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The questions we ask and the questions we care about: reformulating some problems in entrepreneurship research

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Abstract

Both history of science and creativity research have shown that reformulating the questions we ask can lead to breakthroughs more often than trying harder to search for more rigorous answers. In such a spirit of creative play, I suggest we throw away our obsession with dividing the world into entrepreneurs and nonentrepreneurs and focus instead on categories within entrepreneurs. In particular, (a) those who want to become entrepreneurs but do not suggest compelling research questions about barriers to entrepreneurship; while, (b) those who do become entrepreneurs need to develop expertise, impelling our research to focus on the rubric of design.

Keywords: Entrepreneurship research; Property rights; Market augmenting; Risk capital

1. Introduction

The questions we ask often prevent us from asking other questions. The particular ways in which we formulate key questions in research can sometimes drive us down unprofitable paths, even when the underlying concerns that motivate our questions are genuine and important. The hundred-year pursuit of the question ‘‘Is heat a substance?’’ starting with the phlogiston theory in the late 17th century and working its way through the conflict between the caloric and kinetic theories in the 18th from the history of science is a case in point (Goldstein and Goldstein, 1980). Such stories from the history of science as well as more recent research in creative problem solving show that problem formulation and reformulation (i.e., redrawing the problem space) may be more useful than searching within a given solution

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space, however large (Getzels and Csikzentmihalyi, 1976). I write this essay in the spirit of creatively reformulating some of the questions we are currently asking.

One of the most persistent and largely fruitless endeavors we have engaged in as entrepreneurship researchers consists in our efforts to understand differences between entrepreneurs and nonentrepreneurs, both with respect to the decision to become entrepreneurs as well as the propensity to succeed in new venture creation. In this pursuit, we differ markedly from other areas of research. For example, accounting scholars do not begin by trying to understand why some people become accountants and others do not; even general management scholarship does not proceed with the differences between managers and nonmanagers. Why then, are we, as entrepreneurship researchers, driven by the differences between entrepreneurs and nonentrepreneurs?

If we are to reformulate some of the questions in this arena in more promising ways, we need to begin with a clarification of why we *care* about this line of research. In other words, what genuine concerns drive us to ask the questions we do ask? The answer seems to consist almost entirely in an effort to foster entrepreneurship both at the individual level and at the level of the economy. When we dig deeper into why we think entrepreneurship needs to be fostered and why it is worth fostering, we encounter two key premises:

(a) Why we need to foster entrepreneurship
There may be strong reasons to believe that there does *not* exist a "market" for entrepreneurs in the sense that there are markets for accountants and managers.[1] Stated in a weaker form, one might argue that the market for entrepreneurs, to the extent that it does exist, is always in imminent danger of failure and dissolution; and,
(b) Why entrepreneurship may be worth fostering
Entrepreneurship creates value in society that is disproportionate to its role within the economy, and that persists over longer periods of history than any other functional area in business. In other words, entrepreneurship creates positive externalities in benefits that accrue beyond the spatial, temporal, and popular contexts in which it occurs.[2]

The two premises stated above together drive our concerns with regard to fostering and encouraging entrepreneurship in a public policy sense, as well as to motivate individuals to become and succeed as entrepreneurs. Thus far, we have sought to address these issues primarily by trying to understand why certain individuals become entrepreneurs and others do not, as well as by examining the differences between entrepreneurs who succeed and ones that do not. In the following sections, I will suggest certain alternative reformulations of this research with a view to addressing the same underlying ultimate concern, namely, how to foster entrepreneurship both at the level of the individual and that of the economy.

[1] Some arguments to this effect can be found in Kirzner (1979, p. 174), "The market does not, therefore, attach marginal productivity prices to the uniquely entrepreneurial human qualities able to spot gaps in the fabric of market prices. Profits are not a factor income."

[2] Credible evidence for this has been found—whether entrepreneurship is modeled as innovation (Griliches, 1984), or entry (Geroski, 1989), or an independent organizational form (Shane, 1995).

