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Publication Date

2011-04-23

Peer reviewed

Who Are the Entrepreneurs? The Elite or Everyman?

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11 July, 2011

This research was funded by a National Science Foundation Grant, #SES-0727502, and by a grant from the U.C. Berkeley Institute for Research on Labor and Employment. We thank Adam Goldstein, Jen Schradie, and Steve Vaisey, as well as seminar participants at Boston University and Emory University for helpful comments. Please send all correspondence to the first author.

Who Are the Entrepreneurs: The Elite or Everyman?

Abstract

We trace the evolving social positions of the people who found new enterprises over the course of industry history. Sociological theory suggests two opposing hypotheses. First, pioneering entrepreneurs are socially prominent individuals or those from related industries while later entrepreneurs are from an increasingly broad range of social positions. Second, the earliest entrepreneurs come from the social periphery while later entrepreneurs include more industry insiders and members of the social elite. To test these hypotheses, we trace the social positions of entrepreneurs in the magazine industry in America over the first 120 years of the industry's history, from 1741 to 1860. We find that magazine publishing was originally restricted to industry insiders, elite professionals, and the highly educated, but by the time the industry became well established, most founders came from outside publishing and more were of middling stature – mostly small-town doctors and clergy without college degrees. We also find that magazines founded by industry insiders remained concentrated in the three biggest cities, while magazines founded by outsiders became geographically dispersed. Our analysis demonstrates the importance of grounding studies of entrepreneurship in this and other industries in historical context. Our analysis of this “old” new media industry also offers hints about how “new” new media industries will evolve.

Research on entrepreneurship, specifically on the founding of new organizations, has shown that the likelihood of any individual becoming an entrepreneur depends on motivation, access to information, and access to resources; moreover, all of these things are affected by people's social networks (*e.g.*, Stuart and Ding 2006; Nanda and Sørensen 2010) and by their educational and career trajectories (*e.g.*, Khurana and Shane 2001; Burton, Sørensen, and Beckman 2002). But much of this research is ahistorical: it assumes that the factors that make people more or less likely to become entrepreneurs do not vary over time or across space, and that the direction and magnitude of these factors' effects on entrepreneurial activity do not vary over time or across space. The only history incorporated into most models of entrepreneurship is the career histories of the entrepreneurs themselves. In the vast majority of studies, the impact of shifts in the economic, cultural, and political aspects of industries, regions, and nation-states on the foundings of new ventures is either neglected entirely or controlled by design – that is, by focusing on a narrow slice of space and time.

Notwithstanding this general ahistorical bent, some recent research on entrepreneurship is sensitive to the particularities of time and space. For instance, the strategy and structure of the Paris Opera were found to be rooted in historically specific conditions; these core features were set at founding and persisted centuries later (Johnson 2007). And the founding rates of Massachusetts railroads were found to vary greatly across regulatory regimes (Dobbin and Dowd 1997). Historically sensitive analyses of entrepreneurship often solve empirical puzzles by revealing how temporal shifts in one set of factors (*e.g.*, economic or technological) prompt shifts in another set of factors (*e.g.*, cultural) that, in turn, alter entrepreneurial dynamics. For example, declines in federal grants to universities decreased scientists' concerns about communalism and disinterestedness, and increased their acceptance of property-rights claims on scientific discoveries (Etzkowitz 1989); this normative shift increased academics' participation in new biotechnology ventures (Stuart and Ding 2006).

Our goal is to follow these studies to build and test historically sensitive models of entrepreneurship. To gain insight into the ability of potential entrepreneurs to launch new ventures, we focus on their social positions, specifically their education, social networks, occupation, and

geographic location. As previous research has shown, all of these aspects of social position determine whether potential entrepreneurs can acquire and deploy the resources needed to get their enterprises off the ground (*e.g.*, Portes and Sensenbrenner 1993; Burton, Sørensen, and Beckman 2002). We seek to discover how the social positions of entrepreneurs vary across the time path of industry development. Put simply, we want to know who the entrepreneurs are early in an industry's history, and how they differ from the entrepreneurs later in industry history. Building on theories of entrepreneurial resource acquisition and of industry evolution, we develop two opposing predictions. First, if as industries develop it becomes increasingly easy to acquire the resources needed to launch a new venture, the earliest entrepreneurs will be socially prominent and come from fields related to the new industry, while later entrepreneurs will be less distinguished and industry outsiders. Second, if as industries develop it becomes increasingly difficult to acquire the resources needed to launch a new venture, the earliest entrepreneurs will come from the social periphery and a wide array of fields, while later entrepreneurs will include more members of the social elite and more industry insiders.

To test these predictions, we analyze the social positions of entrepreneurs in one industry, American magazines, over a 120-year period. Our analysis begins in 1741, when the first magazines were published in America and ends on the eve of the Civil War in 1860, by which time the industry had become well established. We study magazines because as broadcast media, they have a tremendous impact on society. By transmitting facts, opinions, and entertainment, broadcast media literally mediate between people, weaving “invisible threads of connection” (Starr, 2004: 24) that sustain communities whose members share values, principles, and ideas (Park 1940; Anderson 1983). Our study of this “old” new medium is relevant to scholars who are studying the rise of “new” new media, such as on-line magazines, news consolidators, blogs, and content-sharing sites (*e.g.*, Hargittai and Walejko 2008; Hindman 2008; Schradie 2011). Media scholars, journalists, and politicians all argue that the development of new technologies and new forms of media can transform opportunities for participation in media production. The long-term development of antebellum

periodical publishing offers a not-so-distant mirror on how these issues will play out as these “new” new media develop.

We begin by describing how the American magazine industry, and American society at large, evolved from the colonial era to the eve of the Civil War. We then draw on sociological theories and historical accounts to explain how the development of the magazine industry altered the resources required to launch magazines and how the resources available to people in various social positions evolved. After connecting theories of entrepreneurial resource acquisition to the historical trajectories of social positions, we predict how the social positions of magazine entrepreneurs varied across this industry’s history. Next, we describe our data sources, measures, and analytical methods, and then reveal the results of our analysis. We conclude by discussing how the results of our analysis can redirect research on entrepreneurship in contemporary settings – not just new media outlets like blogs and web-based periodicals, but also new ventures in other sectors.

The Magazines Industry in America

The first American magazines appeared within three days of each other in February 1741, produced by rival printers Andrew Bradford and Benjamin Franklin. These pioneering publications, which were modelled on English ones, included government proceedings and official reports, essays on politics, history, and religion, reports of scientific experiments, price lists, poetry, mathematical puzzles, and letters. Although their founders expected these publications would have long lives, both were short-lived: Bradford’s lasted only three issues and Franklin’s six.

In their wake, the magazine industry struggled. Only 23 magazines were founded before the end of the Revolution in 1783. Not until peace was restored did magazines gain a firm foothold on American society. Between 1790 and 1830, the founding rate rose and began to outstrip the failure rate; as a result, the number of magazines in print rose from 12 in 1790 to 83 in 1810 and 346 in 1830. Industry growth continued to accelerate; by 1860, almost 1,000 magazines were in print. As they grew in numbers, American magazines became increasingly robust – the median life span increased five-fold – and some reached mass audiences. Although data on circulation are available for only a few magazines at scattered points in time, between 1841 and 1860, 62 of the 244

magazines for which we could find data had circulations over 10,000, and 13 boasted circulations over 100,000.¹ Some magazine publishing houses grew massive; they commanded vast resources and distributed their products across the country. Their enormous revenues allowed them to attract star authors like Herman Melville and Nathaniel Hawthorne. The ability of these firms to achieve economies of scale and scope ensured a steady supply of truly mass media, but also made them fierce competitors.

How did American magazines become so numerous and robust, and how did some of them manage to cultivate mass audiences? The answer is simple: material and cultural supports for magazine publishing improved enormously. Perhaps the most fundamental fact standing in the way of the earliest American magazines was the lack of an audience. The colonies were sparsely settled and few people lived in urban areas. Most people grew or made what they wore and used, or bartered for objects they did not produce themselves, so they had little cash to spare for non-essentials like magazines. But the situation improved greatly as the population exploded from less than one million in 1740 to over 30 million in 1860 and the number of urban areas (places with over 2,500 inhabitants) rose from 36 in 1790 to 422 in 1860. In addition, the market economy expanded: in constant dollars, GDP *per capita* increased 150% from 1790 to 1860. In sum, there was a phenomenal increase in the potential audience for magazines: many more people, especially in urban areas, with more cash to spend on magazines.

Basic production and distribution technologies – printing presses and the postal system – also became more efficient and widespread. In the earliest years, the scarcity of printing presses greatly hampered publishing efforts. The situation was exacerbated by the fact that presses were slow, cumbersome, manually powered mechanisms that required skilled craftsmen to operate (Berry and Poole 1966; Moran 1973). By the 1830s, steam-powered presses that could be run by less-skilled workers appeared in every state and territory. Dramatic improvements in papermaking in the early nineteenth century substantially decreased in paper prices, further fuelling the growth of

¹ To put this in perspective, by far the best-selling antebellum book, *Uncle Tom's Cabin*, sold 310,000 copies; the next-best-selling novel of the 1850s sold fewer than 80,000 copies (Zboray 1993: 122).

magazines (Moran 1973; Smith 1979). The earliest magazines' circulations were local because they were sold primarily at their printers' shops or at shops in nearby towns. In 1794, Congress established the Post Office as a permanent arm of the state, giving magazine publishers access to an increasingly extensive, reliable, and inexpensive distribution channel. Magazine distribution expanded as the postal network grew exponentially, from 31 post offices and fewer than 1,500 miles of post roads in 1740 to over 28,000 post offices and 240,000 miles of roads in 1860 (Kielbowicz 1989; John 1995). Improvements in the speed and reliability of transportation kept pace with growth of the postal system, as mail transport shifted from horseback over unpaved pathways to horse-drawn carriages over better-maintained roads and as the post relied increasingly on steamboats, canals, and railroads.

