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The emergence of entrepreneurship as an academic field: A personal essay on institutional entrepreneurship

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ABSTRACT

The academic field of entrepreneurship research has grown from groups of isolated scholars doing research on small businesses to an international community of departments, institutes, and foundations promoting research on new and high-growth firms. Growth has produced increasingly systematic and interconnected knowledge and growing numbers of knowledge producers and knowledge users share core concepts, principles, and research methods, and a handful of highly cited scholars have emerged as thought leaders within research subfields. The field is increasingly formalized and anchored in a small set of intellectual bases, although there are also some signs of differentiation and fragmentation. Using an institutional theory perspective and drawing upon my experience in the field, I explore six forces creating the institutional infrastructure. First, social networking mechanisms have created a social structure facilitating connections between researchers. Second, publication opportunities have increased dramatically. Third, training and mentoring has moved to a collective rather than individual apprenticeship model. Fourth, major foundations and many other smaller funding sources have changed the scale and scope of entrepreneurship research. Fifth, new mechanisms have emerged that recognize and reward individual scholarship, reinforcing the identity of entrepreneurship research as a field and attracting new scholars into it. Sixth, globalizing forces have affected all of these trends. I conclude with some thoughts about the consequences of these developments with regard to the giving of practical and timely advice to entrepreneurs, the effects of American hegemony on choices of research topics and methods, and the possible loss of theoretical eclecticism.

1. Introduction

Since the late 1970s, the academic field of entrepreneurship research has grown from groups of isolated scholars doing research on small businesses to an international community of departments, institutes, and foundations promoting research on new and high-growth firms. As documented in the paper by Landström et al. (2012), such growth has produced increasingly systematic and interconnected knowledge. Growing numbers of knowledge producers and knowledge users share core concepts, principles, and research methods, and a handful of highly cited scholars have emerged as thought leaders within research subfields (Reader and Watkins, 2006; Teixeira, 2011). Landström and his co-authors characterize the field as increasingly formalized and anchored in a small set of intellectual bases, although there are also some signs of differentiation and fragmentation (Landström et al., 2012).

How can we explain the evolution of this field? Landström and co-authors point to the role of individual scholars as entrepreneurs who have explored interesting new research opportunities, but systematic change on such a sweeping scale did not result solely from individual actions. In adding to their explanation, I would emphasize the significant role of institutions and institutional entrepreneurship as responsible for much of the observed change. By "institutions," I mean patterned behavior infused with meaning by normative systems and perpetuated by social exchanges facilitated by shared cognitive understandings (Greenwood et al., 2008). By "institutional entrepreneurship," I mean collective action by many people who jointly – via cooperation and competition – create conditions transforming institutions (Aldrich, 2010). Thus, I view the evolving system described by Landström and co-authors as an institution that has evolved within a context of institutional entrepreneurship involving collective action by countless numbers of scholars, groups, associations, organizations, and agencies.

The development of the entrepreneurship field has much in common with the more general process underlying the growth of scientific/intellectual movements (SIM), as described by Frickel and Gross (2005) and I will draw on some of their ideas throughout my essay. A SIM is a collective effort to pursue research programs and projects while overcoming resistance from others in the scientific/intellectual community. SIMs try to produce and distribute

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knowledge, go beyond existing ways of approaching problems, and defeat opposition from others by taking organized collective action. They are embedded in specific historical circumstances and may attempt to alter the boundaries of existing scientific/intellectual fields.

Three "theoretical presuppositions" for the analysis of SIMs noted by Frickel and Gross (2005) are particularly relevant to the emergence of entrepreneurship as a field. First, the popularity of an idea rests not only on the extent to which it is scientifically valid, but also on social processes that institutionalize particular ways to pursue that idea. Thus, I will point out the specific organizations and actors involved in the growth of the field. Second, the ultimate shape of a SIM is contingent upon the historical circumstances within which it emerges. I will explicitly identify the eras in which specific activities occurred. Third, the wider cultural and political environment critically affects the emergence of a SIM. I will note the historical circumstances in the societies in which entrepreneurship emerged as a field.

My analysis focuses primarily on developments in the United States, but I will also refer to international developments to show that change was global, rather than occurring only in one nation. I focus on the social structure of the field, rather than its intellectual content. Intellectually, not only are there distinct subgroups but also evidence of trends toward narrower specialization over time (Reader and Watkins, 2006; Teixeira, 2011). I highlight the forces creating the institutional infrastructure that have created a set of research specialties, nested within a larger scholarly community, in which highly cited scholars at least recognize one another's names, although they may work closely only with a small subgroup. They may, in fact, disagree sharply with people who work in other subgroups.

I begin with a review of the paradox of scientific progress, noting the tension between science as a competition between individuals for scarce rewards versus science as a community of inter-subjectively shared understandings about how we gain valid and reliable knowledge about the world. I then identify six trends and the forces of institutional entrepreneurship that help explain them. I conclude with some thoughts about the consequences of these developments for the future of the entrepreneurship research community.

This is a personal essay, based upon observations and reflections regarding my participation in the development of this research community. Thus, as someone who was an active participant in many of the events I describe, I have an insider's knowledge. However, because my major affiliation throughout this era was with a sociology department, and not a business school, I believe I can cast a somewhat impartial eye on what occurred. I have been critical of theory and methods in entrepreneurship research on several occasions, especially with regard to the relative neglect of historical and comparative research and an overemphasis on studying that which can be quantified, and I have argued strongly for a more global perspective and for more ethnographic and process-oriented research. Throughout this essay, I will try to make my own views as clear as possible.

