functions and their rank are very disproportionate. The General who has a salary, the Courtier who has a pension, and the Domestic who has wages, are in the latter class. All the others are Entrepreneurs, whether they establish themselves with a capital to carry on their enterprise, or are Entrepreneurs of their own work without any capital, and they may be considered as living subject to uncertainty; even Beggars and Robbers are Entrepreneurs of this class.

Thus Cantillon saw uncertainty as an integral part of understanding profits and emphasized that entrepreneurs, rather than a distinct group of individuals, are all those who bear commercial risk. He also emphasized the importance of foresight and stressed that entrepreneurs do not need to own capital. It is notable, therefore, that Cantillon anticipates both strands of Austrian economics: he emphasizes entrepreneurial appraisal as in the Böhm-Bawerk-Mises-Rothbard tradition, while also emphasizing the arbitrage function of entrepreneurship, as in the Wieser-Hayek-Kirzner tradition.

John Bates Clark is best known for his work on income distribution, and the entrepreneur figures prominently in his theory (Clark, 1918). Key to Clark's understanding of both the nature

[5] Schumpeter is often classified with the Austrian economists but, despite being trained by Böhm-Bawerk, was most heavily influenced by Walras and is better classified as a neoclassical equilibrium theorist. See also Klein (2008b) on these two strands within the Austrian tradition.

of income distribution and the nature of the entrepreneur is his distinction between the "static state" and "dynamic societies" (Salerno, 2008: 18). Under static conditions, the entrepreneur's function is "purely passive . . . the *entrepreneur* in his capacity of buyer and seller does not even do the work which purchases and sales involve. . . . Sales and purchases are made in his name, but he does none of the work that leads up to them" (Clark, 1918: 122). There is essentially nothing for the entrepreneur to do under static conditions because under such conditions all factors of production are already allocated to their optimal uses, so that profits and losses will be zero. However, in the "dynamic society" profits and losses are unavoidably present, because under such conditions and the uncertainty that accompanies them, the entrepreneur "makes the supreme decisions which now and again lead to changes in the business" (Clark, 1918: 124). The entrepreneur, in Clark's view, is the ultimate decision maker, and that "part of the management of a business which consists in making the most far-reaching decisions cannot safely be entrusted to a salaried superintendent or other paid official, and must get its returns, if at all, in the form of profits" (Clark, 1918: 157). This means that the entrepreneur must also be the owner of the business. As in the case of Cantillon we thus see both elements of the Wieser-Hayek-Kirzner discovery view and the Böhm-Bawerk-Mises-Rothbard view in Clark's work.

Clark's contemporary *Frank A. Fetter*, known primarily for his contributions to the theory of capital and interest, also gave the entrepreneur a central role in the process of resource allocation (Fetter, 1905, 1915, 1977). Fetter's explanation of the differences between short-run and long-run profits anticipates both Knight's (1921) distinction between "risk" and "uncertainty" and Kirzner's concept of market equilibration. In the long-run, Fetter argued, the net returns to production are determined by interest rates, themselves determined by the market's rate of "time preference," or the relative valuation of present and future consumption. In the short run, , business incomes fluctuate around these "normal" returns because some entrepreneurs are better able than others to anticipate future prices and can thus acquire resources at prices below the present discounted values of their eventual contributions to output, leaving profit in addition to interest. In doing so, these entrepreneurs bid up the prices of the "underpriced" factors and help bring about the long-run equilibrium in which such profits are eliminated.[6]

[6] As Rothbard (1977: 16) puts it:

> Why does an entrepreneur borrow at all if in so doing he will bid up the loan rate of interest to the rate of time preference as reflected in his long-run normal rate of profit (or his "natural rate of in-

Fetter's (1905: 286–87) description of the entrepreneur (Fetter uses the term "enterpriser") identifies uncertainty-bearing as the key entrepreneurial function. The entrepreneur (a) "guarantees to the capitalist-lender a fixed return," (b) "gives up the certain income to be got by lending his own capital, and, becoming a borrower, offers his capital as insurance to the lender," (c) "gives to other workers a definite amount for services applied to distant ends," and (d) "risks his own services and accepts an indefinite chance instead of a definite amount for them." He also serves as an "organizer" and "director," possessing "unusual foresight" and the "ability to judge men and tact in relations with them" (Fetter, 1905: 268). In short, the entrepreneur "is the economic buffer; economic forces are transmitted through him."

> As the specialized risk-taker, he is the spring or buffer, which takes up and distributes the strain of industry. He feels first the influence of changing conditions. If the prices of his products fall, the first loss comes upon him, and he avoids further loss as best he can by paying less for materials and labor. At such times the wage-earners look upon him as their evil genius, and usually blame him for lowering their wages, not the public for refusing to buy the product at the former high prices. Again, if prices rise, he gains from the increased value of the stock in his hand that has been produced at low cost. If the employer often appears to be a hard man, his disposition is the result of "natural selection." He is placed between the powerful, selfish forces of competition, and his economic survival is conditioned on vigilance, strength, and self-assertion. Weak generosity cannot endure (Fetter, 1905: 287–88).

