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Turner, Beard, Chandler: Progressive Historians

For almost half a century, Alfred D. Chandler Jr. has enjoyed an enviable reputation as the most influential business historian in the world. Chandlerian business history is a mainstay of the "new" institutionalism that John Higham discerned over four decades ago in a justly admired survey of American historical writing; in addition, it has long been a cornerstone of the "organizational synthesis" that Louis Galambos championed in three widely discussed essays.¹ Even in history departments that have shifted their primary focus from politics and economics to society and culture, Chandler remains required reading.² Indeed, Chandler's *The Visible Hand* (1977) may well be the only book in business history that Ph.D. candidates in U.S. history feel an obligation to crib.³ Yet, there is one dimension of his scholarship that has thus

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¹John Higham, *History: Professional Scholarship in America* (Baltimore, 1965), 231; Louis Galambos, "The Emerging Organizational Synthesis in Modern American History," *Business History Review* 44 (Autumn 1970): 279-90; Galambos, "Technology, Political Economy, and Professionalization: Central Themes of the Organizational Synthesis," *Business History Review* 57 (Winter 1983): 471-93; Galambos, "Recasting the Organizational Synthesis: Structure and Process in the Twentieth and Twenty-First Centuries," *Business History Review* 79 (Spring 2005): 138.

²This claim is based on an altogether unsystematic e-mail survey of history graduate students at the University of Chicago, Columbia University, and the University of Virginia.

³Alfred D. Chandler Jr., *The Visible Hand: The Managerial Revolution in American Business* (Cambridge, Mass., 1977). For an overview of the first two decades of historical writing to have been influenced by Chandler's magnum opus, see Richard R. John, "Elaborations, Revisions, Dissents: Alfred D. Chandler Jr.'s, *The Visible Hand* after Twenty Years," *Business History Review* 71 (Summer 1997): 151-200. Historians with an interest in social theory may find stimulating David J. Teece, "The Dynamics of Industrial Capitalism: Perspectives on Alfred Chandler's *Scale and Scope*," *Journal of Economic Literature* 31 (Mar. 1993): 199-225. For a brief, illuminating tribute, see Glenn Porter, "In Memoriam: Alfred D. Chandler, Jr., 1918-2007," *New England Quarterly* 80 (Dec. 2007): 687-89.

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far been mostly overlooked. And that is its indebtedness to, and refinement of, the genre of historical writing that we customarily label "progressive," a genre whose most prominent exemplars include Frederick Jackson Turner (1861–1932) and Charles A. Beard (1874–1948). Chandler was not only a pillar of the "organizational synthesis" that drew creatively on certain social theoretical insights of Max Weber and Talcott Parsons; he was also an heir to one of the most distinguished traditions of historical writing to have originated in the United States, a tradition that has for over one hundred years inspired emulation in the United States and abroad.

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That Chandler's progressive lineage has thus far gone largely unnoticed is perhaps unsurprising.⁴ Chandler had little interest in historiography and, to the best of my knowledge, never identified himself as a progressive. In addition, he is sometimes lumped together—mistakenly, in my view—with the "consensus" historians of the 1950s, who rejected the economic interpretation of their progressive forbears and questioned the centrality of conflict in the American past. Chandler wrote more about conflict than is often supposed. Yet the conflicts that engaged him almost always involved economic interests—merchants versus manufacturers, engineers versus financiers, managers versus investors—rather than social classes—women versus men, black versus white, rich versus poor. Chandler's priorities were different from those of many historians today. Yet they would have been familiar to Turner and Beard, who, for the most part, viewed the past through a similar lens.