2. The paradox of scientific progress

Scientists gain recognition and prestige by virtue of their personal accomplishments, whereas scientific disciplines advance via collective action and collaborative work. Of course, as Merton (1968) noted, already well-known scholars benefit disproportionately when they publish with lesser known collaborators. Over the past century, institutional practices have emerged, across all disciplines, facilitating this process. Some practices are governance mechanisms that inhibit extreme egoism, whereas others are processes that facilitate the diffusion of knowledge and research collaboration. As I describe developments in the field of entrepreneurship, I will identify and explain other institutional mechanisms promoting change.

Campbell (1994) noted that a central dynamic in science is the "struggle for citations." Rather than competing for wealth and power, scientists compete for recognition from their peers. This competition could lead to extreme individualism, but personal interests are partially held in check because scientists must fit into a larger community of scholars, if for no other reason than to have their work replicated and validated. Moreover, the scale of modern scientific work is such that large projects are almost always carried out by teams, rather than solo scholars. Being published, winning awards, and obtaining grants depend upon peer reviews, which are embedded in a larger institutional structure to which individual scholars must adjust.

Landström and his co-authors found that the core scholars in entrepreneurship have made impressive careers and are heavily anchored in mainstream disciplines, mostly at American universities. These scholars have had long careers, during which they learned the shared cognitive understandings of their fields and were socialized into the field's normative system. Their description of the entrepreneurship research community depicts the field cohering around a core set of scholars, research themes, and supporting organizations, although there are important intellectual differences across subfields and many ongoing substantive controversies. Many of those differences stem from scholars' diverse disciplinary roots. For example, Landström and his co-authors identified a subgroup that could be characterized as focusing more on individual characteristics and entrepreneurship as a problem in decision-making, for which the Shane and Venkataraman (2000) article on opportunity recognition was a significant milestone. In contrast, many in the more sociologically oriented subgroup that includes me are interested in macro–level analysis and organizational theory and trace their roots to Stinchcombe's (1965) classic article.

Concomitantly, based on her analysis of more than 1000 articles published between 2005 and 2010, Teixeira (2011) noted that although entrepreneurship has emerged as a cohesive field, there are signs of "fragmentation and specialization, reflected in the emergence of a number of subject specialties, namely those related with family businesses and innovation, technology and policy." The papers in this special issue of *Research Policy* show the extent of differentiation between studies of innovation, science and technology studies, and entrepreneurship. Nonetheless, I believe that the overall coherence of the field has been made possible by processes of institutionalization, although they are far from complete.

3. Trends in scientific work over the past half-century

As an emerging scientific field, the growth of the knowledge base in entrepreneurship has been shaped by four general trends in the sciences, and they have set the context for the emergence of similar phenomena within entrepreneurship. First, the natural sciences have moved away from the old "cottage industry" style of solo academics conducting research in semi-isolation and have moved toward a team-based model. A study of team formation in several scientific disciplines during the 20th century noted a number of developments: teams became larger, standards became more universalistic, and team formation was strongly influenced by prestige (Guimerà et al., 2005). Teams became larger, in part, because the scale on which research was conducted was beyond the capabilities of solo investigators. Judgments of competence were increasingly based upon shared universalistic standards and the publicly visible consequences of research projects. Universalistic standards made it

feasible to recruit teams on a national and even international scale. Finally, patterns of collaboration today are strongly influenced by the prestige of a scholar's university affiliation. High status scholars mostly elaborate with other high status scholars, reinforcing a status hierarchy across universities (Jones et al., 2008).

Second, in keeping with the trends noted above, citation patterns have shifted drastically in the natural sciences. Most citations are now to co-authored work, rather than solo authored work (Wuchty et al., 2007). A trend toward co-authored work has also emerged in the social sciences, with the humanities lagging behind. High impact work is easier to carry out in larger teams, resulting in papers with multiple authors. Indeed, it is rare to find solo-authored empirical papers in top-tier social science and entrepreneurship journals these days. Almost all of my own work over the past several decades has been carried out in collaboration with at least one co-author and sometimes two or three.

Third, modern research projects now require very large sums of money for their completion. Major research universities in the United States routinely raise hundreds of millions of dollars in research funds, mainly from government agencies but also increasingly from private foundations and firms. For example, the University of North Carolina at Chapel Hill's research grants and contracts totalled $803 million in fiscal 2010, the largest amount ever raised by the University. That was a 12.2% increase over the previous year. The contracts and grants came primarily from the federal government, especially the National Institutes of Health (NIH) and the National Science Foundation. Within the sociology department at UNC in 2010–2011, there were several multimillion dollar grants and many others that were over $100,000.

Fourth, many mechanisms have emerged that facilitate knowledge diffusion: new journals launched by entrepreneurial publishers as well as academic societies; conferences funded by professional associations, universities, and other sponsors; and major developments in the online availability of publications of all kinds. For example, Google has scanned and is making available millions of books online, and commercial publishers such as Thompson Reuters have developed databases that make searching for relevant research easier than ever. These developments have widened the scope of opportunity for scientists to publicize their work, but the increased intensity of competition has also increased the pressure on scientists to differentiate their work from others. Moreover, the creation of new journals has contributed to the field's fragmentation, a current running counter to the other forces I have described that promote convergence.

In the United States, the American university system played a major role in facilitating the four trends. In Europe, particularly in the United Kingdom, the policy system probably played a larger role than the university system, because Europe has a much stronger small business tradition, particularly regarding research. Just as their counterparts in United States became interested in the role of small and new firms in job creation in the late 1970s, so too did European politicians began financing research on many different policy issues related to entrepreneurship. Government investments also promoted the institutionalization of entrepreneurship through the financing of chairs in entrepreneurship, such as in Germany, and the establishment of entrepreneurship centers, such as in the Netherlands. For example, in Germany the government supported Jena's Max Planck Institute of Economics, where Zoltan Acs helped establish an entrepreneurship group in 2002 and David Audretsch was director from 2004 to 2009 of the "Entrepreneurship, Growth and Public Policy" group. Of course, Europe is a very heterogeneous continent with institutional frameworks differing across countries, affecting not only the kinds of policies enacted but also the levels of support for entrepreneurship as a scholarly field (Hjorth et al., 2008). For example, the strong academic system and traditional norms within mainstream disciplines in Germany made it very difficult for the new field of entrepreneurship to develop.