As in Knight and Kirzner, the entrepreneurial role is not limited to new-venture creation or the introduction of new products, services, production methods, and the like, but lies at the heart of the everyday affairs of production and exchange.

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terest," to use Austrian terminology)? The reason is that superior forecasters envision making short-run profits whenever the general loan rate is lower than the return they expect to obtain. This is precisely the competitive process, which tends, in the long run, to equalize all natural and loan rates in the time market. Those entrepreneurs "with superior knowledge and superior foresight," wrote Fetter, "are merchants, buying when they can in a cheaper and selling in a dearer capitalization market, acting as the equalizers of rates and prices."

Wieser and Hayek: The Beginnings of the Discovery View

In his treatise *Social Economics* (1914) Wieser presented an eclectic definition of the entrepreneur as owner, manager, leader, innovator, organizer, and speculator. He noted that the entrepreneur "must possess the quick perception that seizes new terms in current transactions as his affairs develop" (Wieser, 1914: 324), the first hint of alertness as an entrepreneurial attribute.

Wieser's student Hayek did not contribute to the theory of entrepreneurship *per se*, but his discovery view of competition, developed in a series of essays from the mid-1940s (notably Hayek, 1945, 1946) as a critical reaction to the perfect-competition model, is a crucial input into the opportunity discovery approach. Competition, Hayek argued, should not be understood as a static state of affairs, but as a rivalrous process that is essentially a procedure for discovering "*who* will serve us well: which grocer or travel agency, which department store or hotel, which doctor or solicitor, we can expect to provide the most satisfactory solution for whatever personal problem we may have to face" (Hayek 1946: 97). The basis for this conceptualization is the characteristically Austrian emphasis on dispersed knowledge, present already in Menger, but fully articulated by Hayek. Competition, Hayek maintains, is the mechanism that make best use of dispersed knowledge—it is an effective way to discover knowledge we do not yet know is available or indeed needed at all (Hayek, 1968).

However, Hayek is not entirely forthcoming on how exactly the market performs this discovery function. Entrepreneurs are mentioned only in passing.[7] Indeed, different mechanisms underlying the market's discovery process can be imagined, depending on how much intention, rationality, and learning ability are ascribed to market participants. At one extreme lies a selection mechanism that selects effectively among various entrepreneurial ventures formed essentially in ignorance of consumer preferences (Alchian, 1950; Becker, 1962). Such a process is heavily error-prone, and, more importantly, no one learns from past errors. While Hayek's writings may sometimes describe such processes in which the system, and not individual agents, are "rational" (Langlois, 1985), most other Austrians have strongly emphasized the intentions of entrepreneurs in

[7] Hayek (1968) mentions that competition "is important primarily as a discovery procedure whereby entrepreneurs constantly search for unexploited opportunities that can also be taken advantage of by others. . . . [This] ability to detect certain conditions . . . can [be used] effectively only when the market tells them what kinds of goods and services are demanded, and how urgently" (Hayek, 1968), that is, how effectively the price system works. Hayek also uses the term "entrepreneur" in his earlier writings on socialist calculation and capital theory, but he seems to mean simply "businessman," and does not distinguish sharply among entrepreneurs, managers, capitalists, and other business professionals.

coping with uncertainty and ignorance, allowing for various degrees of error. Indeed, Kirzner has often conceptualized the market process as one of a *systematic* elimination of errors. Interestingly, one of Kirzner's earliest papers is a strong critique of Becker's (1962) evolutionary argument that one can dispense entirely with the rationality of market participants in doing basic price theory (Kirzner, 1962). Kirzner's entrepreneur is highly rational, or perhaps more precisely, extra-rational, in going beyond the given means-ends frameworks and noticing previously undiscovered opportunities for pure profit. Kirzner, then, supplies a crucial mechanism (or micro-foundation) for the Wieser-Hayek discovery view: a competitive market is a superior setting because it generates entrepreneurial discoveries through the exercise of alertness. As Kirzner (1973: 14) argues, "our confidence in the market's ability to learn and to harness the continuous flow of information to generate the market process depends crucially on our belief in the benign presence of the entrepreneurial element." Although the entrepreneur may not search for any profit opportunity in particular, the lure of pure profit may nevertheless lead him to continually scan the horizon, as it were (Kirzner, 1997: 72).

Mises

Kirzner has always described his work as an extension of Mises's theory of the market process.[8] Mises, Kirzner's mentor and teacher at New York University, and Kirzner are usually lumped together as offering a unified Austrian account of the entrepreneur. However, as we clarify later, we place Mises in the Cantillon-Knight tradition of viewing entrepreneurship as judgment over the deployment of resources, not alertness per se. Kirzner (1973: 39-40) agrees that in a world of uncertainty, resource owners exercise entrepreneurial judgment in allocating their resources to particular uses. But he goes on (1973: 40-43) to introduce the analytical device of the pure entrepreneur, the agent who discovers profit opportunities without putting any resources at stake, and claims that this function, rather than investment under uncertainty, is the "driving force" of the market economy. This view, we maintain, and the Wieser-Hayek-Kirzner account in general, is very different from the Cantillon-Knight-Mises view of entrepreneurship.