2. Reformulation 1: Barriers to entrepreneurship

Instead of dividing the world into entrepreneurs and nonentrepreneurs, we could begin by considering the distribution of the potential to become an entrepreneur. I would argue that this distribution takes the following shape: some individuals will become entrepreneurs no matter what; others will not become entrepreneurs under any circumstances; but the large majority will consist of individuals who will become entrepreneurs under certain circumstances and not under others. In other words, if we ignore the two natural-born (or traits-based) groups of entrepreneurs and nonentrepreneurs (assuming any such exist at all), our universe will still contain a large population of individuals who are neither entrepreneurs nor nonentrepreneurs.

By starting with the assumption that there exist circumstances under which this entire population will become entrepreneurs, we can reformulate our research questions in terms of "What barriers to entrepreneurship exist?" rather than as what induces people to become entrepreneurs. Sometimes the removal of barriers may foster more and better entrepreneurship than any incentives. A list of barriers to entrepreneurship could include the following, some of which at least have been suggested and studied by scholars outside the mainstream of entrepreneurship research:

2.1. Property rights and the titling of untitled assets

Hernando De Soto (2000), in his study of developing countries in Asia, Africa, the Middle East, and Latin America, demonstrated the fact that untitled assets that could not be used as capital was a primary barrier to the kind of entrepreneurship that leads to capital accumulation and national economic prosperity. Through a surprising cumulation of detailed data, he demonstrates that the so-called poor of these countries are very good at saving and already have the assets needed to launch them into prosperity. What they lack, however, is a legal property system that allows them to cooperate imaginatively in creating new uses for the assets they already have. That kind of unleashing of the innovative potential in people and assets requires marketable titles and the institutional infrastructure that enables fluid trade in those titles. As De Soto (2000, p. 65) puts it, "If capitalism had a mind, it would be located in the legal property system."

2.2. Governments that are not market-augmenting

Taking on the same practical challenge that De Soto took on, but from a deeper theory-development stance, Mancur Olson (2000) argued that it is not the lack of entrepreneurship that kept underdeveloped countries economically backward, but the lack of market-augmenting governments. He provided a useful framework for how a government could function in a market-augmenting, rather than a market-hindering way. A government that is not strong enough to enforce private contracts and protect property rights or one that is too strong and tramples them can both create unsurmountable barriers to entrepreneurship.

2.3. Lack of variety in types of risk capital

Venkataraman (in Sarasvathy, 2000) has pointed out the existence of a variety of types of risk capital in an entrepreneurial economy such as the United States and questioned the reasons for the phenomenon that goes against the grain of neoclassical theories of economics and finance. An interesting set of research questions arises out of his exposition, "Are differences in levels of entrepreneurship in an economy or region related to the diversity of sources of risk capital in it? If so, why?" While researchers have considered the presence or absence of venture capital as an explanation for entrepreneurial activity in a given geographic area, the issue of variety and diversity of sources is almost always overlooked.

2.4. Low levels of unemployment

Besides access to risk capital, there is some empirical evidence that there exists a relationship between firm startups and the level of unemployment in the economy (for example, see Blanchflower and Oswald, 1998, p. 37). In addition, during the dotcom boom, newspapers carried several reports of small businesses being closed by their proprietors who decided to seek employment in the highly lucrative labor economy. For the particular group of entrepreneurs who do perceive and act upon tradeoffs between labor market opportunities and entrepreneurial opportunities, we need to understand how the level of unemployment may act as a barrier or facilitator of the decision to become or cease to be an entrepreneur.

