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A Dialogue With William J. Baumol: Insights on Entrepreneurship Theory and Education

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This interview and commentary addresses key issues in entrepreneurship by highlighting William Baumol's contributions and his personal insights. We emphasize the multilevel approach that entrepreneurship research should adopt, and that assumptions underlying the research are too often unstated, rendering comparison between studies difficult. Baumol argues for more experimentation and government support of research on ways to improve the teaching of innovative entrepreneurship, since there is little evidence on what works and what does not. The discussion stresses that entrepreneurship is a multifaceted phenomenon that varies depending on context, the level of innovation, and its impact on society. Consequently, entrepreneurship research requires the development of an encompassing paradigm, appropriate educational methods, and study of the institutions that provide the most desirable incentives.

Introduction

In 2001, a special issue of *Entrepreneurship Theory and Practice* (ET&P) centered on achievements and future directions for entrepreneurship research. Davidsson and Wiklund (2001) lamented the preoccupation with the microlevel in entrepreneurship research, and pointed out the crucial difference between ventures that enriched their owners at a net societal loss and those whose retained profits dwarfed their societal contribution.

Ten years later, *ET&P* revisited the debate on the future of entrepreneurship research, with Wiklund, Davidsson, Audretsch, and Karlsson (2011) highlighting that one of the main questions is whether entrepreneurship has achieved legitimacy as a *bona fide*

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separate and individual field, or is a topic of research in the more traditional fields. In that issue, Sarasvathy and Venkataraman (2011), Shepherd and Patzelt (2011), and McMullen (2011) all emphasized entrepreneurship as a force for creating "a better world." Given the emerging and burgeoning strands of research on social entrepreneurship (Austin, Stevenson, & Wei-Skillern, 2006; Mair & Marti, 2006) and institutional entrepreneurship (Greenwood & Suddaby, 2006; Maguire, Hardy, & Lawrence, 2004), one could argue that entrepreneurship is no longer a "hodgepodge" (Shane & Venkataraman, 2000, p. 217) synonymous with new, small, or owner-managed firms.

Nonetheless, one of the key concerns with entrepreneurship is that well-known problems in the discipline remain unaddressed. Despite Low and MacMillan's (1988) call for multilevel approaches, we see little progress on this front. Similarly, the authors' advice for entrepreneurship scholars that "[t]he field will be better served in the future if the issue of theoretical perspective is addressed directly and unstated assumptions avoided" seems to have been largely ignored.

That said, our intention is not to scrupulously review what has been or is being done in the field, and point out where we have failed. Instead, we address several key issues that, we believe, will help the field move from a single-lens study of the phenomenon toward multilevel analyses and multidisciplinary approaches.

We do so by reviewing some of the major themes in the works of William Baumol as they relate to entrepreneurship research. We interviewed Baumol over a period of several months, which provided the opportunity for many interactions and discussions of many of his contributions, often seminal (see Silva & Teixeira, 2008; Terjesen, Hessels, & Li, 2011) to the field of economics, entrepreneurship, and innovation.

Our interview focuses on Baumol's interpretation of entrepreneurship and innovation, and on key issues relating to the maturing field of entrepreneurship. In particular, we first discuss the definition of entrepreneurship and how the behavioral approach to entrepreneurship tends to view it from a single perspective. We learn from Baumol how replicative entrepreneurship differs from innovative entrepreneurial activities, and how entrepreneurship can be productive as well as unproductive. Baumol (1968) notes that replicative entrepreneurs tend to create more new businesses like those they see around them, while truly innovative entrepreneurs create new products and services, and change the very nature of the market. Haltiwanger, Jarmin, and Miranda (2010) discuss the contribution of these innovative entrepreneurs to the dynamism and growth of the economy, but conclude that research on such firms is hampered by the lack of data sets large enough to capture these rare and currently unpredictable, but important, start-ups. Again, such issues are often ignored in the current literature where entrepreneurship is synonymous with self-employment or the operation of any small business. Such important distinctions imply that the context in which entrepreneurial behavior is embedded cannot be ignored. This is the topic of the second section. In line with Welter's (2011) recent call for a contextualized view of entrepreneurship, we stress the importance of context to move the field forward. We also believe that the role of small and medium-sized enterprises and entrepreneurship in society deserves more attention, "rather than merely advocating them and the policy measures taken when supporting and/or developing the small business sector" (Blackburn & Kovalainen, 2009). We then asked Baumol about the positive and negative roles of entrepreneurship on society, going back to Schumpeter's (1911) concept of "creative destruction" and evaluating the potential of social entrepreneurship. Next, we highlight the importance of education in fostering innovative entrepreneurship, and gather Baumol's thoughts on how the peculiarities of entrepreneurship necessitate specific methods of teaching. Finally, we address emergent issues in entrepreneurship and elaborate on potential research opportunities.