[8] "I have always emphasized that my own contribution is simply an expansion and deepening of insights articulated by my teacher, Ludwig von Mises" (Kirzner, 2009: 146). See also Kirzner (1982b) for Kirzner's most extensive reflections on the relations between his and Mises' work.

Mises's own position is somewhat ambiguous (Salerno, 2008). The economist, Mises writes, "shows how the activities of enterprising men, the promoters and speculators, eager to profit from discrepancies in the price structure, tend toward eradicating such discrepancies and thereby also toward blotting out the sources of entrepreneurial profit and loss." Describing this equilibrating process "is the task of economic theory" (Mises, 1949: 352–53). Elsewhere, however, Mises describes the entrepreneur as an investor, an economic actor who bears uncertainty, rather than discovering (certain) opportunities for gain. "[T]he outcome of action is always uncertain. Action is always speculation" (Mises, 1949: 253). Consequently, "the real entrepreneur is a speculator, a man eager to utilize his opinion about the future structure of the market for business operations promising profits. This specific anticipative understanding of the conditions of the uncertain future defies any rules and systematization" (Mises, 1949: 582).

This emphasis on action under conditions of uncertainty calls to mind Cantillon's (1755) brief account of the entrepreneurial function and Knight's (1921) concept of entrepreneurial judgment. Judgment is business decision-making when the range of possible future outcomes, let alone the likelihood of individual outcomes, is generally unknown (what Knight terms uncertainty, rather than mere probabilistic risk). Exercising judgment thus requires the investment of resources (primarily, the purchase of factors of production in the present, in anticipation of future receipts from the sale of finished goods).[9] Alertness, or awareness of particular conditions, does not itself involve judgment, and does not, in this understanding, have a direct effect on the allocation of resources.

[9] Knight (1921) introduces the concept of judgment to decompose business income into two elements, interest and profit. Interest is a reward for forgoing present consumption, is determined by the relative time preferences of borrowers and lenders, and would exist even in a world of certainty. Profit, by contrast, is a reward for anticipating the uncertain future more accurately than others and exists only in a world of "true" uncertainty. In such a world, given that production takes time, entrepreneurs will earn either profits or losses based on the differences between factor prices paid and product prices received. This understanding of entrepreneurship is central to Mises's argument that rational economic planning is "impossible" under socialism (Mises, 1920). Entrepreneurs make production plans based on the current prices of factors of production and the anticipated future prices of consumer goods. What Mises calls "economic calculation" is the comparison of these anticipated future receipts with present outlays, all expressed in common monetary units. Under socialism, the absence of factor markets, and the consequent lack of factor prices, renders economic calculation—and hence rational economic planning—impossible. Mises's point is that a socialist economy may assign individuals to be workers, managers, technicians, inventors, and the like, but it cannot, by definition, have entrepreneurs, because there are no money profits and losses.

KIRZNER AND ENTREPRENEURIAL ALERTNESS

Kirzner's Contribution

Kirzner's *Competition and Entrepreneurship* (1973) is conventionally seen as *the* seminal modern Austrian statement on entrepreneurship. Kirzner's later work on entrepreneurship has mainly consisted in clarifying the positions in that book (Kirzner, 1979a, 1992, 1997, 2009), as well as relating them to other theories of entrepreneurship, and applying them to, for example, regulation (e.g., Kirzner, 1984, 1985) and ethics (Kirzner, 1989).

Key in Kirzner's work is his distinction between "Robbinsian maximizing" and "entrepreneurial alertness". The first conforms to the standard picture of economic man as applying given means to best satisfy given but conflicting ends in a fundamentally mechanical way (Robbins, 1932). Because everything is given, action becomes purely a matter of calculation. Kirzner argues that this conceptualization of behavior cannot accommodate the discovery of new means, new ends, and the setting up of new means-ends structures. As a result, the dynamic market process cannot be captured by the model of Robbinsian maximizing; another behavioral quality is needed, namely the quality of entrepreneurial alertness to previously unexploited profit opportunities. Alertness ranges from the discovery of a ten dollar bill on the street to the discovery of a new, highly profitable drug. Thus, entrepreneurs are discoverers; they discover new resource uses, new products, new markets, new possibilities for arbitrage—in short, new possibilities for profitable trade. Alertness is not the same as search (Stigler, 1961), the deliberate search for new information. Rather, entrepreneurship is the act of discovering, or being alert to, information and opportunities that others fail to perceive. It is not only that entrepreneurial activity reduces our lack of knowledge about which products, processes, new organizational forms, etc. are needed; it is more fundamentally that entrepreneurial activity alleviates our ignorance about what we don't know. What Kirzner calls "sheer ignorance" is "necessarily accompanied by the element of surprise—one had not hitherto realized one's ignorance" (Kirzner, 1997: 62).

