

Abstract

Mid-twentieth-century theories of the professions and postindustrial society expected that the two would grow together. Instead, developments blocking professionalization in some areas and extending it in others have occurred together, raising the question: Why have some institutional fields, such as high-tech, seen little professionalization even though they demand levels of expertise comparable to such fields as healthcare, where professional institutions became entrenched and have continued to expand? This chapter reviews a series of hypotheses (historical patterns of entrenchment, counter-entrenchment, organizational flexibility, neoliberal policy, and entrepreneurial ideology) that might explain the differences. The contrast between high-tech and healthcare suggests a key causal role for historically entrenched institutional forms, as well as organizational and ideological change. Older theories of the professions failed to anticipate how technology could erode professional autonomy and authority, but the sociology of the professions still has a jurisdiction that is distinct from the sociology of expertise.

Keywords: professionalization, licensing, postindustrial, postbureaucratic, entrepreneurial labor, credential society.

The Postindustrial Limits of Professionalization*

Paul Starr

Since the 1990s some sociologists have called for a conceptual shift from “professionalism” to “expertise” or “expert labor.” Gil Eyal (2013) proposes that we “replace the sociology of professions with the more comprehensive and timely sociology of expertise” (863). The two, however, are not mutually exclusive; each highlights questions that are outside the frame of the other. The sociology of professions calls attention to modes of occupational organization, the control of markets, and aspects of social structure that are not well addressed from the standpoint of a sociology of expertise.

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Professionalism in its formal institutional sense varies widely among professional and technical occupations. Professional schools, associations, and licensing are ubiquitous in some fields but less developed in others. Census Bureau data on licensing highlight just how wide those variations are in the United States. In 2021, 45.3 percent of those employed in the broad category of “professional and related occupations” reported that they were licensed. The proportion with a license, however, stood at a high of 76.4 percent for “health care practitioners and technical occupations” but was only 12.9 percent for “computer and mathematical occupations” (US Bureau of Labor Statistics 2021). That gap clearly does not stem from a difference in the abstraction or difficulty of the knowledge base in these fields or the expertise they require. The computer and mathematical occupations are no less intellectually complex than those in healthcare, nor are they so esoteric that the difficulty of mastering them effectively restricts entry and makes licensing superfluous.

The low professionalization of high-tech points to a theoretical question: Why do some institutional fields see little professionalization even though they demand levels of expertise comparable to fields where professional institutions have been established? Social theorists in the mid-twentieth century anticipated that the professions would become increasingly central to a postindustrial or information society (Bell 1973). Professional and technical workers have indeed increased sharply as a share of the labor force. Although union membership has declined from a peak of 35 percent in 1954 to about 7 percent today, membership in professional associations has grown. The proportion of workers in the United States reporting they hold a certification or license increased from 5 percent in the 1950s to between 20 percent and 29 percent in the 2010s (Kleiner and Krueger 2013). Although not all of this increase was in occupations that are

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recognized as professions, the social and economic footprint of professionalization continues to grow. But if there is a direct relationship between postindustrialism and professionalism, it ought to show up in the heart of the information economy, and that is not the case—that is, if we understand professionalism as involving institutions that draw boundaries between the qualified and unqualified or, at least, between those with and without credentials.

Specialized training programs, professional organizations, and systems of certification and licensing serve as means of occupational closure by limiting economic competition (Weeden 2002). Professional institutions establish exclusive jurisdictions for professional practice; on Andrew Abbott's (1988) account, "Jurisdiction is the defining relation in professional life" (3). Abbott's conception of jurisdiction emphasizes interprofessional relations and the content of work rather than economic relations and rents, but the ideas of a monopolized jurisdiction and monopolized market are fundamentally the same: Professions are organized means of making claims to exclusive competence.

The variations in the contemporary development of professionalism may result from one or more social processes. First, as a result of earlier historical developments, professionalization may become entrenched in some institutional fields but not others, and then vary directly in growth rates according to those earlier patterns as new occupational groups imitate established ones—the *entrenchment hypothesis* (Starr 2019). Conversely, in a field of competition already dominated by a powerful profession, new groups may consider it fruitless to compete on the same terms and try instead to blur the boundaries between jurisdictions and contest the criteria for expertise—the *counter-entrenchment hypothesis*.