2.5. Attitudes toward money and profit

McCraw (1997, p. 1) demonstrates that before the 18th century, most economies, including countries that have since then successfully adopted capitalism, remained stagnant at an annual GDP growth of about 1.1%. He attributes this stagnancy in substantial part to the perception before that time of profit as an evil to be avoided, and merchants/entrepreneurs as a lower class of citizens to be looked down upon, if not mocked or condemned outright. More recently, Dana (1995) chronicles how the belief system based on Theraveda Buddhism functions against the entrepreneurial spirit in Lao men and relates it to the poverty of the nation. Gerschenkron (2000), on the other hand, brings historical evidence to bear on how societies overcame such disapproval by finding ingenious substitutes for them that would help foster entrepreneurship.

2.6. Entrenched decision processes in large corporations

Christensen and Bower (1996) identified the "innovators' dilemma" that results in the failure of leading firms faced with disruptive technological change, particularly in the disk-drive industry. Their work points to the existence of barriers to entrepreneurship in large technology-driven firms in the form of customer-driven decision processes. One way of mitigating these barriers has been suggested by Dew and Sarasvathy (2001). However, other possible barriers to entrepreneurship in bureaucracies and ways to overcome them need to be explored through future research.

2.6.1. The role of traits in this line of research

In studying these barriers to entrepreneurship, we could use traits as moderating variables that explain the decision to become an entrepreneur. For example, given a group of individuals downsized by a large corporation, we could examine differences among those who became entrepreneurs, those who found other work, and those who remained unemployed over specific periods after being laid off. Research of this kind helps bound the population under investigation on specific parameters. Hopefully, results within such bounds might be clearer and more revealing about the role of traits in the decision to become an entrepreneur than when studied across a wider more diverse population, such as entire countries or geographic regions or industries.

In fact, the difference I am suggesting here embodies the difference between old-style typology thinking that our current traits approaches are built upon and more sophisticated population thinking, such as those found in the best evolutionary theories. According to Ernst Mayr, one of Darwin's central contributions was to have replaced "typological thinking" with "population thinking." In his words (Mayr, 1975, p. 27),

> All organisms and organic phenomena are composed of unique features and can be described collectively only in statistical terms…Averages are merely statistical abstractions; only the individuals of which the populations are composed have reality. The ultimate conclusions of the population thinker and of the typologist are precisely the opposite. For the typologist, the type is real and the variation an illusion, while for the populationist the type (average) is an abstraction and only the variation is real. No two ways of looking at nature could be more different.

If we focus our work on what is common across *all* entrepreneurs as opposed to nonentrepreneurs, we would be falling into the mire of typology thinking. Instead, if we were to turn our attention to key differences *within* any given type of entrepreneurs, we will begin to characterize entrepreneurship in all its variety and yet find ways to deal with it in a useful manner in our research and pedagogy. With a view to indicating a first step in that direction, I will next examine some tentative populationist taxonomies of entrepreneurs.

2.6.2. All entrepreneurs are not alike: nor are all non-entrepreneurs similar

One of the key premises of dividing the world into entrepreneurs and nonentrepreneurs consists in the notion that entrepreneurs constitute a "species" or a classical "natural kind." But as philosophers of biology and linguists have argued in great detail, the notion of *species* is very different from the notion of *natural kind*. According to Lakoff (1987, p. 192),

> To summarize, the biological species concept fails to be a classical natural kind in the following ways:

–It does not have homogeneous internal structure.
–It is defined relative to other groups.

–It is not defined solely with respect to properties of individuals.
–It does not have clear boundaries.
–It is not transitive.
–It does not have necessary conditions.
–It is dependent on geography.

Are entrepreneurs more like a species or like a natural kind? The traditional traits approach and even some of our current cognitive approaches treat entrepreneurs as a natural kind, i.e., treat them as a class all members of which are essentially identical. But for those of us who have actually observed entrepreneurs in action, it would be more persuasive to model them as a species. Hence, my argument to proceed in the opposite direction from that of dividing the world into entrepreneurs and nonentrepreneurs—i.e., to begin by dividing the world according to what we suspect may be key parameters of entrepreneurial variation, and then examine why certain individuals who exhibit those variations choose to become entrepreneurs or not. For example, given a group of individuals who score high on self-efficacy, we can examine why some of them choose to become entrepreneurs and others do not. A recent exemplar on this type of sampling is found in Markman et al. (2002), where they first selected a random sample of inventors, and then looked to understand differences between those who founded firms and those who did not within that bounded sample.