Combining his notion of entrepreneurial behavior with Hayek's notion of the market as a dynamic process, Kirzner develops a view of the market process as a continual process of entrepreneurial discovery of previously unnoticed opportunities for pure profit. The profits earned in this process reflect the discovery and exploitation of profit opportunities that would not have been grasped in the absence of entrepreneurial activity. Thus, the entrepreneurial function is beneficial because it alleviates the problems of coordination introduced by the division of knowledge (Hayek, 1945). Here Kirzner invokes the welfare concept, borrowed from Hayek, of "plan coordination," a concept that has generated considerable controversy within the Austrian school.[10]

Kirzner's fiction of the pure entrepreneur is introduced to elucidate the coordinating function of entrepreneurship. While Clark and Mises introduced similar devices to emphasize selected aspects of entrepreneurship, Kirzner sees his construct as capturing its very essence. Kirzner has been insistent that the pure entrepreneur is a non-owner (Kirzner, 1975). "An important point," Kirzner argues (1973: 47), "is that ownership and entrepreneurship are to be viewed as completely separate functions. Once we have adopted the convention of concentrating all elements of entrepreneurship into the hands of pure entrepreneurs, we have automatically excluded the asset owner from an entrepreneurial role. Purely entrepreneurial decisions are by definition reserved to decision-makers who own nothing at all" Thus, the entrepreneur is a pure decision maker, and nothing else. As such, anyone can be a pure entrepreneur.

The notions of decision-making in the context of entrepreneurship raise several pertinent questions. For example, the notions of "alertness" and "discovery" suggest that there are separate phases in the act of entrepreneurship. Similarly, Kirzner often talks about the exploitation of opportunities, which adds another possible phase (following discovery). These phases could conceivably be separated by long stretches of time. Relatedly, they could have widely different antecedents or determinants. However, Kirzner seems to treat alertness, discovery, and exploitation as parts of one *Gestalt*—inseparable parts of a whole, and does not seem interested in exploring their relationship. As we argue below, this is presumably because his explanatory concern is equilibration, not the entrepreneur as such.

However, even if entrepreneurship is ultimately a means to understanding a higher-level phenomenon, equilibration, the antecedents of entrepreneurship can still be important and worthy of academic study. The modern entrepreneurship literature in economics and management research has suggested several possible antecedents such as the personal skills (Lazear, 2005), cognitive biases (Busewitz and Barney, 1997), and prior experience (Shane, 2000), as well the characteristics of the parent company (Gompers, Lerner and Scharfstein, 2005), the institutional environment

[10] O'Driscoll and Rizzo (1985: 80–85) argue that plan coordination—they call it Hayekian equilibrium—is not consistently defined in the Austrian literature. On plan coordination see also Salerno, 1991, Klein (2008b), and Klein and Briggeman, 2009.

(Bjørnskov and Foss, 2008), and other background characteristics (Xue and Klein, 2008). However, like other contributors to the economic theory of entrepreneurship (notably Schumpeter and Knight), Kirzner is not interested in such antecedents, presumably because his aim is to construct a general theory of the equilibrating function of entrepreneurship. He does, however, argue that government interference with the price mechanism inhibits the entrepreneurial discovery process (e.g., Kirzner, 1979b).

> [D]irect controls by government on prices, quantities, or qualities of output production or input employment may unintentionally block activities which have, as yet, not been specifically envisaged by anyone. Where these blocked activities turn out to be entrepreneurially profitable activities (perhaps as a result of unforeseen changes in data), the likelihood of their being discovered is then sharply diminished. Without necessarily intending it, the spontaneous discovery process of the free market has thus been, to some extent, stifled or distorted (Kirzner, 1982a).

Debates on the Kirznerian Discovery Approach

Kirzner's approach has stimulated considerable controversy, both within and outside the Austrian school of economics. Among Austrians, debate has focused on the inherently equilibrating aspect of entrepreneurial discovery. Kirzner wants to maintain equilibrium (as understood by mainstream economists) as a meaningful and useful analytical category. The Austrian quarrel with equilibrium economics is that we are "entitled to demand a theoretical basis for the claim that equilibrating processes systematically mold market variables in a direction consistent with the conditions postulated in the equilibrium models" (Kirzner, 1997: 65). However, this "theoretical basis" has not been offered by mainstream economists. This criticism of equilibrium economics echoes Hayek (1937), who argued that economists should devote analytical attention to understanding those learning processes that establish congruence between "subjective data" (i.e., agents' perceptions) and "objective data" (i.e. real scarcities and preferences). However, unlike Hayek, who argued that the "pure logic of choice" was not helpful in this regard, Kirzner claims that entrepreneurship is a logical category that supplies the "'story' which might account for the economists' confidence in the special relevance of the intersection point in [the] demand and supply diagram" (Kirzner, 1997: 66). This may be interpreted as implying that entrepreneurship is always and inherently equilibrating (Selgin, 1987).