Third, professionalization may vary because of the differential receptivity or resistance of organizations that employ expert labor. To the extent they are successful, professions introduce a

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constraint on organizations, limiting whom they can employ to do different kinds of tasks. Many organizations have accommodated themselves to professional jurisdictions. But in the fields that have emerged as central in the knowledge economy, flexibility and adaptability are highly prized, while licensed jurisdictions are anathema—*the organizational flexibility hypothesis*. In this respect, there is a tension between postindustrialism and professionalization that early theories of postindustrialism failed to anticipate.

Fourth, professionalization may vary because of political or ideological resistance to an expanded role for the state through the extension of licensing to new occupations. The past half century has seen not only a postindustrial shift in the structure of the economy, but also a neoliberal shift in many areas of public policy as governments have rolled back certain forms of economic regulation—*the neoliberal policy hypothesis*.

Finally, in a variant of the two preceding interpretations, the practitioners in some occupations may oppose state regulation, seeking to preserve flexibility for themselves as agents in the market. Instead of pursuing professionalization, they may have adopted an individualistic, entrepreneurial, market-oriented ideology and therefore be disinclined to invest in collective organization to restrict occupational entry—*the entrepreneurial ideology hypothesis*.

These hypotheses are not mutually exclusive; they describe social processes that may or may not take place simultaneously. To explore the sources of variation in professional institutions, I begin with a reconsideration of earlier theoretical perspectives and then turn to an analysis of the low professionalization of high-tech compared to the hyper-professionalization of healthcare. Finally, I return to the question of whether the sociology of professions is dispensable in view of Eyal's formulation of an alternative sociology of expertise.

Toward a Theory of Non-professionalization

One step toward clarity in thinking about the professions is to distinguish between professionalism as a status and as an institution (Freidson 1994, 15–16). As a status, professionalism is a basis of personal identity and social recognition, involving subjective orientations to work and cultural understandings of its meaning and value. In its institutional sense, professionalism is a way of organizing and controlling an occupation (Johnson 1972). Professional institutions constitute the professional community, and they regulate it by setting and enforcing technical and ethical standards and denying outsiders entry into the market. Professionalism in the status sense does not necessarily depend on professionalism in the institutional sense; members of an occupation may self-identify as professionals and be recognized as holding that status without the benefit of formal professional institutions.

In this chapter, I use the term *professionalization* exclusively in the institutional sense, referring to the development of occupational institutions that create boundaries between professionals and non-professionals. Although some sociologists once saw professionalization as a linear process with determinate stages, the use of the concept does not imply any such assumptions; under different conditions, professional institutions of various kinds may advance or retreat, gain in centrality or become marginalized. My interest here is precisely in those variations across institutional fields. To understand professionalization, in other words, we also need a theory of non-professionalization.

As the sociology of the professions took shape in the twentieth century, theories of professionalization fell into two broad traditions. In the functionalist view, the professions could be defined as self-regulating occupations with a service orientation that apply systematic knowledge to problems related to central social values; the professions grew because they

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answered social needs. For Émile Durkheim (1957), professional communities answered the need for moral cohesion and stability. In a similar vein, Talcott Parsons saw the professions as embodying a “collectivity orientation,” elevating the importance of “cognitive rationality,” thereby promoting both morality and modernity. Parsons (1968) was not just talking about labor force statistics when he wrote that “the development and increasing strategic importance of the professions probably constitute the most important change that has occurred in the occupational system of modern societies.” (536) The professions, as Parsons saw them, were not only functional for society as a whole but also for their individual clients: They brought rational knowledge to bear on the problems clients faced and observed moral rules that protected clients from exploitation. Drawing on Parsons, Kenneth Arrow (1963) argued that professionalism in medicine was one of several institutional responses to information asymmetries that otherwise put patients at a disadvantage. These theories were warmly embraced in the professions themselves.