A final critical factor was the development of copyright law. Copyright was virtually nonexistent before 1790 and not applied to magazines until the 1820s (Bugbee 1967; Charvat 1968). Although early magazines benefitted from access to a wide variety of free content in other publications, they had no legal protection for any original material developed by their contributors, which hindered their ability to differentiate themselves from rival periodicals. As copyright law began to be used by magazine publishers, norms developed concerning the payment of authors. This, in turn, led to the emergence of professional writers: people, like Washington Irving and James Fenimore Cooper, who could literally scratch out decent livings with their pens. The possibility of a career as a professional writer increased greatly the volume of original material generated for magazines, but at the same time, norms about paying authors made this material more expensive.

Summary. Between the appearance of the first American magazines in 1741 and the outbreak of the Civil War 120 years later, magazines evolved from being rare, poorly understood, and small-circulation, to being common, accepted, and often mass media. At the same time, the resources needed to run magazines became more readily available. Improvements in resource availability were offset by the increasing cost of content as authorship became a paid occupation and by the rise of

large publishers that threatened fierce competition against new entrants. The question remains as to what effect these changes had on the kinds of people who launched magazines.

Magazine Publishing and the Evolving Challenges of Entrepreneurship

We begin by considering two general predictions derived from sociological theories about how the distribution of resources needed to launch new ventures changes as industries evolve, and how access to resources changes. We then delve into the particularities of our research site and, guided by historical research on antebellum America, explain how the resources provided by potential entrepreneurs' social positions – specifically, their occupation, education, and location – evolved from the eighteenth to the mid-nineteenth century. Based on these historical trajectories, we develop explicit hypotheses about how the effect of each dimension of social position was altered by the development of the magazine industry.

Competition and Exclusion from Resource Acquisition

A long tradition in organizational research suggests that the entrepreneurial task becomes more formidable as industries develop. In new industries, most organizations are young and small, and relations between them are fluid. But as industries develop, they often come to be dominated by a few very large and old organizations that have forged strong ties to suppliers and distributors. Because the firms in young industries are small and young, and therefore little-known and resource-poor, their presence does not create barriers to entry for other new ventures. But because the large, long-established firms that dominate long-established industries are both widely recognized and resource-rich, they are powerful competitors and their presence may make it hard for anyone to launch new enterprises (Hannan and Freeman 1989). Moreover, ties to suppliers and distributors strengthen as industries develop (DiMaggio and Powell 1983). It is more difficult for outsiders to penetrate the settled social relations that characterize long-established industries than the fluid situations that prevail in new industries (Fligstein 2001). In sum, as industries develop, entrepreneurs will have greater difficulty acquiring and deploying the resources they need to launch new businesses. Successful entrepreneurs will increasingly be either industry insiders or outsiders

with considerable wealth or eminent social status, as only those elites have the resources needed to scale rising barriers to entry. In contrast, outsiders with little wealth and low social status will be increasingly excluded.

There is evidence to support the prediction of competitive exclusion in the history of American magazines. In the eighteenth century, all magazines were small ventures, but by the mid-nineteenth century, large publishing houses operating industrial presses issued many magazines with print runs in the tens of thousands. For instance, the Harper brothers launched a weekly and a monthly magazine in the early 1850s; both grew to have circulations greater than 50,000. The presence of these large publishing houses intensified competition and limited potential founders' access to the resources they needed to launch new magazines.

Legitimacy and Easier Access to Resources

Other organizational research suggests instead that launching new ventures may be harder in new industries than in older ones. In new industries, customers and suppliers are uncertain, even skeptical (Aldrich and Fiol 1994), so entrepreneurs must struggle to define opportunities, identify resources, and pry them away from existing organizations (Rao 1998). Given this difficulty, entrepreneurs in new industries must depend on personal and social resources, such as personal reputations or connections to prominent others, to substitute for direct measurement of worth by customers and suppliers (DiMaggio 1982; Granovetter and McGuire 1998). But as industries develop and expand in numbers, they become increasingly legitimate (Hannan and Freeman 1989), which makes it easier for potential entrepreneurs to recruit employees and solicit sales (Aldrich and Fiol 1994). In addition, as industries expand, deep pools of industry-specific resources build up (Hannan and Freeman 1989), so would-be entrepreneurs find it increasingly easy to gain access to necessary resources. Moreover, as industries develop, entrepreneurs learn what to do – and *not* do – from observing predecessors (Aldrich and Fiol 1994). In sum, acquiring and deploying the resources needed to launch new ventures becomes easier as industries develop. Therefore, entrepreneurs in older industries will have less need for great wealth, high personal standing, or prominent friends than do their counterparts in younger industries.

There is evidence to support this prediction in the history of American magazine. Many practical challenges to publishing magazines declined dramatically between the eighteenth and mid-nineteenth century: demand increased as audiences expanded and magazines became legitimate cultural products; key resources like paper, printing presses, postal distribution, and original content all became more available. For this reason, it may have been increasingly easy for anyone – not just industry insiders and social elites – to found magazines.

The Evolving Value of Social Position

The predictions developed above are somewhat simplistic in that they do not differentiate among dimensions of social position. They are also ahistorical in that they do not consider whether access to the resources needed to launch new ventures varies over time for any particular social position – in other words, how the “value” of a potential entrepreneur’s social position varies over time. In this section, we examine the historical trajectories of three important and commonly studied dimensions of social position – occupation, education, and geographic location – that previous research has shown affect entrepreneurs’ access to the resources needed to launch new ventures.

Occupation provides a general indicator of social position and of founders’ connections to industries that are closely related to their own. In the samples we study, four out of five magazine founders belonged to three occupational groups: the publishing trades (printers, publishers, editors, booksellers, bookbinders, and engravers), writers, and the traditional professions (physicians, ministers, and lawyers).² We discuss each occupational group, and the resources that members of each group possessed, in turn.

In the eighteenth century, printing presses were rare and difficult to operate, and thus *printers* were highly skilled craftspeople. Although few received much formal education, many had ties to political elites: they printed official documents for government officials and many were appointed as postmasters. Because print shops served as post offices, publishing houses, and bookstores, and

² We explain our sampling plan below. Other magazine founders we studied were music composers and/or publishers, merchants, manufacturers, engineers, state officials, and teachers.

they were focal points for the exchange of news and intellectual engagement, serving the same civic function as English coffee houses, French *salons*, and German *Tischgesellschaften* (Wroth 1931; Everton 2005). As the landlords of the eighteenth-century American public sphere, printers were well-positioned to acquire contents and oversee production, gain access to distribution channels, and attract audiences. During the nineteenth century, however, printers' social, cultural, and economic status declined. Printing became industrialized and printers were deskilled as printing presses became easier to use. Technological improvements driven, in large part, by demand from the growing magazine and newspaper industries reduced the status of printers from proprietors of the public sphere to mere employees of publishing houses. In contrast, the status of *other publishing-industry occupations* (publisher, editor, and bookseller) remained high throughout the antebellum era. Their focus on the written word demanded possession of considerable cultural resources and deep knowledge of literature. Moreover, as publishing-industry insiders, they had ready access to persistently valuable social resources.

In the eighteenth century, *writers* were almost all patricians: gentlemen-scholars who wrote for their own amusement and for the edification of others (Charvat 1968). They possessed the funds to support lives of leisure and the cultivation to write with style. In the mid-nineteenth century, writers were more heterogeneous because an increasing number earned their living by writing. Mid-nineteenth century writers included not only belletrists, but also hack journalists, technical writers, and bohemians; thus, their economic, social, and cultural resources varied considerably.

Like writers, *professionals* underwent a dramatic shift. In the eighteenth century, most were members of the educated elite. Lawyers occupied the apex of colonial society; they were highly educated and well remunerated, and many were directly involved in colonial politics (Ferguson 1984; Haber 1991). Many of the eighteenth century's most accomplished authors were lawyers (Ferguson 1984). Ministers, too, were well educated and, in nine of thirteen colonies, supported by official, state-sanctioned churches (Ahlstrom 1972; Haber 1991). Although physicians were not quite so distinguished as the members of the other professions, in part because they competed with low-

status barbers, midwives, and lay practitioners, medicine was still an acceptable occupation for younger sons of well-to-do families (Haber 1991; Starr 1982). As the nineteenth century progressed, however, all three professions became contested. As the legal profession expanded, lawyers became more diverse in class, training, and credentials: many people of middling stature entered the profession through apprenticeships or self-directed study, rather than through college education (Haber 1991). Ministers were challenged as disestablishment severed their relationship to the state, isolated them from political elites, and made them economically dependent on their local congregations (Douglas 1977; Haber 1991). Moreover, interdenominational disputes about theology and church organization undermined ministers' claims to authority (Ahlstrom 1972; Hatch 1989). Physicians faced increasing challenges from homeopaths, mesmerists, phrenologists, Thomsonians, and eclectics (Starr 1982). They often had to supplement their medical practices with farming, ministerial work, or trade (Haber 1991).