However, by explicitly raising the need to theorize equilibrating processes, Kirzner may also be seen as linking up with more mainstream work on convergence to equilibrium (cf. Selgin, 1987: 44) much of which has taken place under the heading of "stability theory," that is, accounting for the conditions under which a general equilibrium (Scarf, 1960) is stable to perturbations and the process through which the equilibrium is re-established. Research has also examined the convergence to rational expectations or various game theoretical equilibria. In all these cases, equilibrium is defined in the game-theoretic sense of mutually convergent actions and beliefs, and convergence occurs only under fairly restrictive conditions. Relatedly, some mainstream economists have argued that it is only meaningful to make use of the equilibrium construct if it can be theoretically demonstrated that there may exist a tendency to equilibrium (Fisher, 1983). Thus, Kirzner may be seen as forging linkages to important contributions from mainstream economics. However, overall this work demonstrates that strong assumptions must be made for convergence to take place—and no such assumptions are explicitly made in Kirzner's work.

There are several ways in which entrepreneurship may fail to equilibrate markets within Kirzner's own analytical system. First, if opportunities can be posited as existing objectively, then if entrepreneurs fail to discover all opportunities, equilibration does not take place (a possibility allowed for by Kirzner himself). Second, if by equilibrium Kirzner has in mind Hayek's sense of multi-period plan coordination, then Kirzner has introduced an intertemporal dimension that may wreak havoc with the whole notion of entrepreneurship as equilibrating. In parts of Kirzner's early work (e.g., Kirzner, 1973), the exercise of entrepreneurship does not seem to presuppose uncertainty. If entrepreneurship means overcoming sheer ignorance by the exercise of alertness, this is a logically correct inference. However, uncertainty is clearly a fundamental aspect of action (Mises, 1949) and it is difficult to see the usefulness of a theory of entrepreneurship that abstracts from it. However, introducing uncertainty may destroy the basis for the claim that entrepreneurship is equilibrating.

In particular, Ludwig Lachmann, drawing on English economist George Shackle's work on the radically uncertain, "kaleidic" economy, raised strong doubts in the 1970s concerning equilibration.[11] If the future is unknowable and emerges from creative acts in a kaleidic manner, current

[11] Lachmann's perspective has generated relatively little attention among management scholars. An exception is Chiles, Bluedorn, and Gupta (2006).

profits and losses—which are based on past actions—do not provide reliable guides to future-oriented current actions (Lachmann, 1976). Only a small subset (e.g., futures markets) of the full set of intertemporal prices exists. In other words, there is very little rational basis for entrepreneurs to form expectations of future consumer demands and resource scarcities, and such expectations are therefore more likely to be divergent than convergent.[12]

Selgin (1987) argues that these debates misunderstand the nature of the equilibration process. Correctly understood, "equilibration" does not refer to coordination of plans as in Hayek (1937), mainstream stability theory, convergence to rational expectations equilibrium, and the like; it refers to entrepreneurial profits and losses. These are strictly subjective categories and have no objective basis outside the minds of entrepreneurs:

> It is necessary … to treat entrepreneurial profit opportunities as the unique products of the valuations and understanding (*Verstehen*) of actors who will seek their exploitation. Upon the fact of action, these "imagined" or "understood" (rather than "perceived") profits are, logically and temporally, destroyed. Thus, action leads to the systematic elimination of entrepreneurial profit and loss; it is *equilibrating* (Selgin, 1987: 39).

Thus, equilibration in this (Misesian) sense makes no reference to the state of knowledge of market participants and whether their plans are consistent or not. In fact, Selgin (1987) dismisses the very notion of coordination in world in which profit opportunities cannot be thought of as "objectively existing", in which preferences have no existence apart from actions, etc. Klein (2008b: 182) argues, following Salerno (1991), that Mises has in mind a concept of coordination that refers only to real-world exchanges, not the movements of prices and quantities toward some hypothetical long-run equilibrium values:

> In this sense, the existence or nonexistence of equilibrating tendencies in the unhampered market—the issue that divided "Kirznerians" and "Lachmannians," and dominated much of the Austrian discussion in the 1980s—is relatively unimportant. For Mises, the critical "market process" is not the convergence to equilibrium, but the selection mechanism in which unsuccessful entrepreneurs—those who syste-

[12] Note that Lachmann (1986) does allow for temporary market clearing, that is, Marshallian such run equilibria.

matically overbid for factors, relative to eventual consumer demands—are eliminated from the market (Mises, 1951).

Other economists have emphasized the contrast between the Kirznerian and Schumpeterian entrepreneurs, asking if Kirzner's entrepreneur can also innovate, be creative, take risks, and so on. Kirzner emphasizes that his "pure entrepreneur" performs only a discovery function and need not be an innovator in the Schumpeterian sense of disrupting an existing equilibrium allocation of resources by introducing new products, services, sources of supply, production methods, etc. Kirzner does not deny that businesspeople, resource owners, financiers, traders, and the like exercise boldness, creativity, and imagination, only that he *need* not exercise these functions to perform the role of alertness to previously unknown profit opportunities. "My entrepreneurs were engaged in *arbitrage*, acting entrepreneurially even when they might *not* be seen as Schumpeterian "creators". . . . In so emphasizing the difference between Schumpeter's theory of entrepreneurship and my own, I was motivated by my primary scientific objective. This was to understand the nature of the market process – even in its *simplest* conceivable contexts (Kirzner, 2009: 147).