William Baumol was born on February 26, 1922 in what is now Fort Apache in South Bronx in New York City. He received his Bachelor of Social Science degree from the College of the City of New York in 1942 and his Doctor of Philosophy from the University of London in 1949. He has been a professor at New York University (NYU) since 1971. Previously, he researched and taught at Princeton University for 43 years, where he is now professor emeritus and a senior research economist. In 2003, Baumol received the Global Award for Entrepreneurship Research (Swedish Entrepreneurship Forum) for his persistent effort to give the entrepreneur a key role in mainstream economic theory, his theoretical and empirical studies of the nature of entrepreneurship, and his analysis of the importance of institutions and incentives for the allocation of entrepreneurship effort. His honors and awards include 11 honorary degrees and membership in the U.S. National Academy of Sciences, the American Philosophical Society, and the British Academy. In 2005, Baumol was awarded the Antonio Feltrinelli International Prize. The award is decided and governed by the Academia Nazionale dei Lincei, the oldest academic honorary society in the world, an institution founded in 1604 and of which Galileo Galilei was one of the founders. He is the past president of the American Economic Association, the Association of Environmental and Resource Economists, the Eastern Economic Association, and the Atlantic Economic Society. Baumol is the author of more than 45 books and over 500 articles published in professional journals.[1]

What is Entrepreneurship?

One of the leading definitions of entrepreneurship is "the creation of organizations. What differentiates entrepreneurs from non-entrepreneurs is that entrepreneurs create organizations while non-entrepreneurs do not" (Gartner, 1988, p. 47). Policy makers, media, and practitioners increasingly recognize the value of entrepreneurship to economic growth but fail to distinguish among different types of entrepreneurship. This approach is characteristic of the behavioral approach to the study of entrepreneurship that views all entrepreneurship as essentially the same activity. We posed a series of questions to William Baumol:

Politicians continually praise small businesses and entrepreneurship as the "engine of growth" but are usually referring to employment issues. Could you expound on the crucial differences you see between "innovative" entrepreneurs and "replicative" entrepreneurs, and how they contribute to economic growth? What distinction do you make between invention and innovation?

Most entrepreneurs are replicative. They open a conventional small shop or a little workshop often because they are unable to find employment elsewhere. They are important in helping to combat poverty, but unlike the innovative entrepreneurs, who can be considered salesmen of new products and new productive techniques, the replicative entrepreneurs, with their conventional activities, contribute little to industrial revolutions and the consequent explosions in economic growth.

Invention means what we all think it means. Innovation is the whole process: the birth of the idea, the creation of the object, making sure that it is sold through a business, making sure that it is manufactured. So the whole process, from the beginning of the idea to its use in the market place, is all part of innovation.

You often speak of "productive" and "unproductive" entrepreneurship. Many readers of this interview may not be familiar with the idea of "unproductive"

1. For a more extensive biography of William Baumol, please see, for instance, Krueger (2001).

entrepreneurship. Would you define this more definitely and distinguish it from productive entrepreneurship? (How would they recognize it, if they saw it?) Do you see "unproductive" entrepreneurship as becoming more or less prevalent?

Oh, it is easy! Mister Gambino [Carlo Gambino, head of one of the "Five Families" that controlled organized crime in New York City in the 1960s and 1970s] *was surely an entrepreneur and so is the head of a private army in Afghanistan. They have innovative strategies, they have accumulated wealth, they put their inventions to use, and the world would be much better off without them! So there is nothing necessarily virtuous about being an inventor; it is about what you invent.*

Unfortunately, throughout the world there seems to be little sign of decrease in corruption in the public sector. Phenomena such as the terrible drug war in Mexico, governmental controls seized by military juntas, takeovers by self-serving dictators, and other such phenomena are encountered all too frequently. I see little reason to believe that such unproductive and destructive entrepreneurial activities are in decline.

Your paper "Productive, Unproductive, and Destructive Entrepreneurship" is the most cited work in comparative international entrepreneurship—that is, research that compares entrepreneurial activity in two or more countries. Can you comment generally on your observations about how entrepreneurial activity varies across countries? Do you consider this field of study critical?