I will draw upon these observations concerning changes in scientific research as I explore the six trends affecting the entrepreneurship research community. Some of the trends have facilitated collaborative and team-based research, whereas others have increased the intensity of competition between individual researchers. Individual scholars, acting as entrepreneurs, have played major roles, but they have acted within the context of larger institutional forces. On balance, I believe institutional forces have somewhat muted individual competition and exacerbated competition between subspecialties. In Section 5.2 of the paper, I will return to these themes.

4. Institutional forces and trends affecting entrepreneurship research

Since the 1970s, a constellation of six interrelated forces have facilitated the institutionalization of "entrepreneurship research" as an academic field, in North America, Europe, and globally. First, a social structure facilitating connections between entrepreneurship researchers has emerged as a result of social networking mechanisms. Second, publication opportunities have increased dramatically in books and journals, and increasingly in digital formats. Third, training and mentoring has moved from the old apprenticeship system to a much more collective model. Fourth, major foundations and many other smaller funding sources have infused the field with enough money to change the scale and scope of entrepreneurship research. Fifth, new mechanisms have emerged that recognize and reward individual scholarship, reinforcing the identity of entrepreneurship research as a field and attracting new scholars into it. Sixth and finally, underlying all five of the mechanisms identified above is the increasing globalization of the field. Although still anchored in the United States, as shown in a number of bibliometric studies, the field of entrepreneurship research now spans the globe and many of the trends I have identified are evident throughout the world. However, it seems clear that the playing field is still tilted toward the United States.

4.1. Social networking

A fundamental aspect of any professionalization project consists of mechanisms that call attention to the research questions in a field and enhance opportunities for making connection to others doing similar research (Freidson, 2001). Zuccala and Van Den Besselaar (2009) have documented the importance of collaborative ties between researchers in academic communities, as reflected in the voluntary refereeing process for promotion and journal reviews, supervising students, organizing international events, and creating and contributing to new scientific journals. As Melin and Persson (1996) noted, "scientific networks are based on several forms of interaction that reinforce each other," and meeting at professional gatherings can lead to reading and citing each other's work. Professional associations and conferences are critical for diffusing a field's knowledge base to users, but equally important is the opportunity for meeting others who are interested and passionate about their work. Contexts that intensify someone's identity as a member of a community remind people of why they joined in the first place and also create incentives for scholars to increase their visibility within the community. Thus, social networking is not only about producing and using knowledge but also about developing and maintaining a professional identity.

When viewed from a more political perspective, social networking can also be viewed as a way in which hierarchies are generated and strengthened within academic communities, through their

impact on "invisible colleges." de Price (1971) defined invisible colleges as well-connected hierarchical and elitist groups of scholars in which inequality of rewards was expected. Subsequent scholars have pointed out that most research on invisible colleges has used highly visible connections to track such groups, and thus Zuccala (2006) offered a definition that was more inclusive and took account of more subtle and less visible connections: "a set of interacting scholars or scientists who share similar research interests concerning a subject specialty . . . who communicate both formally and informally with one another . . . even though they may belong to geographically distant research affiliates." In the field of entrepreneurship, it is clear that North American scholars have benefited disproportionately from the operation of invisible colleges.

4.1.1. Professional associations

In North America, perhaps the earliest sign that entrepreneurship research was beginning to develop as an identity separate from "management" and "small business" was the publication by Karl Vesper of surveys he undertook to catalog university entrepreneurship programs, beginning in 1975. The survey results were always published with the names of people and their contact addresses, and thus the publications served to create a network of people in the field. Vesper was instrumental in forming an Entrepreneurship Interest Group within the Academy of Management in the early 1970s. The interest group grew, and by the end of 1985, during William Gartner's tenure as chair, it had 1200 members. Eventually, the interest group was made into a division and it is now one of the largest.

Early on, the Entrepreneurship Division was important because it represented a breaking away from the older identification of "entrepreneurship" with the small business research units that many American business schools maintained as outreach and consulting departments. Later, in the 1980s, the Academy of Management began to emphasize professional development activities at its national meeting, with professional development workshops for faculty and graduate students on specific topics, for junior faculty on career management issues as well as research, and for graduate students on topics such as choosing dissertation topics and getting a job. By the late 1990s, the Entrepreneurship Division was offering a full range of activities for all these groups, and the two-day workshops for doctoral students were heavily attended by international students. The Entrepreneurship Division Doctoral Consortium brought together groups of two students and one faculty member, chosen for expertise in the area the students are pursuing.

In 2007, some senior scholars in the field were still dissatisfied with the professional socialization that junior faculty received, and so they created *The Society of Entrepreneurship Scholars* (SES). Financial support came from the Kauffman Foundation and from Ohio State University, where Jay Barney and Sharon Alvarez organized the first conference. The SES's goal was to hold a conference for junior scholars that would increase the flow of manuscripts that are submitted to (and published in) top-tier journals. Papers accepted for the bi-yearly conference are reviewed in depth by at least two senior scholars who have a history of publishing in top-tier scholarly journals. These scholars work with junior faculty during 3-h sessions, both individually and in small groups, focusing upon measures to improve the manuscript and enhance its prospects for publication in top-tier journals. Critically, the heavy involvement of senior scholars as mentors perpetuates and strengthens mainstream approaches to framing research questions and choosing research methods.