A recent stream of management literature, discussed in more detail below, conceives the distinction between Kirznerian discovery and Schumpeterian innovation in terms of different kinds of profit opportunities. Under particular circumstances—for instance, mature industries with well-functioning product and factor markets, little technological change, a stable customer base, and so on—gains from trade may be regarded as "discovery opportunities." Under different circumstances, such opportunities do not exist, and entrepreneurs must "create" their own products, markets, production methods, and so on, and these may be regarded as "creation opportunities" (Alvarez and Barney, 2007). This perspective, we believe, takes the discovery metaphor too literally. Kirzner does not mean that opportunities literally are given, objectively, in the environment, independent of human creativity. "Discovery" is an analytical construct, an instrumental device, not a description of behavior. As Kirzner explains in a 1997 interview:

> I do not mean to convey the idea that the future is a rolled-up tapestry, and we need only to be patient as the picture progressively unrolls itself before our eyes. In fact, the future may be a void. There may be nothing around the corner or in the tapestry. The future has to be created. Philosophically, all this may be so. But it doesn't matter for the sake of the metaphor I have chosen.

> Ex post we have to recognize that when an innovator has discovered something new, that something was metaphorically waiting to be discovered. But from an everyday point-of-view, when a new gadget is invented, we all say, gee, I can see we needed that. It was just waiting to be discovered (Kirzner, 1997).

Notice that Kirzner describes opportunities as "metaphorically waiting to be discovered," not literally waiting to be discovered. He is not offering a particular ontology or epistemology, just proposing an analytical device, designed for a specific purpose (to understand equilibration).

We have discussed elsewhere the relationship between entrepreneurship and resource ownership (Foss and Klein, 2005: Foss, Foss, and Klein, 2007; Foss, Foss, Klein, and Klein, 2007; Klein, 2008a). Kirzner's entrepreneurs do not own capital; they need only be alert to profit opportunities. Because they own no assets, they bear no uncertainty. Critics have seized on this point as a defect in Kirzner's conception. According to this criticism, mere alertness to a profit opportunity is not sufficient for earning profits. To reap financial gain, the entrepreneur must invest resources to realize the discovered profit opportunity. "Entrepreneurial ideas without money are mere parlor games until the money is obtained and committed to the projects" (Rothbard, 1985: 283). Moreover, excepting the few cases where buying low and selling high are nearly instantaneous (say, electronic trading of currencies or commodity futures), even arbitrage transactions require some time to complete. The selling price may fall before the arbitrageur has made his sale, and thus even the pure arbitrageur faces some probability of loss. In Kirzner's formulation, the worst that can happen to an entrepreneur is the failure to discover an existing profit opportunity. Entrepreneurs either earn profits or break even, but it is unclear how they suffer losses.[13]

ENTREPRENEURSHIP AS OPPORTUNITY DISCOVERY

The contemporary opportunity identification literature seeks to build a positive research program by operationalizing the concept of alertness (Kaish and Gilad, 1991; Cooper, Folta, and Woo, 1995; Busenitz, 1996; Gaglio and Katz, 2001). How is alertness manifested in action? How do we recognize it, empirically? Can we distinguish "discovery" from systematic search? However,

[13] This has been a critique of Kirzner's work from beginning (i.e., the publication of Kirzner, 1973). See Salerno (2008) for a stocktaking and assessment of Austrian views of the entrepreneurs, and a summary of some of the early (Austrian) critiques of Kirzner's work.

as discussed by Klein (2008a), this positive research program may miss the point of Kirzner's metaphor of entrepreneurial alertness: namely, that it is only a metaphor. Kirzner's aim is not to characterize entrepreneurship per se, but to explain the tendency for markets to clear. In the Kirznerian system opportunities are (exogenous) arbitrage opportunities *and nothing more.* Entrepreneurship itself serves a purely instrumental function; it is the means by which Kirzner explains market clearing. As Kirzner (2009: 145-46) explains, reviewing his main contributions and critiquing his own critics:

> [M]y own work has *nothing* to say about the secrets of successful entrepreneurship. My work has explored, not the nature of the talents needed for entrepreneurial success, not any guidelines to be followed by would-be successful entrepreneurs, but, instead, the *nature of the market process set in motion* by the entrepreneurial decisions (both successful and unsuccessful ones!). . . . This paper seeks (a) to identify more carefully the sense in which my work on entrepreneurial theory does *not* throw light on the substantive sources of successful entrepreneurship, (b) to argue that a number of (sympathetic) reviewers of my work have somehow failed to recognize this limitation in the scope of my work (and that these scholars have therefore misunderstood certain aspects of my theoretical system), (c) to show that, despite all of the above, my understanding of the market process (as set in motion by entrepreneurial decisions) *can*, in a significant sense, provide a theoretical underpinning for public policy in regard to entrepreneurship.