Yes, the differences among the countries in this arena go far to explain the regrettable lags in raising of standards of living in much of Africa and other economic laggards. One of their major distinctions is the far more important role of corruption as primary means for adding to one's income. Obviously, this can act as a deterrent to productivity growth by diverting the efforts of many of those capable of promoting it.

Entrepreneurship in Context

The majority of recent entrepreneurship research focuses on the lone entrepreneur and his/her entrepreneurial activities, as well as orientation. Early entrepreneurship research utilized psychological attribute models, which are now considered limited and unproven (Zachary & Mishra, 2011). However, rational economic models that assume a social vacuum are also now deemed inaccurate. Opportunity recognition and exploitation have been posited at the unique core of entrepreneurial activities to an extreme (e.g., Davidsson, 2009; Shane & Venkataraman, 2000) that may cripple the field of inquiry (Zachary & Mishra, 2010).

In his recent book, *The Microtheory of Innovative Entrepreneurship* (2010), Baumol identifies the four basic economic foundations for a successful entrepreneurial economy: (1) it must be relatively easy to form a business, (2) institutions must reward socially useful entrepreneurial activity (i.e., the need for property and contract rights), (3) government institutions must discourage activity that divides the economic pie rather than increase its size, and (4) government institutions must ensure that winning entrepreneurs and larger established companies have incentives to innovate and grow. Importantly, Baumol, Litan, and Schramm (2007) distinguish four basic types of capitalism—a point generally overlooked in most entrepreneurial studies. This issue is crucial to understanding the incentives in place that will lead to entrepreneurship: (1) state-guided capitalism in which government tries to guide the market, (2) oligarchic capitalism in which the bulk of power and wealth is held by a small group of individuals and families, (3) big-firm capitalism in which the most significant activities are carried out by established giant enterprises, and (4) entrepreneurial capitalism in which a significant role is played by small, innovative firms. This diversity is generally overlooked in entrepreneurial studies

but critical for understanding the incentives in place that will lead to entrepreneurship. To emphasize this point, we asked Baumol:

In *Good Capitalism, Bad Capitalism* you remark on the importance of a properly constructed social safety net because radical change is so disruptive. At the same time, you emphasize the context and point to societies where individuals may be too comfortable—Western Europe—where people may be reluctant to take on the inherent risks in entrepreneurship. In your view, what are the elements of a properly designed social safety net that would encourage/support innovative entrepreneurial activity?

I am not qualified to talk about safety nets in general, but for the encouragement of innovative entrepreneurship, two things are clearly desirable. The first entails generous terms for bankruptcy because innovative entrepreneurship entails enormous risk for the individual investor and inventor, even though the activity as a whole has provided enormous benefits to society with some considerable degree of certainty. The second measure I consider essential is a change in the terms of job tenure that are widespread in Europe. If an individual leaves his or her job to promote an invention then, if other workers receive tenure in their jobs, the innovator should not be deprived of such a safety net. Deprivation of such protection surely discourages the risk taking that is inescapable in the innovation process.

Understanding the Role of Entrepreneurship in Society

Baumol's book, *The Microtheory of Innovative Entrepreneurship* (2010), extensively addresses the role of innovative entrepreneurs in macroeconomic theory. He first formalizes the basic Schumpeterian model which analyses how the prices of the final products created or marketed by innovative entrepreneurs are determined. This, in turn, provides an important welfare analysis and points to a much more significant result: recognition of innovative entrepreneurs' important role in launching and sustaining the historically unparalleled economic growth of the past several centuries. Baumol's model emphasizes the role of price; however, this does not imply that price, or any other single influence, is of unique importance. Rather, he shows that the theory of entrepreneurship can be fitted easily in with those of land, labor, and capital—all of which are centered on the theory of price. Baumol contends that the absence of a formal price theory in the entrepreneurial arena kept the entrepreneur out of the key beginning chapters of elementary economics textbooks. We asked him about aspects of Schumpeter's arguments that are more familiar to entrepreneurship than economics researchers:

Many of the readers of this interview may not be familiar with the idea of negative economic profits to the entrepreneur but they are likely familiar with Schumpeter's arguments for positive economic profits. Can you expound on why you and others hold that the returns to innovation are low or negative?

This is based on real evidence. There have been surveys of people who devoted themselves to innovative entrepreneurship, and it was found that an amazing percentage of their ideas never went to market, but of those that got to market, a large percentage lost money. There were a few breakthroughs that made billionaires, but the point is: When you enter such a field, you are not guaranteed that you will be that one! It is a business in which one risks huge losses, there is lots of evidence for this.