Even within the total population of entrepreneurs within a specific category, there might be several subgroups that might need to be studied separately under differing circumstances and for different research purposes. Examples of relevant classifications might include one-time versus serial versus portfolio entrepreneurs, entrepreneurs classified according to preferred exit strategies (e.g., life-style versus IPO versus sales), entrepreneurs with differing political leanings (right versus moderate versus left), and so on. Instead of classifying individuals as entrepreneurs and nonentrepreneurs, we might want to create a taxonomy of categories within entrepreneurs. Each category would be homogenous along certain parameters and heterogeneous along others, allowing us then to look within each subcategory for similarities and also differences between categories in specific aspects of entrepreneuring, such as opportunity formulation, financing strategies, failure management, and so on.

Therefore, instead of trying to relate characteristics across a variety of entrepreneurs (e.g., self-efficacy) with performance, we would be relating specific subcategories with specific aspects of performance. Examples of the kinds of questions we could ask would be: ‘‘Do VC-funded entrepreneurs react to negative market feedback differently than family-funded entrepreneurs?’’ ‘‘What commonalties exist in the budgeting practices of serial entrepreneurs who routinely sell their companies within 5 years?’’ And so on. Starting with specific subgroups of entrepreneurs that have certain aspects of entrepreneuring in common allows us to use not only variance approaches, but approaches that identify and analyze commonalties. Our questions then cannot only hone in more precisely on specific and useful theories for practice and pedagogy, but hopefully would also enable us to cumulate our results over time into theories of greater validity and scope.

Furthermore, such approaches fall within a larger theoretical rubric that could be particularly fruitful in our reformulations of our research questions. That rubric is *design*, and I examine it next.

3. Reformulation 2: Entrepreneurship as design

In the previous section, I discussed possible research questions that address the following issue: Given that some people want to become entrepreneurs *and do not*, we need to study *barriers* to entrepreneurship. In this section, I will suggest research questions that address the flip side of that: Given that some people want to become entrepreneurs and *do*, we need to study the *content* of entrepreneurship.

3.1. Focus on the "entrepreneur" as distinct from the "firm"

The first glaring lapse with regard to content in entrepreneurship begins with understanding success and failure rates for firms as distinct from success and failure rates for *entrepreneurs*. Given that at least some entrepreneurs start several firms, it stands to reason that the probability of success for a typical entrepreneur is different from that for a typical firm (Sarasvathy and Menon, 2002). Yet, virtually none of our studies make this distinction. As a result, while we have at least rough estimates of firm success rates, we do not have any for entrepreneurs! Almost all our data collection projects till date involve firms as the unit of analysis and not the entrepreneur. Even traits-based research primarily strives to relate the psychology of the entrepreneur with the success/failure of the firm and not with the success/failure of the entrepreneur.

If we are to develop real content in entrepreneurship, we need to focus our attention on understanding it from the point of view of the *entrepreneur.* In other words, we need to develop questions that emphasize how the firm serves as an *instrument* in the toolkit of the entrepreneur, rather than casting the entrepreneur as always in the service of firm survival. From this perspective, exit strategies will get a great deal more attention than they now receive. Furthermore, how the entrepreneur *designs* particular firms that bridge or cleave their personal aspirations in relation to environmental possibilities would form the cornerstone of a variety of research projects that are hitherto either neglected or understudied.