In Europe, Josef Mugler led an effort within the International Council for Small Business in 1989 to create the European Council for Small Business (ECSB) as an affiliate. With its decentralized structure, having vice presidents for each of the affiliated nations, it has both a policy and a research focus. With regard to policy, its goal is to increase the competitiveness of small and medium-size firms in Europe. During the 1990s, when the entrepreneurship and small business research community was very fragmented, the ECSB was the organization around which scholars in the different countries could come together to discuss their work. The ECSB took the initiative to launch the European Doctoral Program in Entrepreneurship and Small Business Management in 1990 and also organized the RENT conference, which I discuss later.

4.1.2. Conferences

In addition to annual conferences held by professional associations, such as the Academy of Management and the ECSB, conferences are sponsored by colleges and universities, both individually and in consortia. Some are annual events, whereas others are offered on an ad hoc basis. Although diffusing knowledge and bringing together knowledge producers is a major goal of these conferences, many invite graduate students and junior scholars and have a strong "mentoring and training" component. One of the most important annual international entrepreneurship conferences is sponsored by Babson College and began in 1981. The conference is unique in requiring all attendees to submit a paper abstract as a ticket to admission and then publishing either papers or abstracts on the conference website, which is indexed for easy searching by outsiders. For the first 20 years or so, the conference required that papers have "data," to prevent "armchair theorizing" papers from dominating the conference. Reflecting the growing globalization of the field, the conference is held every three years at an international location.

Conference organizers emphasize its role as a venue in which people obtain feedback on early stage work. The early conferences, in the 1980s, were organized informally, but demand grew to the point where the organizers had to impose a cap on attendance. I began attending the Babson conferences in the mid-1980s, when the number of attendees was still below 100. Participants were extremely enthusiastic about their research and the sense of shared community was palpable. I remember thinking to myself how different the feeling was at Babson conferences versus the much more impersonal Academy of Management meetings. At the Babson conferences, there was little of the "careerist" talk that one heard in the corridors of other professional association meetings.

Other conferences in the 1980s included those organized by Alan Carsrud at the University of Southern California and at St. Louis University by Jerry Katz and Robert Brockhaus. The first conference on entrepreneurship and small businesses in Europe was the "Rencontres de St-Gall" in Switzerland, initiated by Alfred Gutersohn in 1948 and still held every two years as an invited conference at the University of St. Gallen. A similar annual conference is held in the United Kingdom, called the Small Firms Policy and Research Conference. In 1987, the European Council for Small Business and Entrepreneurship began sponsoring a yearly conference on Research in Entrepreneurship and Small Business (RENT) in co-operation with the European Institute for Advanced Studies in Management. An important component has been a doctoral seminar designed to encourage the emergence of new ideas and communication between students and instructors from different countries. Students present ideas for their doctoral dissertations and receive some methodological training.

Another long standing annual conference is the West Coast Research Symposium on Technology Entrepreneurship, sponsored by five West Coast universities: Stanford University, the University of Washington, the University of Southern California, the University of Oregon, and the University of California at Irvine. In addition to focusing on technology-based entrepreneurship, the conference organizers emphasize providing an intellectually stimulating

experience and building community. Although based in the American Northwest, it is open to researchers from other regions.

In terms of the scientific trends I noted earlier, professional associations and conferences help create and support institutions that sustain and reinforce several trends in science. Social networking enables potential collaborators to meet and form new teams of investigators. Research teams evolve from small 'cottage industry' style operations to larger, multi-institutional consortia able to win large grants for big projects. Networking opportunities also facilitate the spread of shared norms about competence and what constitutes a scientific contribution. Social networking facilitates a more rapid and widespread diffusion of theoretical and methodological developments, with high status actors playing a particularly important role in this effort (Frickel and Gross, 2005). In the United States, the development of the entrepreneurship field accelerated when scholars at major research universities, such as University California at Berkeley, Harvard, and the University of Chicago, began publishing in the field. As scholars at major universities began moving into the field, the balance of power shifted from the smaller and more regionally oriented universities that were important in the past and toward the more prestigious universities favored by foundations and granting agencies.

4.2. Publications

As the entrepreneurship research community emerged in the 1980s, authors faced a daunting challenge. Much of the research on new businesses prior to the 1980s had been conducted by people in small business units, using mainly descriptive methodologies, and that work had a very bad reputation among journal editors. "New businesses" were often lumped together with "small businesses" and authors were discouraged from submitting such work to mainstream economics and management journals, as well as disciplinary journals in other social sciences. Later, as entrepreneurship research became more technically sophisticated, journal editors became more sympathetic toward the topic. But in the interim, edited books and a few new or re-titled journals were the main outlet for entrepreneurship papers.

Historically, I believe books have been more important in Europe than in North America, because of differing academic traditions. Only in the last few decades have European academics been as rewarded for publishing in international journals as North American scholars, and submissions to such journals have been slowed by language barriers. Moreover, language differences have made it important for scholars to write in their own languages, but few countries have had their own scientific journals within the field of entrepreneurship.

4.2.1. Books

Landström and his co-authors chose to look at chapters in handbooks in part because the editors of such books often give explicit instructions to the authors to be inclusive and comprehensive in reviewing the topics they are assigned. The chapters are not research-based but rather review the research-based papers of others. In particular, they noted that beginning in the early 1980s, Donald Sexton was a key organizer of five handbooks, published every five years or so, that were reviews of the state-of-the-art on entrepreneurship research. Karl Vesper organized the conference that created the first handbook when he was a visiting scholar at Baylor University, and then when he took another sabbatical leave at Babson College, he created the Babson College Entrepreneurship Research Conference. Many of the papers published in these five handbooks attracted a great deal of attention, as they represented a single source to which people could refer if they were interested in a particular entrepreneurship topic. Otherwise, locating some of the material would have meant tracking down papers in journals that were not very well known. Landström et al. (1997) performed a similar function with regard to research on entrepreneurship and small business in Europe, compiling a handbook on research activities in 16 different countries.