Education was a stable indicator of high status and good access to resources because attending college was a privilege accorded only to those the top of socioeconomic pyramid: in 1800 there were 2.7 college students per 10,000 Americans; in 1850, there were still only 10.1 per 10,000 (Burke 1973: 22, Table 2.3). College graduates were generally from wealthy families and, because of the erudition they gained in college and the relationships they forged there, they also possessed substantial cultural and social resources.

Finally, *location* stratified access to a variety of material and cultural resources associated with publishing. Most basic is access to printing presses. The first print shops in the colonies were in Philadelphia, Boston, and New York City; in the late eighteenth century, printing spread to the backwoods (Wroth and Silver 1951: 69-70) as journeyman printers moved to find clients (Silver 1967). By the time the first American magazines were launched in 1741, only eight of thirteen colonies had printing presses. At the outbreak of the Revolutionary War, all colonies had printing presses, but they were few in number. By 1800, there were printing presses in all states of the Union, plus the District of Columbia, the Ohio, Michigan, and Mississippi Territories, the French territory of Louisiana, and the Spanish colony of Florida. By 1850, printing presses had appeared as

far west as Idaho, New Mexico, Oregon, and California. Moreover, between 1800 and 1832, a series of technological innovations made printing presses increasingly easy to operate (Berry and Poole 1966; Moran 1973). Thus, early on, location stratified access to basic equipment needed to launch magazines, but location-based differences in access to this resource declined over time, most markedly in the wake of early-nineteenth-century technological improvements.

Countering this trend is the fact that during the nineteenth century, large publishing houses arose in Philadelphia, Boston, and New York City, and remained concentrated in those cities. Between 1841 and 1860, of the 62 magazines for which we have circulation data and which had circulations greater than 10,000, 51 were published in these three cities. Moreover, as the largest cities in the nation, and the centers of commerce and culture, residence in any one of these cities put potential magazine founders close to peerless cultural and economic resources. Thus, location is a stable indicator of cultural and economic status, similar to its position in Bourdieu's (1984, 1996) analysis, where residence in Paris indicates high status and residence in the provinces indicates low status.

Summary. As this analysis demonstrates, the value of many social positions – embodied in the economic, cultural, and social resources associated with them – changed between the mid-eighteenth and mid-nineteenth century. Printers' access to economic, cultural, and social resources declined, while that of other publishing occupations remained strong. Writers became less patrician and more heterogeneous, so their access to resources generally declined, although their access to resources specific to publishing remained valuable. Professionals initially had high social standing, but during the first half of the nineteenth century their status became contested and their access to resources declined – although lawyers' consistently high incomes may have buffered them from this trend. College education was a consistently valuable source of cultural and social resources, and an indicator of wealth. Finally, although access to printing presses became widespread, location in Philadelphia, Boston, and New York City retained great cultural and economic value. The second column in Table 1 summarizes these trends.

[Table 1 about here]

Predictions

We first considered how the number and nature of magazine-industry participants evolved, along with the resources required to enter the industry. We then considered how access to resources from three dimensions of social position (occupation, education, and geographic location) changed over time. We can now put these two pieces of the puzzle together and develop predictions about which social positions were the most likely conduits for magazine entrepreneurship at which time in magazine-industry history. The third and fourth columns in Table 1 show the predictions generated by combining the two sociological perspectives on industry evolution with historical knowledge about how access to resources evolved for people in different occupations, with different levels of education, and in different locations.

On the one hand, if the rise of mass publishers raised barriers to entry and made it increasingly difficult to acquire the resources needed to launch new magazines, we would expect magazine entrepreneurship to be increasingly confined to people in social positions that gave them good access to these resources. Concretely, this competitive-exclusion model suggests that members of publishing trades (other than printers) should be increasingly common among magazine founders, as people in these occupations could tap into industry networks; however, industry outsiders, printers, writers, and professionals should be less and less common because people in those occupations had declining access to resources. Similarly, college education should become more common among magazine founders because in the antebellum era, college education was always reserved for the socioeconomic elite and provided access to great cultural and social resources. Finally, new magazines, especially those founded by industry outsiders, should be increasingly located in Philadelphia, Boston, and New York City, as potential magazine entrepreneurs in those cities always had access to superior economic and cultural resources.

On the other hand, if the legitimization of magazines made it easier to gain access to the resources needed to found a magazine, we would expect the opposite: magazine entrepreneurship should be increasingly open to people in all social positions, even those that afforded little access to cultural, economic, or social resources. Concretely, this industry-legitimation model means that

professionals and other industry outsiders should be more common among magazine founders, as should writers, while members of publishing trades (other than printers) should be less common.³ Moreover, college graduates should be less common among magazine founders because the economic, cultural, and social resources associated with college education became less important over time. Finally, magazines should be increasingly published outside Philadelphia, Boston, and New York City because access to the economic and cultural resources concentrated in those large cities became less important.

Research Design

We test these predictions by analyzing original data collected on 4,989 American magazines published between 1741, the year the first American magazines were founded and 1860, the year before the outbreak of the Civil War. We gathered these data from nine primary and 88 secondary sources.⁴ The American Periodical Series Online, which contains digital images of over 1,100 magazines, is our main primary source. We also searched the American Antiquarian Society's online catalogue, viewed hundreds of magazine microfilms in the Cornell, Columbia, and New York Public Libraries, and searched three online archives: the *Archive of Americana*, *America's Historical Newspapers*, and *The Nineteenth Century in Print*. Finally, we conducted Internet searches to tap into sources elsewhere. Because many magazines left no physical trace and many others left only a partial record, secondary sources were critical. Beginning with two industry histories (Mott 1930, 1938a, 1938b; Tebbel and Zuckerman 1991), we conducted a snowball search for secondary sources, and found 42 book-length sources, 26 check-lists and catalogues, and 10 articles. The resulting dataset includes virtually all magazines published during the antebellum era, according to estimates by Mott (1930, 1938a, 1938b), whose three-volume history remains a standard reference.

³ We make no prediction about printers because there are conflicting trends: Their access to economic and cultural resources declined as they changed from being proprietors of the public sphere to mere employees of publishing houses, while their access to social resources (through industry networks) remained constant, so they may have been less likely to found magazines. But access to resources became less important, so printers' probability of founding magazines may have remained constant, even as their status and access to economic and cultural resources declined.

⁴ To save space, we do not cite all of these sources. A complete list is available from the first author.

We focus on two time periods: from 1741 to 1800, during which time American magazines were few in number, poorly understood, and small, and from 1841 to 1860, when American magazines were common, generally accepted means of communication, and many reached mass audiences. We limited our analysis to these periods to maximize the temporal contrast between the early years of this industry's history and the period in which it was well established. This temporal sampling frame also made manageable the task of gathering data on the social positions of magazine founders, which required us to pore over a large number of archival sources and categorize a mass of qualitative data.

We sought background information on the founders of all 148 magazines launched between 1741 and 1800, and on the founders of a random sample of 150 magazines from the 2,678 founded between 1841 and 1860. Because we cannot observe everyone who tried to start magazines, but only those who succeeded, our analysis, like many other analyses of entrepreneurship, will be biased toward success (Aldrich and Wiedenmayer 1993). We mitigated this bias by sampling from *all* magazines, both those that failed after publishing a single issue and those that achieved lasting success.

The archives revealed the names of the founders of many magazines. To gather data on founders' social positions, we searched the *American National Biography* (2000), the *Oxford Dictionary of National Biography* (2006), *Who Was Who in America, 1607-1896* (1967), and *Appleton's Cyclopaedia of American Biography* (Wilson, Fiske, and Klos 1887-1889).⁵ We also pored over histories of publishing (Thomas 1874; Oswald 1937; Wroth 1931; Silver 1967; McMurtry 1936; Lehmann-Haupt 1941, 1951) and intellectual and literary life (Bender 1988; Bercovitch 1994). We completed our searches online. Of the 148 magazines published in the eighteenth century, we identified the founders of all but five magazines, which were launched by four organizations and 165 men. We uncovered data on all but three of those men. For the sample of 150 magazines from the mid-nineteenth century, we were able to identify founders of 125 magazines, which were launched by 17 organizations and

⁵ Although *Appleton's* has many biased entries, basic data about education, kith and kin networks, and occupation are usually reliable (Dobson 1993).

125 individuals (120 men and five women). We were able to gather data on 104 of these individuals. The details of our samples are summarized in Table 2.

[Table 2 about here]

Measures

Founders' social positions. Many magazine founders had multiple occupations; *e.g.*, lawyer and writer or printer, publisher, and postmaster. We first coded *all occupations* held by each individual – *printer, other publishing trade, writer, minister, lawyer, doctor, other* – as a series of dummy variables. We then coded each individual's *primary occupation* as a series of dichotomous variables (*printer, other publishing trade, writer, minister, lawyer, doctor, other*), based on biographies and histories. For the vast majority of cases, this task was straightforward; for instance, we coded any professional who was also a college professor as a professional because the former occupation was a prerequisite for the latter. For the few ambiguous cases, we coded the earliest occupation as the primary one. There were seven such cases: five professionals who later embarked upon careers as writers, one lawyer who became a prominent landowner, and one author who became a social reformer and lecturer.