Why is that so? Is it because there is no demand?

No. It is because inventions are things that, by definition, have never been tried out before. If it has been done before, by definition, it is not an invention. So, you are dancing with the unknown. Furthermore, the evidence, according to the noted economist William

D. Nordhaus, is that of the total benefit of invention, roughly 3% goes to the inventor and to the people who invested in it. And I can give you very clear evidence as to the truth of this fact, in that per capita income in the United States has grown about 700% over the course of the century,[2] largely because of the result of invention—meaning that you and I live in conditions that our great-great-grandparents would not have dreamed of! It is all free gifts to us that were given by the inventors of the steam engine, of electricity, of the airplane, etc. So, when you think about it, the truth of that statement is almost obvious. I mean the poverty in which the world lived up to the middle of the nineteenth century. I mean the industrialized portion of the world, I am not talking about India or its equivalents. There were famines in Europe in which the streets were littered with the corpses of starving people on average every ten years, right through the seventeenth century. In the eighteenth century, the police were sometimes instructed to go past every house and knock at the door every day to make sure someone inside was still alive. And these were ordinary events. Regularly in the United States, in houses where you wrote with a steel point pen and an inkwell, the ink would freeze in the inkwell every winter and not only in private homes! In the Hall of Mirrors in Versailles, the king's sister-in-law tells of how the wine froze in their glasses at the dinner.[3] Now that's a change in standard of living that you do not understand, that I do not understand; it is so extreme. So the answer is not that the inventor got so little, but how much the rest of us got! And I have never patented an invention in my life!

Some argue that Schumpeter's notion of "creative destruction" imposes a cost on society, as perfectly usable products are prematurely consigned to obsolescence. Since this cost is not borne by the innovator, there is an over-investment in innovation that is not justified by the resulting social cost. You do not hold entirely with this viewpoint, why?

I agree with Schumpeter's observation on this point. Innovation is held back by the important externality that he describes. All I say in rebuttal here is that there is a countervailing externality (which may be less powerful in its effects). This is the fact that the cost of obsolescence of old technology is borne by its proprietor, who is apt to be a very different person from the inventor. The old technology may still be usable but can be driven from the market prematurely by the newer item because the holder of the patent thereby gains profits but the damage from premature obsolescence falls on others.

In addressing the role of entrepreneurship in society, we could not miss the opportunity to ask Baumol his opinion on a topic that has gained increasing interest in the academic, political, business, and media spheres, namely social entrepreneurship:

In recent years, social entrepreneurship where the firm's objective includes addressing unmet social needs and which is not limited to making profit has become increasing popular. What do you think of this trend? Is it a form of "innovative" entrepreneurship?

I think it is a good idea if investors are made fully aware of this orientation of the firm. But I have always had great reservations about giant corporations that pour vast amounts of other people's money into elections and causes dear to the hearts of management. For example, they may focus their largesse on right-wing causes, opposition to environmental protection, and so on.

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2. Interviewers' note: see Maddison (2003).

3. Interviewers' note: see Orléans (1880). La Princesse Palatine writing to la Raugrave Louise from Versailles, 5 March 1695: "Il fait si froid ici qu'à la table du roi le vin ainsi que l'eau gelaient dans les verres."

While recognizing the benefits of microcredit, you contend that "businesses backed by micro-credit are unlikely to be major engines of economic growth, especially if the micro-lenders themselves continue to be subsidized primarily by funds from governments or non-profit organizations."[4] What can be done (if anything) to move to the next level of economic prosperity using this model?

Let me be clear. I am an advocate of microcredit as a very promising route out of poverty and as a contributor to prosperity. But I don't think it is an effective instrument for the recognition of promising invention proposals, or for undertaking the enormous risks they entail.

I think microfinancing is wonderful. I am not denigrating it. I am just saying that the microfinance activities and innovative activities are basically different, by and large, though there are exceptions. So, what I am saying is that the two—innovative entrepreneurship and replicative entrepreneurship—are both important, but for different reasons; one is not inferior to the other.