3.2. The rubric of design

In fact, as argued elsewhere (Sarasvathy, 2003; Augier and Sarasvathy, 2003), I believe that the rubric of *design* (based on the work of Herbert Simon and his colleagues in the second half of the twentieth century and summarized in *Sciences of the Artificial*) has the greatest potential for productive reformulations of our research questions in entrepreneurship. How might one formulate and study entrepreneurship as a science of the artificial? On page 113 of the edition of the book, Simon (1996) wrote,

> The previous chapters have shown that a science of artificial phenomena is always in imminent danger of dissolving and vanishing. The peculiar properties of the artifact lie on the thin interface between the natural laws within it and the natural laws without. What can we say about it? What is there to study besides the boundary sciences—those that govern the means and the task environment?

And in answer to that, he suggests:

> The artificial world is centered precisely on this interface between the inner and outer environments; it is concerned with attaining goals by adapting the former to the latter. The proper study of those who are concerned with the artificial is the way in which that adaptation of means to environments is brought about—and central to that is the process of design itself.

In entrepreneurship, for example, we continuously study the boundary sciences—the psychology of the individual, or the resource base of the firm or those that involve the outer environment—the lifecycle of the industry or the opportunities created by the trajectories of new technologies. And we try to relate these sciences directly to outcome measures such as survival, growth, and profits. In doing so, we completely ignore what is really interesting about entrepreneurship—and that is the interface between these two sets of sciences. See Fig. 1 for a graphical representation of this argument.

3.3. Entrepreneurship as a science of the artificial

I propose that we study entrepreneurship as a science of the artificial. We can begin by focusing on how individuals and firms "design" adaptive and negotiated goals and strategies that shape both themselves and their environments over time. Designing goals and artifacts well involves making their inner and outer environments resemble each other in useful ways. For example, physicists and engineers devise machines that simulate physical environments, allowing them to manipulate those environments for their particular purposes—be it to extract oil from the earth or to grow vegetables off-season. Similarly, entrepreneurs not only design firms as instruments that adapt to their environments—and help exploit profit opportunities within those environments; but they also shape parts of their environments to more closely resemble both their personal aspirations and their firms' resource endowments—so they can create new opportunities for wealth for themselves as well as values for their stakeholders.

Studying entrepreneurship as a science of the artificial demands that we recognize that design involves redesigning both inner and outer environments and not direct relationships amenable to a posteriori analyses. Understanding how particular entrepreneurs create particular firms and markets in-depth and even attempting to simulate them, I am optimistic, will lead to more specific, easier-to-observe predictions that can then be tested using more traditional variance methods. In other words, instead of trying to explicate the relationship between the psychology of the individual entrepreneur (say, self-efficacy or risk propensity) with performance (say, survival or ROI), we could try to understand how entrepreneurs with certain levels of self-efficacy or given propensities for certain types of risk fashion particular