The American occupational structure changed greatly between the eighteenth and mid-nineteenth century. To account for this shift, we would want to gather data on changes in the number of people in each occupational group (*printers, other publishing trades, writers, ministers, lawyers, and doctors*) over time and scale the counts of magazine founders in each occupational group by the number in each. Alas, there are no occupational data in antebellum censuses and no historical demographic analyses of most occupations. But we were able to piece together historical data on three occupations – *ministers, lawyers, and doctors* – and measure the people in these professions in 1770 and 1850, the midpoints of the two time periods we study. For clergy, counts for 1770 are based on our analysis of prosopographies of colonial clergy (Weis 1950, 1976, 1977, 1978). For lawyers, estimates for 1770 are based on Massachusetts counts in 1740, 1775, and 1840 taken from a history of the legal profession in Massachusetts (Gawalt 1979: 14, Table 1), and national counts in 1850 taken from a history of the legal profession in America (Reed 1921: 422, Table 2). For doctors, estimates for 1770 come from a history of the medical profession (Starr 1982:

40). For all three professions, counts for 1850 come from a history of the legal profession in America (Reed 1921: 442). We then calculated the percentage of professionals among magazine founders in each time period relative to the percentage of professionals in the general population at the midpoint of each time period.

We coded *education* as a dummy variable indicating whether the founder had attended college. To account the fact that there were more college-educated people in the mid-nineteenth century than in the eighteenth century, we gathered data on the number of college students *per capita* in 1800 (the first year such data are available) and 1850 (the midpoint of the second period) (Burke 1973: 22, Table 2.3). We used these counts to calculate the percentage of college-educated people among magazine founders in each time period relative to the percentage of college students in the general population in each time period.⁶

Magazine location. We created a trichotomous ordinal variable indicating whether a magazine was published in one of the three biggest antebellum cities (Philadelphia, Boston, or New York City), in another urban area, or in a rural community. We distinguished between urban and rural areas using data on the populations of municipalities (Moffat 1992, 1996; Purvis 1995; U.S. Census Bureau 1998). To make sure we had complete data on smaller urban places (those with populations less than 10,000), we also conducted a series of Internet searches. Following Census Bureau standards, we used a threshold of 2,500 inhabitants to distinguish urban areas from rural ones. To take into account the increasing urbanization of America, we measured the populations of the three biggest cities and the percentage of the population in urban areas in 1770 and 1850, the mid-points of the two time periods. To compare the locations where magazine founders launched their new ventures to the locations where the typical American lived, we first scaled the percentage of magazines founded in the three biggest cities in each time period by the percentage of the population in those cities at the midpoint of each time period. We then scaled the percentage of

⁶ Education was not highly correlated with professional occupation, as many professionals learned through apprenticeship rather than in college; the correlation was greater in the mid-nineteenth century than in the eighteenth century, but nowhere near as high as it is in contemporary American society.

magazines founded in all urban areas (including the three biggest cities) in each time period by the percentage of the population in urban areas at the midpoint of each time period.

Methods of Analysis

Bivariate analysis. To assess whether there were statistically significant changes over time in the frequencies of founders' occupation and education, we analyzed 2×2 contingency tables and conducted χ^2 tests. (When cell counts are lower than five, the χ^2 test is not accurate; for tables with low cell counts, we used the Fisher's exact test instead.) The unit of analysis here was the individual founder. Note that for each occupation, we conducted a separate analysis, comparing frequencies of magazine founders in the focal occupation to frequencies of founders in *any other* occupation. This allowed us to assess the statistical significance of time trends for each occupation separately, which is necessary because historical trends in access to resources varied greatly across occupations. For location, we assessed the statistical significance of time trends in the trichotomous location variable by analyzing a 3×2 contingency table, again using the χ^2 test. The unit of analysis here was the magazine.

As noted above, the distributions of occupations, educational statuses, and locations from which founders were drawn changed greatly over our observation period. We took these changes into consideration as much as possible, given limitations on the data available. We scaled the percentage of professional and college-educated magazine founders by the percentage of professionals and college students, respectively. This allowed us to compare the likelihood of a magazine founder being a professional or having a college education, relative to the general population, in each time period. We also scaled the percentage of magazines launched in the three biggest cities and in all urban areas by the percentage of the population living in those locations. This allowed us to compare the likelihood of a magazine's founders being in those three cities or in other urban areas, relative to the typical American, in each time period.

We augmented this quantitative analysis with an analysis of qualitative data on magazine founders' backgrounds; specifically, their social ties to other magazine founders and to socially

prominent Americans, and their career paths. These qualitative data, which we gathered from the sources described above, add rich historical detail to the statistical results.

Multivariate analysis. Next, we performed a multivariate analysis of over-time variation in the frequency of magazines with different combinations of founder occupations, education, and location. This allowed us to consider not only the change in the *prevalence* of founders from each social position, but also changes in *relationships among* those social positions. Because all the variables in our analysis are categorical, we used log-linear techniques (Goodman 1970; Bishop, Fienberg, and Holland 1975).⁷ Log-linear techniques extend the analysis of two-variable contingency tables to multi-variable tables, and so allow us to analyze conditional relationships among multiple categorical variables. As with two-variable contingency tables, we assessed statistical significance using χ^2 tests.

Because many organizational scholars are not familiar with them, we explain the basics of log-linear techniques and compare them to the more familiar regression techniques. Log-linear analysis is similar to multiple regression analysis in that it assesses relationships – main effects and interactions – among a set of variables. But log-linear analysis differs from multiple regression analysis in that it starts with a fully specified (“saturated”) model, one that contains all possible combinations of main effects and interactions, and subtracts parameters (interactions between two or more variables) step by step, rather than starting with a model containing main effects only and adding interaction parameters. The goal in log-linear analysis is to determine the simplest model – the one containing the simplest set of interaction parameters – that does not differ from the saturated model. Most log-linear analysis involves comparing how well a hierarchically nested set of models fits the data. The models are hierarchically nested because those containing complex interactions among a set of variables must necessarily also contain all simpler interactions among those variables; for instance, a model containing a three-way interaction must contain all of the two-way interactions among the three variables, plus the main effects of each variable and the grand mean (equivalent to the constant in multiple regression).

⁷ For a straightforward comparison of this technique to linear and logistic regression, and an explanation of why log-linear techniques are preferred over regression techniques when all variables are categorical, see Knoke and Burke (1980).

The unit of analysis here was the magazine. We cross-classified magazines according to five dichotomous variables: the presence or absence of a founder in the professions, the presence or absence of a founder in the publishing trades (including printing), the presence or absence of a founder with a college education, whether or not the magazine was published in one of the three biggest cities, and whether the magazine was published in the eighteenth or mid-nineteenth century. We simplified the occupational categories to generate a cross-classification table with reasonably large cell counts; including more fine-grained occupational categories would have resulted in a prohibitively large numbers of cells with very low observed counts. As is customary in log-linear analysis, we recoded all variables to -1 when the focal attribute was absent and +1 when the focal attribute was present. Doing so yields effect estimates that are relative to category means, which simplifies interpretation.

The notation used in log-linear analysis differs from that used in multiple-regression analysis. Letters denote the variables in the cross-tabulation and a set of letters enclosed in parentheses denotes each multivariate model. For instance, C might stand for college education, L for location in a large city, and T for time period. Then {CLT} would denote a model containing the grand mean for the table, three main effects (C, L, T), three two-way interactions (C×L, C×T, and L×T), and one three-way interaction (C×L×T). A simpler model, nested within the first and denoted as {CT} {LT}, would contain the grand mean, three main effects (C, L, and T), and two two-way interactions (C×T and L×T).

Most log-linear analyses make no distinction between independent and dependent variables. But we want to explain over-time variation in the frequency of magazines with different combinations of founder occupations, education, and location. Therefore, we used Goodman's (1972) modification of multiple regression for the analysis of categorical data, which treats one categorical variable as the outcome to be predicted. Specifically, we modelled the difference between the second period and the first in the odds of newly founded magazines having founders in a given combination of social positions. Thus, we treated time period (**T**) as the variable to be predicted, and the four social positions – professional occupation (**P**), publishing trades occupation

(**B**), college education (**C**), and location in one of the three biggest cities (**L**) – as the predictor variables. This approach is similar to logistic regression models that predict a categorical outcome (like voting or innovation adoption) using continuous variables.

We used a stepwise procedure (Goodman 1970) to select the model with the fewest parameters that that did not differ significantly from the data. We compared the observed frequencies in the five-way data table, which we created by cross-classifying the four dichotomous predictor variables and the dichotomous outcome variable, to the estimated expected frequencies under the selected model. We used two test statistics: the likelihood-ratio and goodness-of-fit χ^2 statistics. Because our sample is small (226 magazines with known founders), we also used the estimated parameters obtained from the saturated model to as a guide to selecting which parameters should be included in the final model (Goodman 1970). We then used the estimated expected frequencies from the selected model to estimate the odds of being in the second period rather than the first for each combination of predictor variables.

Results: Who Founded American Magazines?