The Role of Education and Innovative Entrepreneurship

In addition to his theory-based entrepreneurship work, Baumol and his colleagues at NYU's Stern School of Business and Steinhardt School of Education are conducting a long-term research project that explores innovative entrepreneurship, and the educational practices and experiences that increase the likelihood that a student will eventually become an innovative entrepreneur. Early results (Mayhew, Simonoff, Wiesenfeld, Baumol, & Klein, 2011) show that taking an entrepreneurial course and the pedagogical strategies for teaching course content are significantly related to students' innovation intentions. We explored Baumol's beliefs on the role of entrepreneurship education:

You have suggested that the next radical innovation is unlikely to be developed by, for instance, relatively uneducated individuals working in a garage. Why do you believe this to be true?

The reason I believe that more education will now and in the future be required for success in innovative entrepreneurship is the ever-compounding complexity of the inventions, as for example in the novel electronics of recent decades. It is the very process of innovation that cumulatively increases the complexity of innovations as time passes, and each new idea invites a more complex and sophisticated successor.

In your view, what government policies should be adopted to promote "innovative" entrepreneurship? Can we teach innovative entrepreneurship?

What I would certainly urge is government funding for research on how innovative entrepreneurship is taught because, as I keep emphasizing, we do not know what we are doing in the field. In fact, I announce it to the class in my course (on "innovative entrepreneurship" at NYU) that "you are the unfortunate attendees of the course in which the professor does not know what he is doing." But I am not worse than any other. The point is that we do not know what works in teaching innovative entrepreneurship. We are using certain teaching methods because our teachers used those methods, and that's exactly what eighteenth century doctors did. They used leeches and cupping because their teachers used leeches and cupping. I have never carried out any experiments to see what would work and it is about time, in this crucial area, that we begin to learn the effectiveness of what we are doing and how we should change our approaches.

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4. Baumol et al. (2007).

Every fall semester at NYU, Baumol, in collaboration with former patent attorney Dean Alderucci, teaches a course entitled "Toward Careers in Innovative Entrepreneurship" with the mission to help students pursue career interests in innovation. One of the coauthors of this article had the chance to audit this course. In the course "syllabus," the professors clearly specify that "we have labeled this document a 'quasi syllabus' because, for reasons that will become clear, the content of this course cannot be predicted with certainty (. . .) Our unorthodox approach has been selected because it covers ground that is of great importance for you as prospective innovators, as well as for the future economy. It is not our main purpose to provide you with a set of standard materials for you to master and memorize but, rather, to stimulate in you the creativity and imagination that innovative entrepreneurship requires." In practice, this means that the feedback loop between the students and the professors is constant and that, at the end of the course, a whole session is dedicated to debriefing and sharing ideas for improvement. In a way, the course is almost cocreated with students.

On an anecdotal note, Baumol loves sharing stories in the classroom, be they based on personal experience or historical facts. For instance, in discussing institutions that foster innovations such as the patent system, Baumol will tell the students that, a few centuries ago in the U.K., to apply for an invention, an entrepreneur had to go through seven steps that included getting two signatures from the King himself! Or that the origin of the word "patent" refers to a type of royal letter that was meant to be obvious and clear to everybody, in opposition to a "closed" letter. Or that 70,000 patents and more than a thousand patent holders were needed to produce the computers that we are using today. Baumol's recipe to make his lectures fascinating partly lies in the subtle mingling of history with economic interpretations of entrepreneurship and innovation. This aroused our curiosity, and we wanted to explore Baumol's other sources of inspiration and research streams of interest.

Emergent Issues for Entrepreneurship Research

Zachary and Mishra (2011) argue that researchers need to cast a wide conceptual/theoretical net and need to think more comprehensively using varied and innovative multidisciplinary approaches. Current research is often too narrowly defined with limited views of the context of entrepreneurship. Further, the entrepreneurship discipline needs to identify, understand, and include relevant related fields of inquiry. Clearly, no single disciplinary framework can explain the entirety of entrepreneurial phenomena. However, multidisciplinary perspectives, for example leveraging psychology, sociology, and economics, are needed to explain the world around us. An excellent example is Baumol's latest book (2010) about which we had several questions:

Building on the work of Joseph Schumpeter, you are recognized one of the "fathers" of entrepreneurship through your work noting that traditional microeconomic theory holds a place for "prices" and "firms" but not for that important engine of innovation, the entrepreneur. In your opinion, what are the outstanding questions yet to be answered in entrepreneurship research?