In polar opposite fashion, the critical alternative to the functionalist account has viewed professionalization as a collective project aimed at exploiting control of knowledge and markets (Larson 1979). To those working in this vein, professions are occupations that enjoy market power and high status by monopolizing valued knowledge. The monopoly view of professions has had a long lineage, going back to nineteenth-century opponents of monopoly power in all its forms. In economics, the monopoly perspective was particularly associated with advocates of the free market such as Milton Friedman, but in sociology in the 1970s, it came more from work on the left questioning contemporary forms of social inequality. Randall Collins’s (1979) book *The Credential Society* offers a sophisticated Weberian account of this type. The development of the professions in America, Collins argued, was “only a new variant on the familiar process of

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stratification through monopolization of opportunities” (131–132). As Collins saw it, the extension of schooling in the nineteenth and twentieth centuries did not reflect the practical vocational value of book learning but, rather, its usefulness to elites in monopolizing remunerative occupations. Professionalization is a form of status group closure. Collins saw that process as depending on cultural influences affecting the unity of occupational groups and on political struggles over the structure of education and enactment of licensing protection. For Collins, variations in political resources ultimately explain which occupations succeed in professionalization.

An additional strain of work has emphasized cultural changes in the nineteenth and twentieth centuries that elevated the authority of science, technical knowledge, and rational organization, and thereby lent support to claims by professionalizing occupations (Bledstein 1976; Haskell 1977). That support was reflected, for example, in the enactment of licensing protections, investments in professional education, and reliance on professional judgment in judicial proceedings and regulatory agencies. The significance of changes in the cultural authority of science and the professions may be integrated into either of the two dominant traditions. In the functionalist tradition, the changes in cultural authority reflected the advance of knowledge and the demands of modernity. In the monopoly tradition, the rising cultural receptivity to claims based on scientific and technical knowledge provided a basis on which members of professionalizing occupations could win support for institutional recognition and occupational closure.

What about explanations for non-professionalization? Of course, one could argue—and some did—that many occupations were just in an earlier stage of development and would eventually achieve recognition as professions. Taking issue with that idea in his article, “The

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Professionalization of Everyone?” Harold Wilensky (1964) insisted on what he called a “traditional model of professionalism which emphasizes autonomous expertise and the service ideal” and argued that professionalism in this traditional sense would not spread far beyond the already-established professions. Would-be professions, according to Wilensky, faced two kinds of barriers: bureaucratic organizations, which threatened the service ideal even more than they threatened autonomy, and knowledge bases that were either too general or too specific to sustain an exclusive jurisdiction. Wilensky failed to explain, however, why bureaucracy would prove fatal to some occupational aspirations even though many professions coexist with bureaucracies. Nor did he specify what kind of knowledge met his Goldilocks criterion of being neither too general nor too specific, but just right for professionalization. Occupations’ organizational relationships and knowledge bases may be related to non-professionalization, but Wilensky’s account did not convincingly show the connections.

From the monopoly perspective, non-professionalization is chiefly a political story, involving the factors that affect the collective organization of members of an occupation, the role of the state, and sources of receptivity or resistance to monopolization. Collins (1979), for example, explained the “failure of the engineers” to establish a strong, unified profession in the United States on the basis of “conflicts among rival status groups within engineering . . . [that] have kept a strong occupational community from emerging to monopolize practice and control the routes to organizational power.” (169) In Europe and America, engineering had diverse origins ranging from skilled manual labor (millwrights, stonemasons, clockmakers) to supervisors of large construction projects (military officers, government officials). In some societies, notably France, state-led efforts to upgrade education for engineering led to the emergence of an elite engineering profession; but in other societies, notably England,

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engineering remained divided between its manual-labor and managerial elements. The United States developed a pattern all its own. Although civil engineering became highly professionalized, the engineering fields associated with industrialization—mechanical, metallurgical, chemical, and electrical engineering—remained caught in an in-between position. The more management-oriented engineers, reflecting the interests of employers, resisted calls for lengthened engineering training and licensing protection (see Layton 1971).