Of course, arbitrage opportunities cannot exist in a perfectly competitive general-equilibrium model, so Kirzner's framework assumes the presence of competitive imperfections, in the language of strategic factor markets (Barney, 1986; Alvarez and Barney, 2004). Beyond specifying general disequilibrium conditions, however, Kirzner offers no theory of how opportunities come to be identified, who identifies them, and so on; identification itself is a black box. The claim is simply that outside the Arrow–Debreu world in which all knowledge is effectively parameterized, opportunities for disequilibrium profit exist and tend to be discovered and exploited. In short, what Kirzner calls "entrepreneurial discovery" is simply that which causes markets to equilibrate.

Contemporary entrepreneurship scholars, considering whether opportunities are objective or subjective (McMullen and Shepherd, 2006; Companys and McMullen, 2007), note that Kirzner tends to treat them as objective. Again, this is true, but misses the point. Kirzner is not making an ontological claim about the nature of profit opportunities per se—not claiming, in other words, that opportunities *are,* in some fundamental sense, objective—but merely using the concept of objective, exogenously given, but not-yet-discovered opportunities as a device for explaining the tendency of markets to clear. To a certain extent this confusion is caused by the different levels of analysis, Kirzner moving on the level of markets, modern entrepreneurship scholars being concerned with entrepreneurs *per se*. However, this is a case of a fruitful misunderstanding, for the basic notion that opportunity discovery may be taken as the unit of analysis, and that analytical and empirical attention may center on the antecedents to such discovery, has led to a positive research program. This program emphasizes the means by which individuals identify and react to opportunities, relying largely on survey data (Kaish and Gilad, 1991; Cooper et al., 1995; Busenitz, 1996). These studies suggest that founders of new ventures (the operational definition of entrepreneurs) spend more time gathering information, and rely more heavily on unconventional sources of information, than do managers of existing enterprises.

CRITIQUES OF THE DISCOVERY APPROACH

The alertness or discovery perspective faces several challenges, however. First, a precise definition of opportunities has remained elusive. Typically, opportunities are defined very broadly; Shane and Venkataraman's (2000: 220) influential paper defines entrepreneurial opportunities as "those situations in which new goods, services, raw materials, and organizing methods can be introduced and sold at greater than their cost of production." This involves not only technical skills like financial analysis and market research, but also less tangible forms of creativity, team building, problem solving, and leadership (Long and McMullan, 1984; Hills, Lumpkin, and Singh, 1997; Hindle, 2004). It can involve both the recognition of already existing opportunities and the creation, *ex nihilo,* of new opportunities (Alvarez and Barney, 2007). While value can of course be created not only by starting new activities, but also by improving the operation of existing activities, research in opportunity identification tends to emphasize the launching of new ventures (firms, products, or services). As summarized by Shane (2003: 4–5), "the academic field of entrepreneurship incorporates, in its domain, explanations for why, when and how entrepreneurial opportunities exist; the sources of those opportunities and the forms that they take; the processes of opportunity discovery and evaluation; the acquisition of resources for the exploitation of these opportunities; the act of opportunity exploitation; why, when, and how some individuals and not others discover, evaluate, gather resources for and exploit opportunities; the strategies used to pursue opportunities; and the organizing efforts to exploit them."

A recent debate asks whether opportunities are "discovered" or "created." Alvarez and Barney (2007) distinguish, within the applied entrepreneurship literature, a "discovery approach," in which entrepreneurial actions are seen as responses to exogenous shocks, and a "creation approach," in which such actions are taken as endogenous. "Discovery entrepreneurs" focus on predicting systematic risks, formulating complete and stable strategies, and procuring capital from external sources. "Creation entrepreneurs," by contrast, appreciate iterative, inductive, incremental decision making, are comfortable with emergent and flexible strategies, and tend to rely on internal finance. More generally, as noted by McMullen, Plummer, and Acs (2007: 273), "some researchers argue that the subjective or socially constructed nature of opportunity makes it impossible to separate opportunity from the individual, [while] others contend that opportunity is as an objective construct visible to or created by the knowledgeable or attuned entrepreneur."

Klein (2008a) argues that the discovery–creation distinction places too much emphasis on the ontology of the opportunity, and that opportunities should be treated instead as instrumental constructs, as metaphors useful for the economist or management theorist, rather than frameworks for entrepreneurial decision-making itself. In the Knightian approach (as developed in Foss, Foss, Foss, and Klein, 2007, and Foss, Foss, and Klein, 2007) opportunities are best characterized neither as discovered nor created, but *imagined*. The creation metaphor implies that profit opportunities, once the entrepreneur has conceived or established them, come into being, objectively, like a work of art. Creation implies that something is created. There is no uncertainty about its existence or characteristics (though of course its market value may not be known until later). By contrast, the concept of opportunity imagination emphasizes that gains (and losses) to not come into being, objectively, until entrepreneurial action is complete (i.e., until final goods and services have been produced and sold).