As new entrepreneurship journals were established and traditional journals became more receptive to papers on entrepreneurship, the need for state-of-the-art reviews and handbooks may have diminished. For example, the last Sexton handbook was published in 2000. Landström and co-authors noted that some of the more recent handbooks have been more narrowly focused than the earlier handbooks, which were intended as broad surveys of the field, particularly the first volume in 1982. Another factor decreasing the need for such comprehensive reviews was a growing number of textbooks and practitioner-oriented books on entrepreneurship. Amazon.com now lists over 25,000 books with "entrepreneur" in their titles. Most of these books, of course, are "how to do it books" rather than scholarly books.

In the past decade, several publishers have created specialized lists in entrepreneurship, opening new publication outlets for entrepreneurship scholars. For example, a UK publisher, Edward Elgar, listed over 170 books on the subject of entrepreneurship in early 2011. NOW Publishers, an American company, publishes short monographs on entrepreneurship topics and has over 30 issues in its catalog. Nonetheless, I believe that agreed-upon norms regarding publication for entrepreneurship scholars now strongly favor journal articles, rather than books. The economics of the publishing industry also strongly favor journals rather than books, and so it is unlikely we will see another run of handbooks such as the one in the 1980s and 1990s. Currently, there are three annual research reviews devoted to entrepreneurship, although these could just as well be called "journals" as "books."

4.2.2. Journals

Almost no specialized journals covering the field of entrepreneurship were published before 1980. However, I should note that some of the earliest journals within the field were launched in Europe: in 1952, the *Internationales Gewerbearchive* (today called *Zeitschrift für Klein- und Mittel-unternehmen*) and in 1982, the *European Small Business Journal* (today called the *International Small Business Journal*).

In January 2011, Jerry Katz estimated that there were 116 English language journals covering the field http://www.slu.edu/x17970.xml. Only 10 of those journals, however, were indexed by the Social Science Citation Index (SSCI), which is highly selective in its coverage and is the source relied upon by top-tier departments in deciding how to evaluate tenure and promotion candidates. To be included in the SSCI, a journal must publish on a regular schedule, have strong financial sponsorship, and maintain quality standards. Even within this set covered by the SSCI, many top business schools make a further distinction between "A" level journals and others.

In 1985, the first journal dedicated to entrepreneurship was established, the *Journal of Business Venturing*, with an introductory essay by President Ronald Reagan. (In a footnote to the article, the editors noted that the paper had not been peer-reviewed.) In 1988, the *American Journal of Small Business* changed its name to *Entrepreneurship Theory and Practice*, a sign of the growing legitimacy of entrepreneurship as an academic field. In 1989, the new journals *Entrepreneurship & Regional Development* and *Small Business Economics* were founded. That burst of activity in the mid-1980s corresponded with the appearance of the second Donald Sexton handbook, which featured much longer articles than the 1982 book. I believe this cluster of activity justifies the attention that Landström and his co-authors gave to the decade of the 1980s as the originating era for modern entrepreneurship research. During the 1990s and into the 21st century, many new journals

were formed, although most of them were regional in scope and some were only available online. In 2007, the Strategic Management Society started a new entrepreneurship journal, the *Strategic Entrepreneurship Journal*, to accompany its flagship journal, the *Strategic Management Journal*. The *SEJ* very quickly became part of the Thompson Web of Science Social Science Citation Index, a sign of the perceived strength of the society and the journal.

4.3. Training and mentoring

Prior to the 1980s, any training that people studying entrepreneurship received occurred in either a disciplinary department, such as sociology or psychology, or in a regular business school department, probably either management or marketing. As several of the review chapters in the Sexton handbooks pointed out, research methods in entrepreneurship were simple and unsophisticated. Research designs were mostly cross-sectional and suffered from selection bias because investigators typically sampled only successful ventures, rather than a representative sample of startups or young firms. Training programs in disciplinary departments such as sociology and psychology had always been more structured and programmatic than those in business schools, and so investigators coming from such departments enjoyed an edge over others. Historically, training in research design and statistical methods in business schools had been tailored to the particular needs of individual students, especially in European programs. Although individualized training could provide extensive help to specific individuals, there was high variability across individuals and programs.

In the 1980s, three institutional developments altered the course of development for training in entrepreneurship studies, moving the field from an individually based model to a more collective model. First, scholars from mainstream social science departments began doing research on entrepreneurship. For example, Hannan and his collaborators studied firm survival using event history analysis to track firms over time, raising the bar for other projects (Freeman et al., 1983). Investigators coming from fields where state-of-the-art methods were being employed implicitly challenged the standards used by entrepreneurship researchers. Indeed, on numerous occasions, I witnessed scholars trained in the disciplines of economics or sociology giving highly critical assessments of research carried out by entrepreneurship scholars. Some of the disagreements became rather personal and tempers were frayed. Second, business schools began setting up dedicated Ph.D. programs that included systematic training in theory and research methods. Third, professional organizations, conferences, and consortia created mentoring programs explicitly charged with diffusing best practices in theory building and research methods to junior faculty and graduate students.

About three dozen dedicated Ph.D. programs in entrepreneurship exist worldwide, and more are being formed. Many Ph.D. programs now allow specialization in entrepreneurship, but do not have a separate track or degree program that stands apart from a Ph.D. in strategy, management, or other more general field. From an institutional perspective, I believe the identity-creating aspects of these programs are as significant as the technical training students receive. Graduate students not only learn the intellectual traditions in their fields but also come to think of themselves as entrepreneurship researchers, rather than simply being in the fields of organization studies, industrial organization, or marketing. In Europe, Jönköping International Business School (JIBS) has played a major role in this regard, training and mentoring students and fostering international linkages among key entrepreneurship scholars. For example, Per Davidsson at JIBS organized the Swedish PSED prior to the launching of the American PSED and invited international scholars to Sweden to work with it on projects using the data.