To be sure, the non-professionalization of an occupation in one historical period does not guarantee that the pattern will persist indefinitely. In the United States, physicians in the early through mid-nineteenth century lost control of the market for medical services as licensing laws were repealed and proprietary medical schools and medical sects proliferated. But in the late nineteenth century and the early twentieth century, the profession became more unified and found more external support for upgrading and limiting medical education and strengthening licensing protection. Changes in the organization of healthcare enhanced professional unity; for example, having access to hospitals became crucial for professional practice, and elite physicians succeeded in making membership on a hospital staff conditional on membership in the local medical society. Moreover, the shift toward greater trust in scientific judgment in the late nineteenth century and the Progressive era boosted the cultural authority of physicians, enabling them to secure public support for licensing protection and a critical gatekeeping role in relation to hospital care, prescription drugs, and, later, insurance coverage—all of which contributed to their income and status (Starr [1983] 2017). In this account, cultural and political changes in society at large interact with specific institutional configurations to produce the conditions that allow members in an occupation to overcome collective action problems and secure regulatory protection.

Although the outcome of struggles over professionalization is never settled once and for all, there are, nonetheless, strong tendencies toward distinct patterns in different institutional fields. Constitutive choices in periods of institutional change often have durable effects. Professional and technical occupations exhibit varying levels of formal professionalization in part because of historically evolved norms in institutional fields that become the basis for isomorphic patterns of occupational group organization (DiMaggio and Powell 1983). The low level of professionalization in the high-tech sector compared to healthcare illustrates those patterns.

The Low Professionalization of High-Tech

No field better illustrates the phenomenon of isomorphic professionalism than healthcare. After physicians established the template and succeeded spectacularly at raising their status and income, other healthcare occupations sought to organize themselves along the same lines. The pattern became deeply entrenched. Medical work has changed drastically, but the professional paradigm has continually been extended. Other healthcare occupations mimic the structure of the medical profession; regulatory agencies then reinforce the pattern, which extends to specialties and subspecialties within occupations, each marking out its territory. With its pervasive scope-of-practice rules, healthcare has become a warren of exclusive jurisdictions.

But the high-tech sector and new media have been highly resistant to being carved up this way. As I noted at the outset, the “computer and mathematical”—or information-technology (IT)—occupations are characterized by extremely low levels of licensure. They also do not have standardized educational requirements, strong professional associations, or other occupationally based regulatory institutions, even though much of the work in those fields requires a high level

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of expertise and is accorded professional status. The same is true in new media, where there is also little standardized education, licensing, or any other form of occupational regulation.

Novelty is not the explanation for these patterns. As new technologies have emerged in healthcare, the occupations associated with them have followed the usual course of professionalization. Although groups have challenged physicians' monopoly of expertise, they have not changed the dominant mode of occupational development. The pattern fits the entrenchment hypothesis, not the counter-entrenchment hypothesis. The low professionalization of high-tech is also a case of institutional continuity: The occupations that have come together in the high-tech sector were not highly professionalized to begin with. Professionalization in engineering, as Collins argues, was kept in check by internal divisions and opposition by employers. The media field, including journalism and the arts, has also historically resisted the development of exclusive jurisdictions and limits on non-professional practice. In the case of media, the legal principles of free expression are incompatible with forms of occupational regulation that would bar the unlicensed from the market.

Postindustrialism would have had to generate new pressures toward professionalization to overcome the established patterns in these fields. Yet the pressures have gone in the opposite direction. The prevailing organization and ideological tendencies in high-tech have been incompatible with exclusive jurisdictions and protected markets for professional services.

The organizational forms that have flourished in the high-tech sector do not rely on specialized jurisdictions protected by state regulation. More flexible and collaborative forms of organization dominate. Instead of assigning employees to narrowly defined jobs, organizations often expect them to apply their skills across broad areas and to adapt to new demands. The problem facing companies "at the leading edge of production," according to Charles Heckscher

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(2007), is to “combine knowledge and skills flexibly around changing tasks” (1). To increase their flexibility, organizations often outsource work, develop strategic alliances, and make use of temporarily assembled project teams. In their efforts to foster peer production, postbureaucratic organizations are entirely compatible with professionalism as an orientation to work and a claim to status (Heckscher and Donnellon 1994). But the opposition to any scope-of-practice rules separates the postbureaucratic forms from the types of organization that match up with professionalism in an institutional sense.