Bivariate Analysis

Table 3 presents this analysis. Recall that for each occupation, we conducted a separate trend analysis, using a 2×2 contingency table. The first row of each 2×2 table records frequencies of magazine founders in the focal occupation; the second, frequencies of magazine founders in *any other* occupation. The first column records frequencies in the eighteenth century; the second, in the mid-nineteenth century. To conserve space, Table 3 shows *only* the first row of each 2×2 table and omits the second row. (Because the sample size in each time period is constant, it is quite simple to calculate the second row in each 2×2 table.) Thus, row labelled “Publishing trades” records frequencies of magazine founders in the publishing trades, while the next two rows decompose this occupational group into printers and other publishing trades. Similarly, we show only the first row of the 2×2 table for education, which records frequencies of magazine founders who attended college. We do, however, show all three rows of the 3×2 table for the trichotomous location variable. For each contingency table, we report the χ^2 statistic and the statistical significance of the

difference between the two time periods. We begin by describing the social positions of eighteenth-century magazine founders, and then compare them to their mid-nineteenth-century successors.

[Table 3 about here]

The eighteenth century. The earliest American magazines were produced by men of high social standing; nearly all had longstanding connections to publishing, were elite professionals, or members of the learned elite. Between 1741 and 1800, we identified 165 men (no women) who launched 143 magazines; we were able to ascertain primary occupations for 162 of them. Strikingly, two-thirds of eighteenth-century magazine founders whose primary occupations we could determine were in publishing: 81 were printers and 28 were members of other publishing trades. In addition to Benjamin Franklin and Andrew Bradford, these included Isaiah Thomas, one of the most respected businessmen of his time (Wroth 1931).

The other eighteenth-century magazine founders were for the most part writers (six founders) and professionals (30 founders). Among the writers were the Jefferson protégé John B. Colvin and the patricians Samuel Harrison Smith, John Lathrop Jr., and Philip Freneau. The clergy included the prominent Boston minister, linguist, and historian Thomas Prince, and the first and second Bishops of the Methodist Church in America, Thomas Coke and Francis Asbury. Of the lawyers, two were also clergymen, two were also poets, one was also a printer, and one (Charles Brockden Brown) was also a novelist. The prevalence of lawyers is not surprising, given the many contributions they made to American letters (Ferguson 1984). Finally, four were physicians. Although in the eighteenth century, physicians were generally less esteemed than lawyers or ministers, those who founded magazines were of very high status: two were professors at Columbia's Medical School and one was a protégé of Yale University President Timothy Dwight. When we take into consideration the number of professionals in the population at large, we see that magazine founders in the eighteenth century were 64 times more likely to be professionals than the average American.

Many eighteenth-century magazine founders were highly educated. Five graduated from Harvard and six from Yale; others graduated from Princeton, the University of Pennsylvania,

Oxford, Edinburgh, Halle, Middle Temple, and an unidentified Scottish college. In total, 14% had attended college, which was over 500 times the percentage of Americans enrolled in college in 1800. In addition, several eighteenth-century magazine founders taught at colleges: two taught at Harvard, one at Yale, two at Columbia, and one at the University of Vermont. Several others were renowned for their erudition. For example, the Reverend Samuel Williams, who launched an eclectic magazine with heavy literary component, was commonly called “the most learned man in Vermont,” John M’Culloch, who founded a religious monthly, compiled the first American history textbooks, and Lewis Nicola, who founded a general-interest magazine, was a prominent engineer and founder of an early circulating library.

Not surprisingly, given the small population of eighteenth-century America – barely 900,000 in 1740, rising to 5.3 million by 1800 – many eighteenth-century magazine founders were closely connected to other members of the cultural, political, and economic elite. Among them were a nephew of Andrew Bradford (William Bradford, a printer, newspaper publisher, and founder of a prominent American coffee house) and a host of men who had close relationships with Benjamin Franklin: his friend James Parker, a prominent colonial-era printer; a nephew, Benjamin Mecom; his business partner Anthony Ambruster; his protégé Mathew Carey; and his former apprentice Enoch Story. The illustrious printer-*cum*-publisher, Isaiah Thomas, was followed into magazine publishing by a former partner (Elisha Waldo), a close friend (Colonel John Fellows), and six former apprentices. David Austin, a protégé of the great evangelical theologian Jonathon Edwards, launched two religious magazines, as did William Weyman, son of the prominent Episcopal minister Robert Weyman; Samuel Harrison Smith, the son of Revolutionary-era politician Jonathon Bayard Smith, founded a highly regarded literary review.

Eighteenth-century magazine publishing was confined almost exclusively to the Northeast. The three biggest antebellum cities – Philadelphia, Boston, and New York City – accounted for over half of all magazines. As Table 3 shows, magazine founders were 18 times more likely to be in those cities than the typical American. Notwithstanding this geographic concentration, the rural Northeast also hosted many eighteenth-century magazines: almost one-quarter were published in Northeastern

towns with fewer than 2,500 inhabitants. In contrast, only nine magazines were founded in the South; of these, four were launched in Charlestown and two in Richmond, both major urban centers. Overall, nearly three-quarters of magazines were published in urban areas. As Table 3 shows, magazine founders were more than ten times more likely to launch their new publishing ventures in urban areas than the typical American was to live in such an area.

In sum, eighteenth-century magazine founders were drawn from the privileged few. Two segments of the elite were predominant: printers and allied tradesmen (the landlords of the public sphere) and educated elites (patrician professionals and scholars). These men were often closely tied to each other and to other elites through family, work, and friendship, and most lived in or near the three biggest cities.

The mid-nineteenth century. The contrast between mid-nineteenth-century magazine entrepreneurs and their eighteenth-century predecessors was in some ways quite stark. As reported in Table 2, these people were so ordinary that we were unable to find *any* background information on 21 of the 125 we could identify by name. The fraction of founders with no biographical data quadrupled between the two time periods; as Table 2 shows, this was a statistically significant increase. Although even the most thorough searches are doomed to be incomplete, given the scattered records available, the contrast between the general notoriety and full archival coverage of eighteenth-century founders and the greater obscurity and sparser archival coverage of their mid-nineteenth-century successors is striking.

As Table 3 shows, magazine entrepreneurs' social positions became more heterogeneous from the eighteenth century to the mid-nineteenth century. Of those whose primary occupation we could pinpoint, there were significantly fewer printers among the nineteenth-century founders. This decline may stem from the shift in printers' status from proprietors to employees; it also suggests the declining importance of controlling the means of production as those means became simpler to operate. In contrast, magazine founders' representation in other publishing trades remained constant, which demonstrates that the resources possessed by other industry insiders remained valuable. In addition, the proportion of magazine founders who produced content increased

significantly, which reflects the professionalization of authorship in America (Charvat 1968). By the mid-nineteenth century, much literature was produced by people who earned a living from their writing, selling to book and magazine publishers who in turn sought to earn profits by selling to mass audiences. Some of these professional writers appear to have attempted to remove the middlemen by launching their own magazines.

The proportion of doctors and ministers, the two professions whose status was the most contested in the mid-nineteenth century, increased significantly. There were fewer members of the legal profession, although that difference was not significant. Even after taking into account the increasing prevalence of professionals, the representation of professionals among magazine founders rose substantially: mid-nineteenth-century magazine founders were 115 times more likely to be professionals than the average American, compared to 64 times for eighteenth-century founders. These trends indicate that members of the increasingly contested professions used magazines to support themselves financially, to defend their intellectual or denominational positions, and to build communities of like-minded associates. The variety among doctors and ministers in the mid-nineteenth-century sample was striking. College-educated allopaths vied with Thomsonians and botanists, homeopaths-*cum*-pharmacists, physicians-*cum*-dentists, and physical-culture advocates. The minister-founders represented a wide array of faiths: Presbyterian, United Church of Christ, Baptist, German Reformed, Methodist, Universalist, Moravian, Christian Congregation, Seventh-Day Adventist, Norwegian and German Lutheran, Jewish, and spiritualist. A full 70% of mid-nineteenth-century physician-founders were affiliated with less-prestigious specialties or highly contested medical schools, while 74% of minister-founders were members of upstart faiths (including two spiritualists). Moreover, one-quarter of magazines founded by ministers were published in languages other than English, which indicates that they served low-status immigrant communities. Since only 11% of all magazines founded between 1841 and 1860 were published in languages other than English, mid-nineteenth-century minister-founders appear to be over twice as likely as other founders to cater to immigrant communities.

Evidence that magazine founders came from an increasingly broad array of social positions is partly reinforced by the analysis of education. While the number of colleges increased more than six-fold and college enrollments quadrupled between 1800 and 1850, the proportion of college-educated founders remained constant. Although mid-nineteenth-century magazine founders were 161 times more likely than the average American to have attended college, that ratio was 70% less than in the eighteenth century, which is a statistically significant difference. This suggests that as the magazine industry developed, high socioeconomic status, cultural refinement, and social connections, although still quite valuable, became somewhat less important for launching magazines. Combined with the occupation trends discussed above, this indicates that magazine entrepreneurship spread beyond powerful elites and industry insiders.

This conclusion is bolstered by the fact that many mid-nineteenth-century magazine founders came from modest backgrounds and made their reputations and fortunes through their periodicals. For instance, Thomas Hamilton, an African-American whose father was a carpenter and who received little formal education, founded the *Anglo-African Magazine* (1859-1860), which made him a leading voice among anti-slavery advocates. Similarly, Timothy Shay Arthur, a miller's son who worked as a clerk for wholesale and insurance companies before he began to write fiction, published *Arthur's Home Gazette* (1850-1854) and several other eponymous periodicals that showcased his work. Arthur was "not only the most published American fiction writer in the century; his sales of more than a million copies indicate that he was also one of the most popular American authors of his time" (*American National Biography* 2000). It was so easy to acquire the resources needed to launch a magazine that a child could do it: one mid-nineteenth-century magazine was founded by an eight-year-old boy, William August Munsell, who launched *The Bee* (1844-1845) in Albany, New York. He continued putting out this general-interest magazine until he came down with whooping cough. This is a turnaround from the situation a half-century earlier, when pioneering magazine editors and publishers relied on their resources as printers or their reputations as learned men to sustain their periodicals.