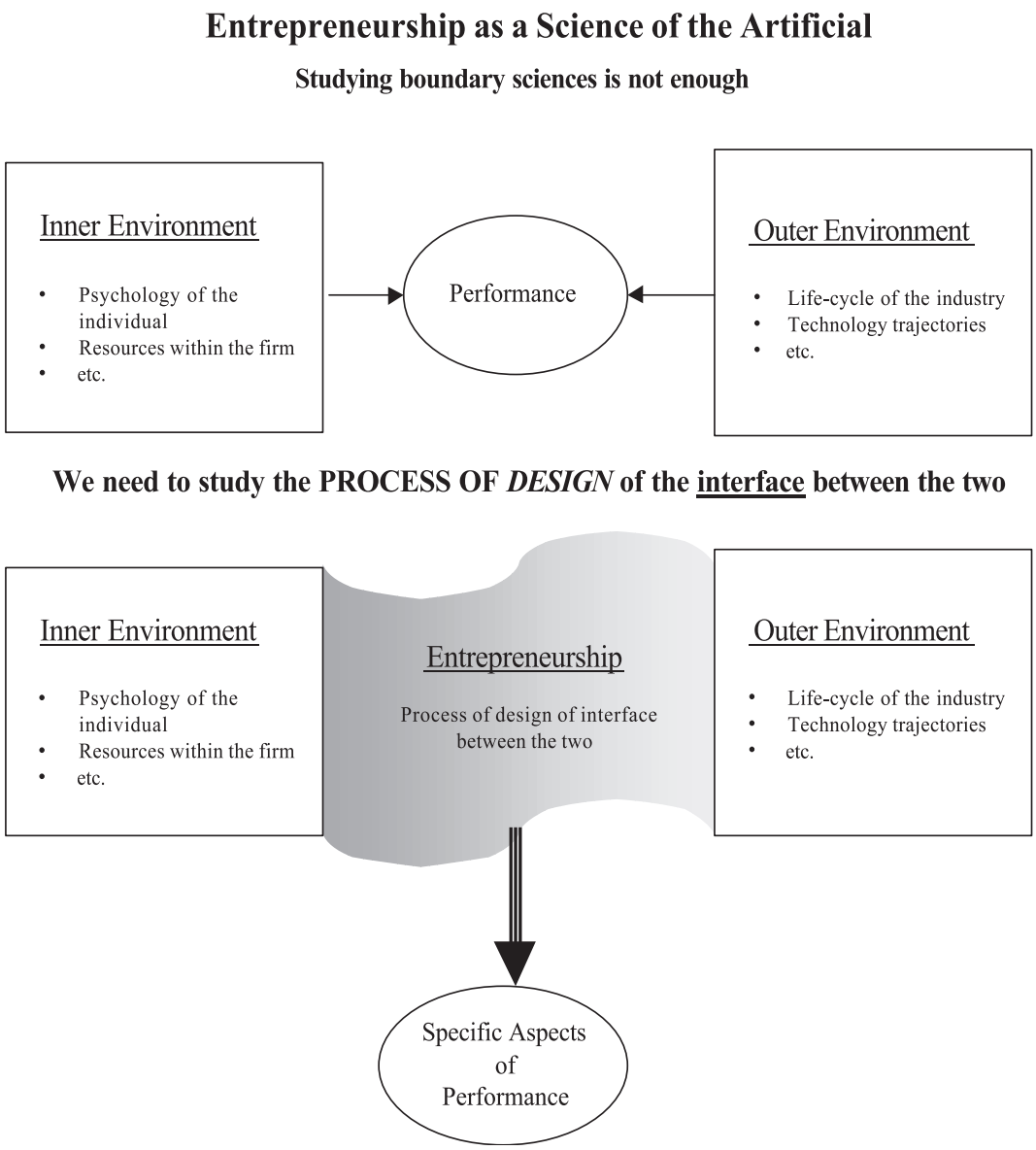

Fig. 1. Entrepreneurship as a science of the artificial.

strategies in particular industries or create firms with particular exit strategies and so on. Similarly, instead of directly assessing the effect of industry environment on firm performance, we could study how entrepreneurs, given that they have survived in particular environments (say, high-velocity environments), design decision procedures that cope with those environments (Eisenhardt, 1989).

4. Conclusion

After several decades of pursuing the holy grail of firm performance as a measurable consequence of entrepreneurial characteristics, it may be time to reformulate our research questions in terms of our genuine concerns about the phenomenon of entrepreneurship, namely, how we can foster entrepreneurship both in individuals and in economies. Such an endeavor, I have argued above, should begin by casting aside our current dichotomous picture of the world as consisting of entrepreneurs and nonentrepreneurs. Instead, if we begin with a mixed distribution of individuals with varying degrees of drive and ability with regard to entrepreneurship, we can ignore the extreme cases in the tails and focus on two major categories of reformulation. First, with regard to individuals, organizations, and economies that want to become entrepreneurial, but do not, we need to understand barriers to entrepreneurship. Second, with regard to those who have chosen to become entrepreneurial, we need to understand how they can design better firms, markets, and economies. The former will give us macrotheories that are currently underemphasized in our research and the latter will allow us to study entrepreneurship as a science of the artificial. Together, the two reformulations open us up to exciting work from political economy and human cognition that we do not currently draw upon.