Studies of contracting professionals reveal the conflict between postindustrial organizational forms and strong professional institutions. Professionals who work on contract, often as part of time-limited projects, have no choice but to be entrepreneurial and adaptable, continually investing in their own skills and developing their social networks. In their analysis of independent contractors in the high-tech industry, Stephen Barley and Gideon Kunda (2004) identify a distinctive type of “itinerant professionalism”: contractors move from firm to firm, continually trying to anticipate which new technologies or products will be in high demand so as to be at the optimal point for getting paid at a premium rate. As part of the trade-off, as Debra Osnowitz (2010) puts it in another study of professional contractors, “Employers offer fewer promises and demand less adherence to formal rules. Individuals exercise greater latitude and decision making.” (8)

If the shift to nonstandard forms of employment has put many workers in precarious economic circumstances, some professional workers seek out opportunities to be “free agents” in the market. In a study of the new media and fashion industries, Gina Neff, Elizabeth Wissinger, and Sharon Zukin (2005) describe a form of “entrepreneurial labor”—workers who are willing to accept increased risk and insecurity in the hope of getting “cool jobs” in “hot industries.” They

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write: “The new economy’s cutting edge—and its true social innovation—is the production of a new labor force that is more ‘entrepreneurial’ than previous generations of workers.” (309) Even though only a few are lucky enough to work for start-ups that go public and give them stock options, many have relatively high earnings and, perhaps most important, identify with the entrepreneurial vision that dominates the field.

These studies are consistent with what I called earlier the organizational flexibility and entrepreneurial ideology hypotheses about low professionalization in high-tech. The rise of “entrepreneurial labor” also accords with the tech-industry leadership’s widespread opposition to government regulation. But there is little to bear out the neoliberal policy hypothesis—that is, to indicate any specific effect on professional licensing and organization from the ideological movement to roll back the state. To be sure, some free-market economists have updated long-standing arguments against professional licensing; for example, Tyler Cowen and Alex Taborrak (2015) claim that consumers’ easy and cheap access to online information has so reduced information asymmetries as to make state regulation of the professions obsolete. But professional licensing has not, in fact, been rolled back. As mentioned earlier, the proportion of workers holding a license or certification has risen sharply over the past half century. Much of this growth reflects the expansion of healthcare and related fields where professional institutions were already established, even as professionalization remains weak in the new industries of the information economy.

These developments put non-professionalization in a different light from the way in which analysts of the professions used to conceptualize it. Sociologists, as well as economists, generally assumed that members of an occupation would seek occupational closure as a route to collective mobility. Wilensky set out a “natural history” of professionalization, which suggested

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a determinate set of stages. In this view, what prevented occupations from ascending through the stages were “barriers” to professionalization having to do with bureaucracy and the knowledge required to sustain a jurisdiction. In the more political analysis associated with the monopoly perspective, the barriers involve not only bureaucracy (employers) but also internal conflicts within occupations and the role of the state.

Several limitations of these approaches are now apparent. Members of occupations demanding high levels of expertise may not, in fact, seek occupational closure—they may have other ideas about advancing their interests or enhancing their status. Professionalism may matter in another way to workers in both technical and professional occupations. They may see professionalism as a measure of the value of their work, even when they have no interest in professionalism as a means of institutionally restricting entry into their fields. For technicians, as Stephen Barley, Beth Bechky, and Bonalyn Nelsen (2016) show in a synthesis of ethnographic accounts, “being professional is not a plea for status or power but rather an indicator of what they believe constitutes successful performance and an acceptable orientation to one’s work.” Professionalism, in this context, is about respect and dignity.