Yet, as the analysis of education shows, there were still many members of the social elite among mid-nineteenth-century magazine founders. Theodore Dwight, Jr., son of Theodore Dwight Sr., nephew of Aaron Burr and Yale President Timothy Dwight, Yale graduate, author of many popular books and prominent journalist, launched his eponymous *Dwight's American Magazine & Penny Paper* as a vehicle for his own writing. Ormsby Macknight Mitchel, West Point graduate, astronomer, professor at Cincinnati College, and member of the American Academy of Arts and Sciences and the literary Semicolon Society, published the *Sidereal Messenger*, the first scientific astronomy journal. Alexander Lyman Holley, metallurgical engineer and son of the Governor of Connecticut, partnered with Zerah Colburn, a mechanical prodigy who published a standard textbook on steam locomotive design at the age of 22, to launch *American Engineer*.

By the mid-nineteenth century, the magazines in our sample had become far more widespread, being published in 26 states and territories plus the District of Columbia. The fraction of magazines in the three biggest cities dropped to just over one-third; only New York City maintained a share of new magazines comparable to what it had in the eighteenth century. Still, magazine founders were eight times more likely to be in these cities than the typical American, as Table 3 shows. Smaller urban areas like Fort Wayne, Indiana, and Galveston, Texas, saw the greatest increase in magazine publishing, from 18% to 44%. This is a big drop from the eighteenth century, when magazine founders were 18 times more likely to be in these cities than the typical American. The fraction of magazines published in rural areas dropped only slightly, from 26% to 20% of magazines, despite the fact that America experienced its most rapid period of urbanization in the four decades before the Civil War (Warner 1972): the fraction of the population living in urban areas almost doubled, from 8.5% in 1820 to 16.5% in 1860. As Table 3 shows, mid-nineteenth-century magazine founders were still more likely than the typical American to be in urban areas – almost five times more likely. But again, this is a big drop from the eighteenth century, when magazine founders were ten times more likely to be in urban areas than the typical American. Taken together, results on location indicate that even as mass publishers appeared in Philadelphia, Boston,

and New York City, industry outsiders, especially people in smaller urban communities that were often located far from these commercial centers, became more common among magazine founders.

Summary. Two trends are evident. First, magazine founders were drawn from increasingly broad swaths of American society: fewer people from inside publishing, more from the increasingly contested medical and ministerial professions, fewer with college educations, and more from outside the three biggest cities. Yet, among mid-nineteenth-century magazine founders, the number of professionals and the college-educated were still far larger than their representation in the population at large. And there were many people with strong ties to the social elite among nineteenth-century magazine founders. Thus, although most of the evidence suggests the development of the magazine industry from the eighteenth to the mid-nineteenth century widened rather than narrowed the range of entrepreneurs, the evidence is somewhat ambiguous.

This ambiguity is reinforced by analyzing trends in magazines launched by organizations. Seventeen of the 150 mid-nineteenth-century magazines we studied were affiliated with formal organizations: the New Jersey Historical Society, the Cherokee Georgia Baptist Convention, the Association of Working Women and Men, the faculty of the Reform Medical College of Macon Georgia, the Sons of Temperance, two teachers' associations, two literary societies, and eight groups of college students. As Table 2 shows, this is a statistically significant increase from the eighteenth century, when four out of 148 magazines were launched by organizations, and can be attributed to the growth of a modern "society of organizations" (Perrow 1991). Nearly all of these organizations were populated by social elites – specifically, the by highly educated. Only three organizations that sponsored magazines – the labor union, the botanical medical college, and the frontier Baptist group – indicates access by non-elites to the resources needed to launch magazines.

Multivariate Analysis

Multivariate analysis of relationships between founders' status characteristics and time clarifies the ambiguous bivariate relationships discussed above. Table 4 shows the table cross-classifying magazines according to the presence or absence of a founder with a professional occupation (**P**), the presence or absence of a founder in the publishing trades (**B**), the presence or

absence of a founder with a college education (**C**), whether or not the magazine was published in one of the three biggest antebellum cities (Philadelphia, Boston, and New York City) (**L**), and time period (**T**). There are 16 combinations of P, B, C, and L, and thus 16 rows in the table. The first four columns indicate whether the predictor variables are coded -1 (absent) or +1 (present). For instance, in the first row of Table 4, all four variables are coded -1, indicating magazines located outside the three biggest cities with no members of the publishing trades or the professions on their founding teams and no college-educated founders. The next two columns report observed counts of magazines with each combination of these four variables in the two time periods.

[Table 4 about here]

Several trends are notable. First, both inside and outside the three biggest cities, fewer magazines were founded by only members of the publishing trades (that is, by founding teams that contained neither professionals nor college-educated people). In the three biggest cities, the number declined from 51 in the eighteenth century to 16 in the mid-nineteenth century; outside those cities, it declined from 45 to 10. Second, more magazines outside the three biggest cities were founded by professionals alone, without members of the publishing trades: among non-college-educated professionals, the number of magazines founded rose from four in the eighteenth century to 18 in the mid-nineteenth century; among college-educated professionals, the number rose from one to six. Finally, magazines were founded both inside and outside the biggest cities by non-college-educated entrepreneurs who were neither professionals nor members of the publishing trades: the number increased from three to nine outside the biggest cities and from two to six inside those cities.

The last two columns in Table 4 report estimates of expected frequencies, based on the unsaturated model we selected because it is the most parsimonious model that fits the data best. This model included the following sets of effects: $\{PBCL\}$ $\{PBT\}$ $\{PCT\}$ $\{PLT\}$ $\{BCT\}$. The first set of effects indicates that the selected model includes the grand mean, all single-variable effects of the four predictor variables plus all two-, three-, and four-way interactions among them. The next four sets of effects indicate that the model includes four sets of three-way interactions between the predictor variables and time ($P \times B \times T$, $P \times C \times T$, $P \times L \times T$, and $B \times C \times T$), plus the two-way interactions

between the four predictor variables and time. Table 5 demonstrates why we selected this model. It presents a series of log-linear models of increasing complexity. For each model, we list the parameters fitted, note the degrees of freedom, and assess model fit. Model 7 is the selected model. It fits the data very well: likelihood-ratio $\chi^2=2.63$ (df=7, $p=0.917$), goodness-of-fit $\chi^2=2.78$ (df=7, $p=0.905$). Among the models with df=7, this model has the best fit to the data. Note that all simpler models have significantly worse fit to the data.

[Table 5 about here]

Given the small sample size, tests based on χ^2 statistics are merely suggestive. In such situations, the estimated parameters obtained from the saturated model, which contains all possible parameters, can be used as a rough guide to which parameters should be included in the selected unsaturated model (Goodman 1970). Accordingly, Table 6 presents effect estimates from the saturated model in column 1. It confirms our analysis of Table 5. In the saturated model, BLT and CLT are the effects that are closest to zero, so a model that drops them, as does model 7 in Table 5, is likely to fit the data well. This conclusion is bolstered by the close correspondence between observed frequencies and estimated expected frequencies in each row of Table 4: for the eighteenth century, the average of the absolute percentage difference between the observed and estimated expected values was just 3.8%; for the mid-nineteenth century, it was 5.9%.

[Table 6 about here]

Column 2 of Table 6 presents the estimated effects of all parameters in the selected model. Both the professional and publishing-trades occupations (PT and BT) have negative effects on the odds of a magazine appearing in the mid-nineteenth century rather than the eighteenth century, but the effect for publishing trades is only half the size of the effect for professional occupations. Location in one of the three biggest cities (LT) has a small negative effect on these odds. The effect of founders' education (CT) is close to zero, indicating that magazines in the second period were no more likely to have college-educated founders than those in the first. This pattern of results differs from the bivariate analysis, which showed that the likelihood of having a professional founder increased, while the likelihood of having a founder in the publishing trades or with a college

education remained constant, and the likelihood that a magazine was located in a major urban center decreased.

Differences between the bivariate and multivariate results are due to interactions between the professional and publishing trades occupations, between both occupations and college education, and between the professional occupation and location. We discuss each interaction in turn. Having founders who were both professionals *and* in the publishing trades (PBT) increased the odds of a magazine appearing in the mid-nineteenth century rather than the eighteenth century. While the members of each occupation on its own became less likely to found magazines (the effects for both occupations are negative), members of the two occupations became more likely to found magazines together (the interaction is positive). This suggests that the resources attached to these two occupations became increasingly complementary. Next, having college-educated founders *and* professionals (PCT) decreased the odds of a magazine appearing in the mid-nineteenth century rather than the eighteenth century, as did having college-educated founders *and* founders in publishing (BCT). This indicates that although magazine founders without a college education did not change overall (based on the near-zero effect of education), they were the most rapidly expanding subgroups of magazine founders within these two occupations.