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References

Augier, M.S., Sarasvathy, S.D., 2003. Integrating evolution, cognition and design: Extending Simonian perspectives to strategic organisation. Working paper available at: www.effectuation.org.

Blanchflower, D.G., Oswald, A.J., 1998. What makes an entrepreneur? J. Labor Econ. 16 (1), 26–60.

Christensen, C.M., Bower, J.L., 1996. Customer power, strategic investment and the failure of leading firms. Strateg. Manage. J. 17, 197–218.

Dana, L.P., 1995. Small business in a non-entrepreneurial society: the case of the Lao people's democratic republic. J. Small Bus. Manage. 33 (3), 95–102.

De Soto, H., 2000. The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else. Basic Books, New York.

Dew, N., Saravasthy, S.D., 2001. Of immortal firms and mortal markets: dissolving "the innovator's dilemma." The 2nd Annual Technology Entrepreneurship Research Policy Conference University of Maryland. Available at: www.effectuation.org.

Eisenhardt, K., 1989. Making fast strategic decisions in high-velocity environments. Acad. Manage. J. 62 (3), 542–576.

Geroski, P.A., 1989. Entry, innovation, and productivity growth. Rev. Econ. Stat. 71 (4), 572–578.
Gerschenkron, A., 2000. The modernization of entrepreneurship. In: Swedberg, R. (Ed.), Entrepreneurship: The Social Science View. Oxford Univ. Press, Oxford, pp. 129–138.
Getzels, J., Csikzentmihalyi, M., 1976. The Creative Vision: A Longitudinal Study of Problem Finding in Art. Wiley, New York.
Goldstein, M., Goldstein, I.F., 1980. How We Know: An exploration of the Scientific Process. Da Capo Press, Cambridge, MA.
Griliches, Z. (Ed.), 1984. R&D Patents and Productivity. University of Chicago Press, Chicago, IL, pp. 1–19.
Kirzner, I.M., 1979. Perception, Opportunity, and Profit: Studies in the Theory of Entrepreneurship. University of Chicago Press, Chicago, IL.
Lakoff, G., 1987. Women, Fire, and Dangerous Things: What Categories Reveal About the Mind. University of Chicago Press, Chicago, IL.
Markman, G.D., Balkin, D.B., Baron, R.A., 2002. Inventors and new venture formation: the effects of general self-efficacy and regretful thinking. Presented at the 2002 UVIC Cognition Conference, Victoria, BC, Canada.
Mayr, E., 1975. Evolution and the Diversity of Life. Harvard Univ. Press, Cambridge, MA.
McCraw, T.K., 1997. Introduction. In: McCraw, T.K. (Ed.), Creating Modern Capitalism: How Entrepreneurs, Companies, and Countries Triumphed in Three Industrial Revolutions. Harvard Univ. Press, Cambridge, pp. 1–16.
Olson, M., 2000. Power and Prosperity: Outgrowing Communist and Capitalist Dictatorships. Basic Books, New York.
Sarasvathy, S.D., 2003. Entrepreneurship as a science of the artificial. J. Econ. Psychol. 24, 203–220.
Sarasvathy, S.D., Menon, A.R., 2002. Failing firms and successful entrepreneurs: serial entrepreneurship as a simple machine. Presented at the 2002 Academy of Management Meeting, Denver, CO. Available at: www.effectuation.org.
Shane, S., 1995. Is the independent entrepreneurial firm a valuable organizational form? Acad. Manage. J., 110–113 (Best Paper Proceedings).
Simon, H.A., 1996. Sciences of the Artificial. MIT Press, Cambridge, MA.
Venkataraman, S., 2000. Comments. In: Sarasvathy, S.D. (Ed.), Report on the seminar on research perspectives in entrepreneurship. J. Bus. Venturing vol. 15(1), 1–58.