For individual programs, the number of entering students in any given year is often small, and their small scale limits training opportunities. Some programs have adapted by forming consortia with programs in other universities or countries, such as the ECSB-initiated European Doctoral Program in Entrepreneurship and Small Business Management between Sweden and Spain. The ECSB program was based upon a Ph.D. course on entrepreneurship and small business begun by Bengt Johannisson in the early 1980s. Others have adapted by relying upon visiting faculty to offer the courses that their own unit cannot, such as the Ph.D. program in the College of Business at the University of Louisville.

Third-party mentoring programs, however, have become more important than training in university programs in the last several decades. Even the largest departments cannot offer training in all theoretical and methodological approaches, whereas professional associations and conferences easily achieve the economies of scale needed to offer highly specialized mentoring and training. As I noted previously, at the annual Academy of Management meetings, several different kinds of training are offered by the entrepreneurship division. Professional development workshops on specialized topics, such as using longitudinal data, are available to all members of the division. For untenured faculty and graduate students, the two days prior to the start of the regular meetings are set aside for sessions on theory building, career management, choosing dissertation topics, and other issues that arise early in a scholar's career.

The Babson College Entrepreneurship Research Conference pioneered such training in the 1980s, as graduate students were invited to arrive at the conference venue a day before the regular meetings started. Senior faculty in the field offer the same kinds of workshops that are given at the Academy of Management meetings, with the added benefit that they will be available informally over the next several days during the Babson conference for additional consultation. Going further, as I noted previously, the *Society of Entrepreneurship Scholars* invites junior faculty to submit their working papers to a panel of senior scholars, who then work intensively with them to improve the papers and shape them in accordance with the standards used by top-tier journals. As with many of the other institutionalized practices I have described, such mentoring implicitly rewards continuity with the approaches favored by elite scholars in the field and may lead to intellectual conservatism and inbreeding. However, up to this point, the influx of scholars from other disciplines into the field has supplied a steady stream of diverse points of view. Were that immigration to slow, the field would have to find ways to consciously promote theoretical heterogeneity.

The move from an individual to a collective orientation in mentoring and training substantially changed the volume and quality of papers written by entrepreneurship scholars. Although some might question whether the field now has too many journals, the institutionalization of norms and values regarding what constitutes a high-quality contribution have gradually diffused throughout the field. Perceived quality differences still exist, however, and only a handful of entrepreneurship journals are on the "A" list of top business schools. As a result, tenure cases involving entrepreneurship scholars often generate considerable disagreements within business schools, across disciplinary lines.

4.4. Funding

Frickel and Gross (2005) noted that SIMs need access to financial support, even in fields without highly capitalized research programs, such as the social sciences and humanities. Funding for research on entrepreneurship was problematic in the 1970s and early 1980s, but in that respect it was no different than research on other issues of interest mainly to scholars in business schools. Rather than rely on outside funding, many business schools

provided funds to researchers out of their own internal funds. By contrast, investigators in disciplinary departments, such as sociology and economics, could turn to external sources such as the National Science Foundation and the National Institutes of Health for grants large enough to go beyond the "cottage industry" style of research. A few nationally representative dynamic data sets collected for other purposes were available, such as the National Longitudinal Study of Youth and the Panel Study of Income Dynamics, but most entrepreneurship researchers did not use them, in part because the requisite skills for analysis were in short supply.

In the 1980s, the Kauffman Foundation, based in Kansas City, Missouri, set out to change expectations of researchers by making substantial grants to a few projects and universities. They began by trying to improve the databases available to researchers, such as the one created by David Birch at MIT using Dun & Bradstreet credit reporting data. Birch's arguments about the significant role of new and small firms in job generation sparked a dramatic increase in interest among policymakers regarding the role of entrepreneurship and economic growth (Birch, 1987). That interest, in turn, led to a complete overhaul of the national databases on businesses in all major OECD countries and also to an allocation of more public funds for research and analysis. For example, the Observatory Reports prepared by the EIM Business and Policy Research unit in the Netherlands reflected a massive data collection effort in all the EU countries and helped establish entrepreneurship issues as central to EU policy discussions (ENSR, 1993; van Wijngaarden and van der Horst, 1997). In general, increased funding created more opportunities for the development of institutional structures supporting entrepreneurship research. It is possible that the development of a few well-regarded databases may also lead to a reduction in the range of research questions pursued by entrepreneurship researchers. Innovative research projects may be neglected in favor of projects compatible with existing databases.

Eventually, in the 1990s, Kauffman funded two major research initiatives in which Paul Reynolds played a key role: the Entrepreneurship Research Consortia, which later became known as the Panel Study of Entrepreneurial Dynamics I (PSED I), and the Global Entrepreneurship Monitor, otherwise known as GEM. The Entrepreneurship Research Consortia initially relied on funding provided by the three dozen universities and institutes making up the consortia, but funding was eventually obtained from the National Science Foundation and the Kauffman Foundation after pretesting was completed and interviewing had already begun (Gartner et al., 2004). For the first time, individual researchers had access to nationally representative data sets on entrepreneurship. The Kauffman Foundation not only funded the data collection projects, but also supported workshops to train investigators in how to use the data.

In the first decade of the 21st century, the Kauffman Foundation funded PSED II and the Kauffman Firm Survey (KFS). PSED II followed the basic design of PSED I, using the same basic approach of selecting a nationally representative sample of people starting businesses, but with a bigger sample than the first PSED (Reynolds and Curtin, 2009). The National Science Foundation provided about half the funds for the PSED II, supporting three follow-up interview waves. KFS is a fixed cohort study, begun in 2004, of about 5000 new firms in the Dun & Bradstreet database. The KFS data-collection process emphasized financial information and is proving popular with economists interested in the financial characteristics of new ventures.