Finally, location interacted with occupation: having a professional founder *and* being located in a major urban center (PLT) decreased the odds of a magazine being published in the mid-nineteenth century rather than the eighteenth century. In other words, having a professional founder and being located *outside* a major urban center *increased* the odds. Note that neither the publishing-trades occupation nor college education interacted with location, as BLT and CLT were not required for the selected model to fit the data well. Taken together, these results suggest that *only* those magazines with professionals among their founders became more geographically dispersed, while magazines with members of the publishing trades and college-educated men remained just as concentrated in the major urban centers in the mid-nineteenth century as they were in the eighteenth century.

We see parallels to the trend toward magazines being located in rural areas when we analyze magazines founded by formal organizations. Between the eighteenth and mid-nineteenth century, magazines founded by formal organizations became less likely to be published in urban centers (those with populations over 2,500). In the eighteenth century, three of the four magazines founded by formal organizations were in urban areas, and all of these were in biggest cities: two in Boston and one in New York City. In the mid-nineteenth century, 11 of the 17 magazines founded by formal organizations (65%) were in urban areas, but only three of these were in the biggest cities: two in Philadelphia and one in Boston. All of the mid-nineteenth-century magazines that were founded by organizations and that were located in rural areas were affiliated with colleges. Five other college-affiliated magazines were in urban areas with populations under 10,000, such as Jefferson City, Missouri (population 3,082 in 1860) and Macon, Georgia (population 5,953 in 1860) (Moffat 1992, 1996).

Discussion and Conclusion

Our analysis shows that as the first mass-market magazines appeared, people from increasingly broad swaths of American society were able to launch new magazines. This happened because magazines became legitimate cultural products and industry-specific resources became widespread, so magazine founders from many social positions, not just the socioeconomic elite or industry insiders, could acquire the resources needed to launch new ventures. This occurred even in the face of intense competition from large and powerful mass-market magazines published in Philadelphia, Boston, and New York City.

In the eighteenth century, when magazines were novel cultural products, finding skilled printers, obtaining original content, securing distribution, and attracting readers demanded heavy investment of economic, cultural, and social capital. Thus, most early magazine founders were printers or other members of the publishing trades – men who had the experience and connections necessary to secure scarce and hard-to-manage production resources. As the landlords of the eighteenth-century American public sphere (Wroth 1931; Everton 2005), these men were also cultural arbiters, so they were well-positioned to acquire content, gain access to distribution

channels, and attract audiences. Other elites were common among magazine entrepreneurs: patrician professionals and men of letters, who possessed the knowledge and cultivation necessary to provide content and attract a similarly elite audience, and the economic resources needed to underwrite such risky ventures. Skeptics could be persuaded of the merits of these unusual new products by judging not the legitimacy of the products themselves, but rather the stature of the men who created them.

By the mid-nineteenth century, the greater legitimacy accorded to magazines and the development of industry-specific resources made it easier to launch and run magazines. Distribution through the mail was guaranteed by law and postage rates for magazines were almost as low as for newspapers. Printing presses had become ubiquitous and printing had been transformed from a skilled craft done by business owners into factory work done by paid laborers. Professional writers were eager to contribute original material for pay, and copyright law was used by publishers to safeguard their investment in literary property. Moreover, accumulated experience with magazines had reduced challenges for founders: potential subscribers, writers and illustrators, financial backers, and government officials all accepted magazines as valued cultural products. As a result, access to necessary resources was easier, which meant that barriers to entry were lower in the mid-nineteenth century. That is why people from more varied backgrounds could launch new magazines.

Professionals, especially small-town doctors and ministers, were most likely to take advantage of these opportunities. The publishing activities of these two groups underwent “antagonistic expansion” (Starr 2004: 26), as rival religious denominations and medical factions launched competing publications to criticize each other and tie their communities closer together (Hatch 1989; Goldstein and Haveman 2011). Because magazines became increasingly legitimate cultural goods, they became an increasingly valuable venue for these professional struggles. Beyond these two groups, many men and women without economic, political, or cultural distinction founded magazines in the mid-nineteenth century.

But it was not easy for potential magazine entrepreneurs in all regions to acquire the resources their new ventures needed. Instead, the rise of large and powerful publishing houses in

the three biggest antebellum cities – Philadelphia, Boston, and New York City – meant that industry insiders (writers and members of the publishing trades) were far more likely to launch magazines in those locations. Magazine founders outside the publishing industry, elite professionals and non-elites alike, often worked outside the three big cities. Thus, any analysis that ignored location and focused exclusively on occupation and education would yield a false picture of how access to the magazine industry evolved. The rise of large publishing houses in Philadelphia, Boston, and New York City may have excluded some people from launching new magazines; indeed, magazines founded in these cities in the mid-nineteenth century were likely to be elites – to have worked in publishing or be college educated. But such competitive exclusion appears to have been limited in its geographic reach: in the mid-nineteenth century, far more magazines were founded by publishing-industry outsiders working far from these centers than by publishing-industry insiders within them. Magazines with professionals among their founders were less likely to be located in the major urban centers in the mid-nineteenth century. This was especially true for magazines founded by clergy: in the mid-nineteenth century, magazines founded by clergy constituted 24% of the sample we analyzed, but only 5% of those were located in the major urban centers. All of this suggests that the greater legitimacy afforded to magazine publishing by the mid-nineteenth century allowed founders with few social, cultural, or economic resources to launch magazines more easily than they could have in the eighteenth century.

Entrepreneurship in the post-bellum magazine industry. Our analysis ends in 1860, the year before the outbreak of the Civil War. While the American magazine industry was by then well established, it continued to evolve in the post-bellum era. But did the ease (or difficulty) of acquiring resources to launch new periodicals change after 1860? The short answer is no. Despite a merger wave after WW II, which produced large concerns like Time Inc. that published many magazines, market concentration in the industry remained low, and a wide array of people were able to acquire the resources they need to launch new magazines (Tebbel and Zuckerman 1991). Today, there are about 20,000 magazines in circulation; between 1981 and 2007, the market share (in terms of advertising revenues) of the four largest titles averaged 17%, while the market share of the eight

largest averaged 28%, and the Herfindahl index of concentration averaged 118 (Noam 2009:161). (To put this in perspective, an index of over 1,000 is the usual threshold for a concentrated market.) Basing market share on circulation instead yields similar figures: 16% for the top four magazines, 22% for the top eight magazines, and 87 for the Herfindahl index (Noam 2009:161). Analyzing magazine-publishing *firms* instead of individual *magazines* reveals somewhat higher, but still quite modest, levels of market concentration: from 1984 to 2006, the market share of the four largest firms averaged 27%, while the market share of the eight largest publishing houses averaged 38%, and the Herfindahl index averaged 281 (Noam 2009:159). These data on the contemporary magazine industry suggest that the trends we observed in the first 120 years of the industry's history continued over the next 150 years: although large New-York-based publishing concerns now dominate the national scene, thousands of smaller publishing ventures thrive. This indicates that after the end of the Civil War, acquisition of resources by potential magazine entrepreneurs continued to be easy, despite increases in market concentration driven by mergers and acquisitions.

Directions for future research. More work remains to be done to confirm and further probe the claims we make here. For magazines in particular, we would like to know whether nineteenth-century entrepreneurs founded their magazines for the same reasons and to serve the same kind of audiences as their eighteenth-century predecessors. An analysis of magazine genre or of editorial statements and prospectuses would shed light on how founders' motivations for their publishing ventures evolved as the industry became legitimated and deep pools of industry-specific resources developed. {JH -- include a short section, possibly in the discussion, about how the changing backgrounds of magazine founders affect the genre and contents of magazines.}

For other industries, especially more contemporary settings, research on entrepreneurship could follow our lead and explicitly take into consideration how opportunities and constraints on entrepreneurship co-evolve with industry structure. Our research indicates that the development of one media technology, magazines, was compatible with the development of both influential mass-market publications *and* the partial democratization of media entrepreneurship. The most obvious place for further testing our ideas is with new media: Internet periodicals, blogs, video-sharing sites

like YouTube, and social-networking sites like Facebook and MySpace. Despite much attention to the “digital divide” – the fact that people in different social positions have different levels of access to the Internet – there has been little research on who is able to add content to the Internet. Three recent studies of video-sharing (Hargittai and Walejko 2008), blogs (Hindman 2008), and a variety of other content provision activities (Schradié 2011) have found that, similar to what we found for an “old” new medium, content production early in the history of new media tended to be restricted to industry insiders and the highly educated. But more remains to be done to see how such opportunities for entrepreneurship in such “new” new media evolve as communications technologies and new-media industries develop. Will opportunities for entrepreneurship open up as they did in the antebellum magazine industry? Or will opportunities for entrepreneurship be constrained by some twenty-first-century version of location – perhaps location in a web of social relations, rather than in geographic terms?

Our work also has clear relevance for the founding of new enterprises outside media industries. Over last three decades, organizational theorists have seen a dramatic shift in basic research questions, from explaining cross-sectional variation in organizational structure and performance to emphasizing time and change. Such explanations must explicitly recognize the role of time and place – in short, they must make organizational research more sensitive to history. Despite the appeal of a shift toward historically sensitive analysis, only a handful studies of new-venture creation reflect this shift (*e.g.*, Dobbin and Dowd 1997; Stuart and Ding 2006; Johnson 2007). The analysis presented here could be replicated and extended in other industries – not just in “new” new media industries, but also in many other industries, manufacturing and service alike. It would be good to know whether opportunities for entrepreneurship in general broaden as industries develop, as their organizational forms and products become legitimate, and as deep pools of industry-specific resources develop, or whether such opportunities narrow as some industry participants grow large enough to erect high barriers to entry. It would also be good to know how the geography of entrepreneurial opportunities varies over industry history, as our results indicate.