All the microeconomists recognize the importance of entrepreneurship. And having said that much, they are silent. The reason is not ill-will or misunderstanding, but because entrepreneurship, or innovative entrepreneurship, does not lend itself to conventional methods of research and analysis. In conventional analysis you see if you plant 100 orange trees, or 150, or 175 instead, how much the costs will increase and how much the revenues will increase; and you can count the number of oranges, and check whether or not they are all the same size, more or less. But two inventions, by definition, if they are

the same are not inventions! So, by definition, you can't add them up, you can't have simple statistics. It is nobody's fault . . . and I am foolish enough to think that I made a breakthrough getting around that problem in my last book.[5] *But that may be self-delusion . . .*

One of the goals of our interview with you is to also promote future research in entrepreneurship, with a focus on many of your notable contributions in moving the field forward. Given the multi-disciplinary nature of our field, we would enjoy hearing more of your thoughts on the intersection of the other disciplines you mentioned in informing us about future opportunities for entrepreneurship research. What could be an addressable research question based on the intersection between economics and sociology? Between the intersection of economics and political science? And finally, between the intersection of economics and engineering?

The answer is that the work of the innovative entrepreneur is a process that involves all of these disciplines. For example, a breakthrough by a group of engineers still must face up to the probable reactions to the resulting product by society. After all, the process of innovation involves several distinct steps. First, the design of something that works; second, the modification of that prototype to meet the needs of the consuming public; and third, the preparation for further improvement, as experience in utilization accumulates. It is clear that step 1 involves the engineer, while step 2 brings in the analyst of social behavior, as well as the entrepreneur who understands the working of markets. The details of these stages are totally heterogeneous, so that the one common characteristic is the need for flexibility and the willingness to depart from any, and possibly all, rigidly laid out patterns.

What are some of the key issues in entrepreneurship that should be addressed in the future?

How does society provide the right incentives for encouragement of entrepreneurial activity, activity that contributes to economic growth and job creation, as well as improvement in the education of entrepreneurs, particularly entrepreneurs whose focus is innovation.

What advice would you give to young scholars of entrepreneurship?

I hesitate to answer this, but I would urge them to get some technical training in fields like engineering, but not too much for fear of undermining their creativity and imagination. An early job in an enterprise that focuses on innovation is evidently desirable, but obviously not always easy.

Baumol's current projects focus on both entrepreneurship and other economics topics. As already noted, one ongoing research project that is being conducted in conjunction with colleagues at NYU examines the influence of college teaching approaches on intention to innovate among students. Professors Baumol and Alderucci are also at work on a book that will make recommendations for using market-based incentives to improve several aspects of the U.S. patent system, thereby expediting the patenting process and facilitating the work of innovative entrepreneurs. Baumol's other notable projects include a comparative study of education systems worldwide, analyzing how the cost disease is affecting education quality and costs, organizing a special session on entrepreneurship at the spring 2012 meetings of the American Philosophical Society.

Finally, Baumol and coauthors at NYU's medical school, IBM, and the Rockefeller Foundation have just completed work on a book that revisits Baumol's early work on the "cost disease"—a theory that explains why costs in some labor-intensive sectors of

5. Interviewers' note: Baumol (2010).

the economy (e.g., health care, education, the performing arts, etc.) must increase steadily at a rate faster than average (i.e., the rate of inflation), while costs in other sectors rise more slowly or not at all. While the pace of rising costs is sure to raise difficult political issues and is not easily slowed, the book shows that the economy's rising productivity is virtually certain to ensure affordability of effective health care and other services. That book, to be published by Yale University Press, is tentatively scheduled for release in summer 2012.

Entrepreneurship research foci change over time (Schildt, Zahra, & Sillanpää, 2006). Since part of our intent is to prompt, nudge, and encourage richer and deeper explorations into this interdisciplinary field of research that is the study of entrepreneurship, we attempted to identify additional important themes, related theoretical perspectives, and research questions for each entrepreneurship domain addressed during our meetings with Baumol (Table 1).

First, there is a considerable difference between "replicative" entrepreneurs, those who produce or sell a good or service that is already available through other sources and who generally undertake starting the new business as a financial means of support, and those "innovative" entrepreneurs who engage in commercial activities based on a new product, service, or method of production or delivery. While the former clearly has benefits in terms of poverty alleviation and is a means for those with little capital, education, or experience to earn a living, it is clearly the latter group that is of interest to economic growth, and thus presents the greatest challenges from a research perspective.