The GEM project was begun as a consortium among member countries, just as the PSED started as a consortium among member universities (Reynolds et al., 2005). The Kauffman Foundation joined after the consortium was formed and temporarily supported an international coordination center as well as the US team. GEM now relies on fundraising efforts by research teams in the individual countries. In addition to supporting the PSED and the KFS, the Kauffman Foundation has made substantial grants to a small number of top-tier US universities for their entrepreneurship research centers. Their objective has been to increase the quality of research projects that can lead to publications in top journals. The Kauffman Foundation also awards dissertation fellowships each year to a handful of doctoral students to enable them to work on high-quality research projects. In the early 2000s, the Kauffman Foundation funded the Kauffman Campus Initiative in an effort to make universities "more entrepreneurial," but that had little impact on the field itself.

In Europe, research funds are now available not only in individual countries but also via European Union grants for entrepreneurship research. In some countries, the money is available through special programs to promote innovation or regional economic development, whereas in other countries, the funding is available through the normal social science research-granting process. An interesting recent development with regard to the review of such research projects involves government agencies requiring external reviews of grant proposals and asking that the proposals meet international standards. The imposition of such requirements is another sign that the institutionalization of norms and values regarding research practices has become a worldwide phenomenon. Some observers have posited that such standardization may have the unwanted effect of reducing the diversity of acceptable research strategies within the field.

Nonetheless, a major difference remains between sources of funding in United States and other nations. In the United States, successful entrepreneurs have historically made large donations to business schools, and many entrepreneurship centers have been created based on such external funding. Europe has no such tradition. Here and there, a few centers such as the Hunter Center at Strathclyde University have been created and wealthy foundations such as the Wallenberg Foundation in Sweden have funded research programs, but in general European governments have been the driving force funding entrepreneurship research.

4.5. Status: recognition and awards

Although not as important as the previous forces described, I believe that mechanisms raising the visibility of outstanding work in entrepreneurship research have played a role in institutionalizing the field. Of course, they have also fueled the dynamic tension I noted in reviewing the paradox of scientific progress: they celebrate the achievements of a few, at the expense of the many. Perhaps the best-known award is the International Award for Entrepreneurship and Small Business Research, begun in 1996 by the Swedish Foundation for Small Business Research (FSF) and the Swedish Agency for Economic and Regional Growth (Nutek). The initial amount of the prize was US$50,000, but it was subsequently raised to €100,000. The Swedish Entrepreneurship Forum (SEF), the successor to the FSF, has continued the prize and renamed it the "Global Award for Entrepreneurship Research." Prizewinners have come from an eclectic mix of disciplines, although nine of the 16 have their roots in economics.

In 2008, the Entrepreneurship Division of the Academy of Management, in collaboration with the school of business at the University of Connecticut, created the IDEA awards as part of the "entrepreneurship research excellence initiative" across multiple disciplines. The rationale for this series of awards, which include a sizable cash prize, was stated as "to grow entrepreneurship scholars" by presenting a model of how to conduct excellent research. In addition to a "foundational paper," the awards committee selects a "thought leader" who is asked to give a public lecture on how to achieve excellence in entrepreneurship research (Aldrich, 2011).

Thus, beginning in the 1990s and continuing into the 21st century, key organizations and institutes have created highly visible

and lucrative awards for people working in the field. In addition to the awards I have described in detail, there are many other awards, such as those for best paper in the Entrepreneurship Division of the Academy of Management, best graduate student paper, and so forth. Both the Swedish Entrepreneurship Forum and the IDEA awards elevate a body of work to the status of "excellence," encouraging others to emulate the top researchers in the field. Both also ask award winners to make public lectures. These awards heighten the sense of community among entrepreneurship researchers, celebrate visible role models, and create strong incentives for scholars to pursue productive research careers. However, they also make visible the implicit status hierarchy characterizing all academic fields, in which just a few scholars earn a disproportionate share of the citations and rewards in the field (Albarrán and Ruiz-Castillo, 2011).

4.6. Globalization

Landström and his co-authors noted that the field of entrepreneurship has been centered in North America, but it is not restricted to that continent. Indeed, all of the forces identified are global in scope and reflect the growing interconnectedness of the worldwide research community. The key organizations at the center of the social networking efforts I have described mandate that their events be as international as possible, as exemplified by the Academy of Management, at which as many as a third of the participants are international. The Babson College Entrepreneurship Research Conference has a similar international participation goal. On the other hand, the RENT conference is, to a great extent, a European conference. Many new entrepreneurship journals now have "international" in their title or their mission statement, and entrepreneurship scholars now routinely cross international time zones to offer seminars, short courses, and research collaboration. As Reader and Watkins (2006) showed, there is a strong association between patterns of co-citation and patterns of social interaction. In short, people who share similar approaches to problems meet more frequently, exchange papers, and seek advice from one another. Once such patterns emerge, they may influence the subsequent development of a scientific community's networks, facilitating some trajectories and impeding others (Teixeira, 2011). Whether a truly global community of entrepreneurship scholars eventually emerges depends upon the relative balance between the integrating and differentiating institutional forces that I have described.

5. Conclusions

I began by noting the evolution of the field of entrepreneurship research from the late 1970s until the present, with the field moving from groups of isolated scholars to a global research community studying new and high-growth firms and industries. Landström, Harirchi, and Åström's bibliometric analysis shows that the changes have produced increasingly systematic patterns of connections between entrepreneurship scholars over the past four decades. Growing numbers of knowledge producers and knowledge users now share core concepts, principles, and research methods, with a few highly cited scholars serving as thought leaders. I applied Frickel and Gross's (2005) conception of the emergence of a scientific/intellectual movement to characterize the way in which the field developed over the past four decades.