The answers to such questions could help policy makers to develop more effective stimuli for entrepreneurs.

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Table 1: Summary of Predictions

Social Position	Change in Access to Resources Over Time	Change in the Likelihood of Magazine Founders from the Social Position	
		Competitive Exclusion	Industry Legitimation
Occupation			
Printer	↓	↓	–
Other publishing trade	no change (high)	↑	↓
Writer	↓	↓	↑
Professional			
Minister	↓	↓	↑
Doctor	↓	↓	↑
Lawyer	↓	↓	↑
Other (outside pub'ng)		↓	↑
College education	no change (high)	↑	↑
Location in Philadelphia, Boston, or New York City	no change (high)	↑	↑

Notes: In the second column, the symbol ↓ indicates that the resources someone could acquire from a particular social position decreased from the mid-eighteenth to the mid-nineteenth century. In the third and fourth columns, the symbol ↑ indicates that magazine founders were ever more likely to be in this social position the symbol while ↓ indicates that magazine founders were ever less likely to be in this social position. As explained in the text, we make no legitimacy-based prediction about the change in the likelihood of printers being magazine founders.

Table 2: Descriptive Statistics on Our Samples

	18 th Century	19 th Century	χ^2
# magazines in the sample	148	150	
# magazines with unknown founders	5 (3.4%)	25 (16.7%)	14.5***
# magazines with known founders	143 (96.6%)	125 (83.3%)	
# founded by individuals	139 (97.2%)	17 (13.6%)	10.8***
# founded by organizations	4 (2.8%)	108 (86.4%)	
# with known individual founders – no info	3 (1.8%)	21 (16.8%)	21.0***
# with known individual founders – info available	162 (98.2%)	104 (83.2%)	

Note: *** indicates $p < 0.001$. For the two tables that contain cells with fewer than five observations, p values are based on the Fisher's exact test instead of the usual χ^2 test.

Table 3: Magazine Founders' Social Positions and Magazine Locations

	18 th Century	19 th Century	χ^2
Occupation	162	103	
Publishing trades	109 (67.3%)	21 (20.3%)	55.4***
Printer	81 (50.0%)	4 (3.9%)	61.5***
Other publishing trades	28 (17.3%)	17 (16.5%)	0.03
Writer	6 (3.7%)	15 (14.6%)	10.2**
Professional	30 (18.5%)	46 (44.6%)	21.0***
Minister	14 (8.6%)	24 (23.3%)	11.0**
Lawyer	12 (7.4%)	4 (3.9%)	1.4
Doctor	4 (2.5%)	18 (17.5%)	18.6***
Other	17 (10.5%)	21 (20.3%)	5.0*
Professional Occupation			
% professionals in the population	0.29%	0.39%	
<u>% magazine founders who are professionals</u>	64	115	
% professionals in the population			
Education	125	104	
College education	22 (13.6%)	17 (16.3%)	0.39
% college students in the population	0.027%	0.101%	
<u>% magazine founders with college education</u>	507	161	
% college students in the population			
Location	147	147	
Philadelphia, Boston, or New York	82 (55.8%)	53 (36.1%)	} 23.1***
Other urban area	27 (18.4%)	65 (44.2%)	
Rural area	38 (25.9%)	29 (19.7%)	
% population in Phil/Bos/NYC	3.0%	4.4%	
<u>% magazines in Phil/Bos/NYC</u>	18.4	8.3	
% population in Phil/Bos/NYC			
% population in all urban areas	6.8%	16.5%	
<u>% magazines in all urban areas</u>	10.9	4.9	
% population in all urban areas			

Note: Each founder's social position is assessed before he/she founded his/her first magazine. The analysis of occupation for the mid-nineteenth-century sample omits one magazine founder: William August Munsell, who was eight years old when he started his magazine. We analyze each occupation separately. For each occupation, we show the frequency of magazine founders in the focal occupation; the omitted reference category is the frequency of magazine founders in other occupations. For the analysis of education, we show the frequency of magazine founders with college education; the omitted reference category is the number of magazine founders with no college education. For the analysis of location, we show all three categories. For the analyses of occupation and education, $df=1$; for the analysis of location, $df=2$. * indicates $p<0.05$, ** $p<0.01$, and *** $p<0.001$. For tables that contain cells with fewer than five observations, p values are based on the Fisher's exact test instead of the usual χ^2 test.

Table 4:
Observed and Estimated Frequencies of Magazines with Known Founders,
Categorized by Four Social-Position Variables and Time Period

Status Characteristic Value				Observed Frequency		Expected Frequency	
P	B	C	L	18 th c.	19 th c.	18 th c.	19 th c.
-1	-1	-1	-1	3	9	3.26	8.74
-1	-1	-1	+1	2	6	1.74	6.26
-1	-1	+1	-1	0	0	0.00	0.00
-1	-1	+1	+1	0	1	0.00	1.00
-1	+1	-1	-1	45	10	44.7	10.3
-1	+1	-1	+1	51	16	51.3	15.7
-1	+1	+1	-1	0	0	0.00	0.00
-1	+1	+1	+1	4	4	4.00	4.00
+1	-1	-1	-1	4	18	4.15	17.8
+1	-1	-1	+1	6	5	5.85	5.15
+1	-1	+1	-1	1	6	1.90	5.10
+1	-1	+1	+1	8	3	7.10	3.90
+1	+1	-1	-1	1	5	0.49	5.51
+1	+1	-1	+1	1	4	1.51	3.49
+1	+1	+1	-1	5	1	4.46	1.54
+1	+1	+1	+1	6	1	6.54	0.46

Note: Each variable is coded +1 when at least one member of the founding team is in that social position and -1 when no member of the founding team is in that social position. **P** indicates the presence or absence of a professional on a founding team, **B** the presence or absence of a member of the publishing trades on a founding team, **C** the presence or absence of someone with a college education on a founding team, **L** whether or not a magazine was founded in one of the three big antebellum cities, and **T** whether a magazine was founded between 1741 and 1800 or between 1840 and 1860. Expected values are based on a model that includes the following effects: {PBCL} {PBT} {PCT} {PLT} {BCT}.

Table 5: Log-Linear Models of the Effects of Professional and Publishing Trades Occupations, College Education, and Location on Time Period

Model	Marginals fitted	Degrees of freedom	Likelihood-ratio χ^2	Goodness-of-fit χ^2
1	{PBT} {PCT} {PLT}	8	8.55	9.60
2	{PBT} {PCT} {BCT}	8	10.05	7.81
3	{PCT} {PLT} {BCT} {BLT}	7	12.81 [†]	12.74 [†]
4	{PBT} {PLT} {BCT} {BLT}	7	14.13*	15.24*
5	{PBT} {PCT} {BCT} {BLT}	7	3.50	3.51
6	{PBT} {PCT} {PLT} {BLT}	7	6.94	6.25
7	{PBT} {PCT} {PLT} {BCT}	7	2.63	2.78
8	{PCT} {PLT} {BCT} {BLT} {CLT}	6	12.53 [†]	12.30 [†]
9	{PBT} {PLT} {BCT} {BLT} {CLT}	6	12.95*	13.13*
10	{PBT} {PCT} {BCT} {BLT} {CLT}	6	2.10	2.14
11	{PBT} {PCT} {PLT} {BLT} {CLT}	6	6.84	6.17
12	{PBT} {PCT} {PLT} {BCT} {CLT}	6	2.45	2.77
13	{PBT} {PCT} {PLT} {BCT} {BLT}	6	1.32	1.27
14	{PBT} {PCT} {PLT} {BCT} {BLT} {CLT}	5	1.06	1.07

Note: **P** indicates the presence or absence of a professional on a founding team, **B** the presence or absence of a member of the publishing trades on a founding team, **C** the presence or absence of someone with a college education on a founding team, **L** whether or not a magazine was founded in one of the three big antebellum cities, and **T** the whether a magazine was founded between 1741 and 1800 or between 1841 and 1860. Each model also fits {PBCL}. [†] indicates $p < 0.10$, * $p < 0.05$.

**Table 6: Estimates of Main Effects and Interactions:
The Saturated Model and the Best-Fitting Unsaturated Model**

Variable	1	2
T	0.54	0.35
PT	-0.43	-0.27
BT	-0.73	-0.56
CT	0.30	0.09
LT	0.36	-0.16
PBT	0.57	0.43
PCT	-0.73	-0.58
BCT	-0.53	-0.38
PLT	-0.66	-0.23
BLT	-0.36	
CLT	0.46	
PBCT	0.16	
PBLT	0.62	
PCLT	-0.52	
BCLT	-0.48	
PBCLT	0.55	

Note: **P** indicates the presence or absence of a professional on a founding team, **B** the presence or absence of a member of the publishing trades on a founding team, **C** the presence or absence of someone with a college education on a founding team, **L** whether or not a magazine was founded in one of the three big antebellum cities, and **T** the whether a magazine was founded between 1741 and 1800 or between 1840 and 1860. The estimates in column 1 are based on the saturated model; those in column 2, on model 7 from Table 4.