When considering the current state of opportunity recognition research, it is imperative to do so in the context of the economic, cultural, and environment in which it was studied. Again, referring to Baumol et al. (2007), there are at least four different types of capitalism: (1) state-guided capitalism in which the government tries to guide the market by supporting "winners" (consider banks in China, India, Japan, and Germany); (2) oligarchic capitalism in which the bulk of power and wealth is held by a small group of individuals and families (consider the old Soviet bloc, Latin America, Arabic Middle East); (3) big-firm capitalism where most significant economic activity is carried out by established giant firms (consider continental Europe, Japan, Korea, pockets of the United States); and (4) entrepreneurial capitalism where a significant role is played by small innovative firms (consider Ireland, Israel, and pockets of the U.K. and United States). To compare entrepreneurship opportunity recognition across these economic systems without controlling for milieu is inappropriate.

Perhaps the single most fertile area is that of entrepreneurship in society. Given the current financial crisis, clearly, more individuals and firms will start to address issues of market and government failures. That is, how can the entrepreneur help address some of society's most pressing problems? We have seen in recent years two different approaches to this problem. The first is the emergence of the "social entrepreneur" who attempts to operate within the capitalist system and maximize the double or triple bottom line. The second approach is that best exemplified by Muhammad Yunus (2010) and his advocacy of a new social non-dividend business model based upon the goal not to get rich but to enrich one's life by helping others especially the impoverished. In either case, measuring the impact and effectiveness of the enterprise within the social context is of crucial importance.

Last but not least, there is the issue of entrepreneurship education. Clearly, the difference referred to above between social entrepreneurs and social businesses challenges the underlying capitalist paradigm taught in most Western business schools. Further, given the interdisciplinary nature of the subject, the early success of workshops or labs designed to inspire and develop innovation leaders recognizes the importance of the blending of the

Table 1

Potential Research Opportunities in Entrepreneurship

Entrepreneurship domain area	Key themes	Enabling theory/dominant perspective	Representative research questions
Redefining entrepreneurial behavior	• Replicative versus innovative entrepreneurship • Productive versus unproductive entrepreneurship	• Entrepreneurial orientation • Cognitive psychology (heuristics, biases) • Informational economics • Decision-making theory • Leadership theory • Motivation theory • Group dynamics	How is the search process different between replicative and innovative entrepreneurs? Do innovative entrepreneurs rely on a different set of cognitive skills and heuristics? What specific behaviors and actions lead to innovative entrepreneurship (while accounting for many already identified in Baumol's research)? What conditions lead to productive versus unproductive entrepreneurship? Do they differ and, if so, how?
Entrepreneurship in context	• Economic foundations for a successful entrepreneurial economy • Types of capitalism (e.g., level of government direction) • Role of institutions (e.g., private vs. public, national vs. local, informal vs. formal) • Cultural aspects (e.g., role of religion, family)	• Institutional theory • Transaction cost theory • Resource-based view • Dynamic capabilities • Resource dependence theory • Network embeddedness • Systems theory • Comparative advantage of nations	What economic conditions are most conducive for the development of a successful entrepreneurial economy? What role do government and regulatory institutions play in the development of entrepreneurial firms? What forms of capitalism are seen within similar and different country environments? How are informal networks developed and supported within an entrepreneur's enclave? What combination of resources is needed to sustain the growth and pace of innovation?
Role of entrepreneurship in society	• Positive/negative economic profits to the entrepreneur • Expanding role of the entrepreneur • Social entrepreneurship: addressing unmet social needs/problems	• Theory of externalities • Social embeddedness theory • Stakeholder theory • Agency theory • Corporate social responsibility perspective • Triple bottom line perspectives	Because new venture firms are not restricted by established facilities, equipment, and production technologies, do they have advantages to operate sustainably? What is the impact of (social) entrepreneurs on society and how can it be measured?
Role of education and innovative entrepreneurship	• Teaching innovative entrepreneurship • Teaching different types of entrepreneurship (e.g., social, female, rural) • Teaching entrepreneurship in context, what background is needed, where do we start? Is there a logical progression to the material?	• Behaviorist orientation to learning • Cognitive orientation to learning • Social/situational orientation to learning	What role can entrepreneurship education play in the development of innovative entrepreneurship? What new or emergent pedagogical methods can be used to encourage and support entrepreneurship innovation? How can previous learnings and failures of entrepreneurs' real-time decision making be integrated within the entrepreneurship classroom? What function should universities have in the funding and sustainability of entrepreneurial firms? How should multidisciplinary entrepreneurship programs be structured?
Emergent issues in entrepreneurship research	• Multidisciplinary approach: opportunities and challenges • The role of subsidies and/or taxes to promote entrepreneurship • Issues in rent-seeking	• Psychology (e.g., regulatory focus) • Sociology (e.g., stratification) • Public choice • Political science (e.g., varieties of capitalism)	Does public decision making conflict with the preferences of the general public? (e.g., poverty alleviation vs. future prosperity) Do innovative entrepreneurs face incentives/disincentives due to artificial scarcity, externalities, taxes or subsidies, and binding price ceilings or floors? Can the application of economic analysis (decision theory and game theory) to the political decision-making process reveal certain systematic trends toward inefficient government policies for entrepreneurship? Is there a role for entrepreneurship advocacy groups to lobbying the government to implement specific policies?