The potential for professionalization in the institutional sense may also be limited, not by bureaucracy, but by postbureaucratic organizations that break down professional jurisdictions. There is more than one way to organize expertise, and dividing it into fixed jurisdictions does not appear to be functionally superior to more flexible approaches. The functionalist perspective mistakenly assumed that professionalism had singular advantages for the organization of expert work. The monopoly perspective underestimated the potential for the emergence of competing ideologies of entrepreneurial labor and collaborative enterprise.

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The entrenchment of alternative logics in different institutional fields provides a set of baseline expectations about professionalization. According to the entrenchment hypothesis, professionalism tends to grow where it has already been planted. Postindustrialism, in other words, has industrial (and even preindustrial) hangovers. But the entrenchment hypothesis cannot resolve the question of which logic will prevail in institutional fields where the professional and entrepreneurial (or other) models overlap and collide. Health informatics, for example, is an area that in principle belongs equally to the high-tech and healthcare fields, but its leaders have attempted to configure it after other “board-certified” occupations in healthcare. The explanation may be the large number of health informatics professionals who are employed by healthcare organizations that are accustomed to rewarding professional credentials and respecting professional jurisdictions. The emergence of new occupations that overlap institutional fields creates test cases for assessing the factors that affect which historical patterns conflict.

These questions about the scope of professionalization in the postindustrial economy return us to my original question about the field of sociology itself: Do we need a sociology of the professions at all?

Professionalism and Expertise as Sociological Frames

The growth of the high-tech and new-media industries without any accompanying professionalization is just one of several developments that may appear to suggest that a focus on professionalism is out of date. In a variety of areas, including healthcare, lay groups have become more assertive in contesting professional claims. Online platforms afford consumers alternative means of acquiring information instead of depending on professionals. Professionals may also become dispensable for some tasks as their work is automated and carried out through

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algorithms. Algorithmic decision-making may drastically reconfigure the jurisdictions that professions claim as their own. In these and other ways, mid-twentieth-century postindustrial theory failed to appreciate that technological innovation might be turned against professionalism, eroding the autonomy and authority of professionals.

So is it time to ditch the sociology of professions in favor of what Eyal (2013) refers to as a “more comprehensive and timely” sociology of expertise? Eyal makes this claim in connection with a fascinating case study in which he demonstrates the significance of lay expertise and influence in the adoption and diffusion of the diagnosis of autism and, consequently, the inadequacy of an analysis that is narrowly focused on professional jurisdiction. The case of autism resembles other instances in healthcare when popular movements and increased organization among people with shared health interests, often in conjunction with dissenting professionals, have disrupted the dominant medical monopoly on expertise (Brown 2004). Eyal (2013) is right that the social consequences of expertise are not the same as social consequences of experts, and that “experts and expertise are not reducible to one another” (899). But his approach does not address other important questions about occupational institutions in expert work and their relationship to markets, social inequality, and political power.

The professions’ relationship to markets and social structure is every bit as important a question now as it was in the twentieth century. The “credential society” has not disappeared. What complicates any general analysis is that developments supporting professionalism and eroding it have been occurring at the same time. Although a postindustrial economy favors an increase in the organized professions in some fields, it obstructs professionalization in others. The historically evolved norms and structures in different institutions help to explain those variations, but a more complete explanation has to take into account organizational and

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ideological changes. We do not just need to understand professionalism in the areas where it is fully developed; we also need to understand the forces at work in areas where professional institutions have been stymied or undercut. In fields without institutionalized professionalism, many people nonetheless think of themselves as professionals and hold to standards and ideals they derive from the worldview of professionalism. As long as the institutions of professionalism and the status of professionalism continue to shape social life in significant ways, the sociology of professions will have plenty of work to do.

References

Abbott, Andrew. 1988. *The System of Professions*. Chicago: University of Chicago Press.

Arrow, Kenneth. 1963. "Uncertainty and the Welfare Economics of Medical Care." *American Economic Review* 53:942–973.

Barley, Stephen R., and Gideon Kunda. 2004. *Gurus, Hired Guns, and Warm Bodies: Itinerant Experts in a Knowledge Economy*. Princeton, NJ: Princeton University Press.