A tension exists between science as a competition between individuals for scarce rewards versus science as a community of inter-subjectively shared understandings about how we gain valid and reliable knowledge about the world. To gain status in their scientific community, scholars must moderate the pursuit of personal goals that might harm their relationship to other scholars. They must submit their work to peer review and follow accepted standards regarding reliability and validity. In mature academic fields, governance structures have emerged that allow the coexistence of personal ambition with consensus around what constitutes scientific progress. To gain understanding of how these structures might have emerged within the field of entrepreneurship, I examined six trends that stimulated and facilitated the long-term process that institutionalized entrepreneurship as a scientific field within the academic community, as well as a larger social and political environment.

5.1. The larger environment

A fully developed explanation for the institutionalization of the entrepreneurship field needs to include the strategic actions undertaken by the resourceful individuals, many of whom could be called entrepreneurs, who have edited handbooks, pushed for the creation of new interest groups in professional associations, founded new journals or transformed old ones, and convinced wealthy foundations to invest in the emerging field. Jointly, the activities constitute the institutional entrepreneurship that carried the field to where it is today. These actions could not have succeeded, however, without a receptive context, which I mention only briefly. Beginning in the mid-1960s, the American university system began an unprecedented expansion, with business schools growing along with the rest of the system. In particular, the number of MBA's awarded increased at an amazing rate: 1974–1975, 36,000 degrees; 1984–1985, 67,000 degrees; 1994–1995, 94,000 degrees; and in 1999–2000, 112,000 degrees (http://nces.ed.gov/programs/digest/). Undergraduate interest in entrepreneurship courses also increased.

It is no coincidence that the number of faculty hired into entrepreneurship programs or special tracks within business school curricula grew during this time. In the 1980s, specialized magazines targeting entrepreneurs arose, such as Inc. and Fast Company, with such magazines celebrating entrepreneurs and their value to society. By the time that Microsoft went public in the 1980s, "entrepreneurship" had captured the public's attention, politicians were making favorable comments about entrepreneurs and job creation, and entrepreneurship had emerged as a legitimate field of study within universities. Other forces were also at work, but my point is that the trends I identified not only depended upon collective action by scholars but also on favorable environmental conditions.

5.2. Implications

Let me now conclude with some thoughts about the ongoing role of institutional entrepreneurship in shaping the community of entrepreneurship scholars. I have argued that it is not individual scholars alone, acting as entrepreneurs, who have generated these changes. Instead, individual scholars have contributed to, and been influenced by, an on-going process of institutional entrepreneurship, as exemplified in the six key forces. Institutions – patterned behavior infused with meaning by normative systems and perpetuated by social exchanges facilitated by shared cognitive understandings – emerge from collective action rather than the actions of isolated entrepreneurs alone. My survey of the last four decades revealed many instances where collective action created the conditions transforming the institutional field of entrepreneurship research.

I believe the academic field of entrepreneurship stands out because of the degree to which participants have been reflexive and intentional about the extent to which the field needed supportive mechanisms. Institutions are typically thought of by

sociologists as patterns of behavior that are reproduced without thinking or reflection by most people, most of the time. The people who inhabit them ordinarily take institutional arrangements as exterior and constraining. These characteristics make institutions extremely durable. Indeed, if they did not last a long time, it would be pointless to identify them. I believe that under favorable circumstances, aggressive and charismatic individuals can be influential in fields undergoing transformation. Indeed, the history I have reviewed does show the importance of robust action in the entrepreneurship field by people with ambitious goals.

My review raises three questions about the long-term consequences of the trends I have identified. First, has the institutionalization of entrepreneurship as a scientific field affected the ability of scholars to offer practical advice to entrepreneurs and policymakers? At entrepreneurship conferences, I have sometimes heard the complaint that the demand for rigorous scientific standards in research is antithetical to the giving of practical advice on a timely basis. For example, almost 10 years elapsed between when data collection began for PSEDI and the publication of my papers based on that data set. Nonetheless, I cannot foresee the field returning to the anecdotally based courses and consulting of 50 years ago, when the other social sciences did not take entrepreneurship research seriously. Research standards imported from other social sciences are here to stay.

Second, how has American hegemony in publications and citations affected entrepreneurship research in other nations? Research on the invisible colleges in entrepreneurship shows that there is a clear advantage to US-based scholars and colleges, and universities in other nations are increasingly looking to the United States as a model for their own practices. Currently, the international flow of scholars is heavily weighted toward the United States, and perhaps departments and professional associations should establish postdoctoral fellowships and visiting professorships that send US-based scholars to other countries. Now, the objectives of international travels are framed in terms of spreading best practices from the United States, whereas I believe that some of these visits should be seen as opportunities for US-based scholars to take on fresh perspectives.

Third, has institutionalization had a negative impact on the possibilities of theoretical eclecticism in entrepreneurship? A number of the trends I have identified implicitly encourage junior scholars to adopt the perspectives and research methods of the most influential scholars in the field. Some might worry that such pressures toward conformity in science reduce the likelihood of innovation. That would constitute an ironic outcome in a field that prides itself on the study of creative acts by innovative individuals. To counter this possibility, I would suggest that some sessions at professional meetings and conferences be devoted explicitly to heterodox views, stimulated perhaps by invited guests from other disciplines. Another helpful practice might be allocating space in key entrepreneurship journals for dissident points of view, as is now the case in several strategy and management journals such as the *Journal of Management Inquiry* and *Strategic Organization*. The goal would more mindful and reflexive scholarship among globally interconnected scholars who ultimately share a common interest in fostering scholarly innovation and creativity.

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