social and business realities. As Baumol points out in his class on innovative entrepreneurship, students "*are the unfortunate attendees of the course in which the professor does not know what he is doing.*"

William Baumol: The Family Man, the Artist, the Writer

Will Baumol and his wife Hilda celebrated their 70th wedding anniversary in 2011, and have two children and two grandchildren. Among his many publications are articles on art history and the lives of composers cowritten with Hilda. Will also sculpts and has exhibited his art at many conferences around the world. Five of his paintings were purchased right off the walls, and one wooden sculpture was purchased from the NYU lobby; all for nominal fees.

A collaborator for 22 years, reflecting on her association with Will, commented on his view of other people's reaction to his art, his writing style, and his general approach to life:

> . . . He finds it all amusing. He never wants money, but the buyers insist! Art is his hobby. It brings him pleasure. When someone offers to purchase his work, he is always humbled . . . Will writes mostly from inspiration. The problem is Will is inspired by almost everything; conversations at meals with colleagues, newspaper articles and books he has read, etc. He also writes upon request, receiving invitations to contribute to literary projects several times a year. He is a skillful writer, a knowledgeable economist, and normally completes his contribution before or right on schedule. Who wouldn't want to work with someone like that? . . . Will is always eager to debate new ideas. He is an eternally curious. He does not pretend to be right on everything and encourages his peers, and his students, to disagree with him. Despite his extraordinary achievements, Will remains an extremely modest person and he does not take himself seriously. For instance, he will tell you that he is the one who must have a "problem" because he has never argued with any co-authors in his entire career, and that all became good friends. His sense of humor is one of his many good character traits.

Will Baumol's personality is well reflected in his answers to our last questions about the secret to his great productivity:

How do you manage to keep a balance between both activities?

I can tell you one thing in which I can claim objectively to be superior—that is, I write faster than anyone I have ever met. I type now, I used to write. It speeds up quantity, not quality. That I can claim as having objective evidence.

When you have finished writing a chapter, for instance, do you need to review it?

I can tell you that I change it but there have been many times when I did not.

Conclusion and Contributions

This interview and commentary sought to address several key issues in entrepreneurship in order to move the field toward a more comprehensive, multidisciplinary approach of the phenomenon. We did so by highlighting William Baumol's contributions and gaining his personal insights during a series of exclusive interviews. We emphasize the multilevel approach that entrepreneurship research should adopt, for instance by studying the effect of entrepreneurial activities on economic growth. We also pointed out that

assumptions underlying entrepreneurship research are too often unstated, rendering comparison between different studies difficult, particularly in the case of cross-country comparisons; therefore, entrepreneurial activities should be studied in context. With regard to this issue, Baumol et al. (2007) suggested a typology of four types of capitalism helpful to understand entrepreneurship within context and, as a consequence, to adopt the relevant measures and policies to encourage it. Given the role that entrepreneurship can have in dealing with societal problems, it makes even more sense to take context into account when studying the phenomenon.

We also suggested that innovation is more likely to be driven by fine-tuned educational methods than the conventional ones. Baumol argues for more experiments and government support of research on ways to improve the teaching of innovative entrepreneurship, since there is little evidence on what works and what does not.

This paper seeks to contribute to the development of the field of entrepreneurship at least at two levels. First, we highlighted several ongoing important issues in the field and proposed, thanks to insights gained from our readings of Baumol's works and our interviews with Baumol himself, some promising future research avenues. Second, we reinforced the view that entrepreneurship must be studied in context, from a multidisciplinary perspective and using multiple levels of analysis.

Our discussion with Baumol emphasized that entrepreneurship must be viewed as a multifaceted phenomenon that will differ depending on the context, in its level of innovation, and its impact on society. Consequently, entrepreneurship as a field of research requires the development of an encompassing paradigm, appropriate educational methods, and study of the institutions that provide the most desirable incentives. We hope that this reflection with one of the fathers of entrepreneurship will lead the community of entrepreneurship researchers and educators to move in that direction.

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