Another issue relates to entrepreneurial opportunities and profit opportunities more generally. Shane and Venkataraman (2000) define profit opportunities as opportunities to create value by enhancing the efficiency of producing existing goods, services, and processes, reserving the term entrepreneurial opportunities for value creation through "the discovery of new means–ends frameworks," appealing to the Kirznerian distinction between Robbinsian maximizing and entrepreneurial alertness described above. They may misunderstand Kirzner (and the Austrians more generally) on this point, however. In a world of Knightian uncertainty, *all* profit opportunities involve decisions for which no well-specified maximization problem is available. Kirzner does not mean that some economic decisions really *are* the result of Robbinsian maximizing while others reflect discovery. Instead, Kirzner is simply contrasting two methodological constructions for the analysis of human action.

An alternative approach is to focus not on what opportunities "are," but what opportunities "do." Opportunities, in this sense, are treated as a latent construct that is manifested in entrepreneurial *action*—investment, creating new organizations, bringing products to market, and so on. Empirically, this approach can be operationalized by treating entrepreneurship as a latent variable in a structural-equations framework (Xue and Klein, 2008). Moreover, by treating opportunities as a latent construct, this approach sidesteps the problem of defining opportunities as objective or subjective, real or imagined, and so on. The formation of entrepreneurial beliefs is treated as a potentially interesting psychological problem, but not part of the economic analysis of entrepreneurship. It also avoids thorny questions about whether alertness or judgment is simply luck (Demsetz, 1983), a kind of intuition (Dane and Pratt, 2007), or something else entirely.

If opportunities are inherently subjective, and we treat them as a black box, then the unit of analysis should not be opportunities, but rather some action—in Knightian terms, the assembly of resources in the present in anticipation of (uncertain) receipts in the future. One way to capture the Knightian concept of entrepreneurial action is Casson and Wadeson's notion of "projects" (Casson and Wadeson, 2007). A project is a stock of resources committed to particular activities for a specified period of time. (Opportunities are defined as potential, but currently inactive, projects). Focusing on projects, rather than opportunities, implies an emphasis not on opportunity identification, but on opportunity *exploitation*, not identification. More generally, this perspective suggests that entrepreneurship research should focus on the execution of business plans.

Foss, Foss, Klein, and Klein (2007) offer an account of opportunity exploitation that combines the Knightian concept of judgment and the Austrian approach to capital heterogeneity. In Knight's formulation, entrepreneurship represents judgment that cannot be assessed in terms of its marginal product and which cannot, accordingly, be paid a wage (Knight 1921: 311). In other words, there is no market for the judgment that entrepreneurs rely on, and therefore exercising judgment requires the person with judgment to start a firm. Of course, judgmental decision makers can hire consultants, forecasters, technical experts, and so on. However, in doing so they are exercising their own entrepreneurial judgment. Judgment thus implies asset ownership, for judgmental decision-making is ultimately decision-making about the employment of resources. The entrepreneur’s role, then, is to arrange or organize the capital goods he owns. As Lachmann (1956, p. 16) puts it: “We are living in a world of unexpected change; hence capital combinations . . . will be ever changing, will be dissolved and reformed. In this activity, we find the real function of the entrepreneur.”

CONCLUSIONS

The concept of entrepreneurial alertness continues to be one of the most heavily used, and potentially valuable, constructs in entrepreneurship research. It dovetails nicely with ideas from microeconomic theory about equilibration and arbitrage, and it appears to have recognizable empirical analogs in processes of decision-making, evaluation, assessment, environmental recognition, and the like. It is easy to see why the concept of alertness has become foundational in applied entrepreneurship studies.

However, as Kirzner’s recent essay (2009) makes clear, the relationship between the theoretical construct of alertness and the applied study of opportunity recognition is subtle and complex. Kirzner (2009) sees his concept of the entrepreneurial market process as relevant to applied work not primarily to management research, but in public policy. After arguing that Schumpeterian creativity can, in an important sense, be subsumed as a category of alertness—even Schumpeter’s innovations can, ex post, be seen as improvements that were waiting to be discovered—Kirzner (2009: 151) notes that “the way in which policymakers understand the market economy is likely to carry enormously significant implications for encouragement or discouragement of entrepreneurial creativity.” Specifically, while “[w]e know very little that is systematic about what ‘switches on’ alertness . . . it does seem intuitively obvious that alertness can be ‘switched off’ by the conviction that external intervention will confiscate (wholly or in part) whatever one might notice.” This is an argument about regulation, antitrust, and other government policies that affect business decision-making, but could also be applied to alertness within organizations: the belief that senior managers will appropriate the rent streams created by discovery or creation of new activities or uses of assets by lower-level employees will likely stifle “entrepreneurial” activity within the firm (Foss, Foss, and Klein, 2007). More generally, as discussed above, it suggests that we can analyze specifically the effects of the competitive, regulatory, and technological environment on entrepreneurial behavior, an approach that is not easily squared with the pure concept of alertness, as Kirzner conceives it.

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