Barley, Stephen R., Beth A. Bechky, and Bonalyn J. Nelsen. 2016. "What Do Technicians Mean When They Talk about Professionalism? An Ethnography of Speaking." *Research in the Sociology of Organizations* 47:125–161.

Bell, Daniel. 1973. *The Coming of Post-industrial Society*. New York: Basic Books.

Bledstein, Burton J. 1976. *The Culture of Professionalism: The Middle Class and the Development of Higher Education in America*. New York: Norton.

Brown, Phil, Stephen Zavestoski, Sabrina McCormick, Brian Mayer, Rachel Morello-Frosch, Rebecca Gasior Altman. 2004. "Embodied Health Movements: New Approaches to Social Movements in Health." *Sociology of Health and Illness* 26:50–80.

Collins, Randall. 1979. *The Credential Society: An Historical Sociology of Education and Stratification*. New York: Academic Press.

Cowen, Tyler, and Alex Tabarrok. 2015. "The End of Asymmetric Information." *Cato Unbound*, April 6. <http://www.cato-unbound.org/2015/04/06/alex-tabarrok-tyler-cowen/end-asymmetric-information>.

DiMaggio, Paul J., and Walter Powell. 1983. "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields." *American Sociological Review* 48: 47–160.

Durkheim, Émile. 1957. *Professional Ethics and Civic Morals*. London: Routledge & Paul.

Eyal, Gil. 2013. "For a Sociology of Expertise: The Social Origins of the Autism Epidemic." *American Journal of Sociology* 118:863–907.

Freidson, Eliot. 1994. *Professionalism Reborn: Theory, Prophecy, and Policy*. Chicago: University of Chicago Press.

Haskell, Thomas L. 1977. *The Emergence of Professional Social Science: The American Social Science Association and the Nineteenth-Century Crisis of Authority*. Urbana: University of Illinois Press.

Heckscher, Charles. 2007. *The Collaborative Enterprise: Managing Speed and Complexity in Knowledge-Based Businesses*. New Haven, CT: Yale University Press.

Heckscher, Charles, and Anne Donnellon. 1994. *The Post-bureaucratic Organization: New Perspectives on Organizational Change*. Thousand Oaks, CA: SAGE Publications.

Johnson, Terence J. 1972. *Professions and Power*. London: Macmillan

Kleiner, Morris M., and Alan B. Krueger. 2013. "Analyzing the Extent and Influence of Occupational Licensing on the Labor Market." *Journal of Labor Economics* 31:S173–S202.

Larson, Magali Sarfatti. 1979. *The Rise of Professionalism*. Berkeley: University of California Press.

Layton, Edwin. 1971. *The Revolt of the Engineers*. Baltimore, MD: Johns Hopkins University Press.

Neff, Gina, Elizabeth Wissinger, and Sharon Zukin. 2005. "Entrepreneurial Labor among Cultural Producers: 'Cool' Jobs in 'Hot' Industries." *Social Semiotics* 15:307–334.

Osnowitz, Deborah. 2010. *Freelancing Professionals in the New Economy*. Ithaca, NY: Cornell University Press.

Parsons, Talcott. 1968. "Professions." 536–546 In *International Encyclopedia of the Social Sciences*, edited by David Sills. New York: Macmillan.

Starr, Paul. (1983) 2017. *The Social Transformation of American Medicine*. Updated ed. New York: Basic Books.

Starr, Paul. 2019. *Entrenchment: Wealth, Power, and the Constitution of Democratic Societies*. New Haven, CT: Yale University Press.

US Bureau of Labor Statistics. 2021. "53. Certification and licensing status of the employed by occupation, 2021 annual averages." <https://www.bls.gov/cps/cpsaat53.htm>.

Weeden, Kim A. 2002. "Why Do Some Occupations Pay More than Others? Social Closure and Earnings Inequality in the United States." *American Journal of Sociology* 108 (1): 55–101.

Wilensky, Harold L. 1964. "The Professionalization of Everyone?" *American Journal of Sociology* 70:137–158.