Chandler's progressivism shone forth in his abiding faith in education, democracy, and planning. Like the great progressive leader Theodore Roosevelt, whom Chandler very much admired and whose personal correspondence he helped to edit, Chandler believed that giant corporations could, and should, be obliged to contribute to the common good. It was, thus, entirely characteristic for Chandler, in an early essay, to fault Roosevelt's Progressive Party for being insufficiently progressive. Progressive Party leaders, Chandler observed, only pretended to be forward

⁴For a rare exception, see William N. Parker, "The Scale and Scope of Alfred D. Chandler, Jr.," *Journal of Economic History* 51 (Dec. 1991): 960. "Perhaps some foreign observer of the American mind might point out to us," Parker observed, "that best of all, despite his span of years in the atmosphere of the Harvard School of Business Administration, or perhaps because of it, Chandler remains an intellectual, albeit a very American one, showing in the whole thrust of his effort, the opinions, the intelligence, the national concerns and values, including even the bias toward technocracy, that characterized the best minds and spirits of the era of true Republican Progressivism."

looking: In fact, they were nostalgic conservatives, "unimaginative in developing new doctrines and techniques necessary to insure democratic control of an industrial society."⁵

Chandler's admiration for the progressive tradition was particularly evident in his methodological assumptions. Like Turner and Beard, Chandler relied on quantitative data to frame credible generalizations; like them, he rejected the time-honored convention that the historians' primary obligation was to chronicle "past politics"; and, like them, he was fascinated by the epochal late-nineteenth-century transformation that has come to be known as the "Second Industrial Revolution." For each scholar, history was as much a meditation on the present as a chronicle of the past. Chandler shared his progressive forbears' confidence in stage models of economic development, and, in marked contrast to the proponents of the "consensus school" of the 1950s, he relied on an explanatory scheme that emphasized economic interests. Turner's stage model highlighted the closing of the frontier in 1890; Beard's, the triumph of northern industrialists over southern planters in the American Civil War (1861–1865). Chandler's stage model was tripartite. The first stage (1790–1840) featured the Euro-American settlement of the trans-Appalachian West; the second stage (1840–1870), the completion of nationwide transportation and communications networks; and the third stage (1880–1920), the emergence of the large-scale, vertically integrated industrial firm. For Chandler, like Turner and Beard, yet unlike influential postwar historians such as Richard Hofstadter, history did not hinge on the interplay of culture and personality. To be sure, Chandler was a more thoroughgoing institutionalist than Turner and Beard, and he wrote on a narrower range of topics. Even so, he never abandoned his forbears' sensitivity to the vagaries of geography and culture, or their faith in human betterment, a faith that remains at the core of the progressive appeal.

While this essay is about Chandler rather than Turner and Beard, to avoid misunderstanding it is worth underscoring that Turner and Beard are themselves easily misconstrued. For too many present-day historians, Turner is pigeonholed as an uncritical celebrant of the Euro-American settlement of the trans-Appalachian West, while Beard is typecast as a cynical debunker of the supposedly high-minded motives of the men who drafted the federal Constitution. Such facile caricatures ignore the extent to which both Turner and Beard grappled with, and were influenced by, the economic transformations that Chandler regarded as

⁵Alfred D. Chandler Jr., "The Origins of Progressive Leadership," in *The Letters of Theodore Roosevelt*, ed. Elting E. Morison, John M. Blum, Alfred D. Chandler Jr., and Sylvia Rice (Cambridge, Mass., 1954), vol. 8, 1462–65.

so consequential.⁶ In addition, they exaggerate the preoccupation of Turner and Beard with conflict and minimize their fascination with technology. The social consequences of the recent "revolution" in industrial methods, Turner posited in 1910, were far-reaching. "The tremendous energies thus liberated at this center of industrial power in the United States," Turner observed, had "revolutionized methods of manufacture in general, and in many indirect ways profoundly influenced the life of the nation."⁷ Beard was, if anything, even more impressed with the social consequences of technological change. Mass production, Beard reflected in 1927, was the "outstanding feature" of the present, imposing "correlative influences on American slants of thought, modes of living, manners, and aesthetic expression."⁸ The "most fundamental fact" of the age, Beard proclaimed in the same year, was the alignment of "all thought,

⁶ My understanding of Turner and Beard builds on Ellen Fitzpatrick, *History's Memory: Writing America's Past, 1880-1980* (Cambridge, Mass., 2002), esp. 8, 53, and 97; Ernst A. Breisach, *American Progressive History: An Experiment in Modernization* (Chicago, 1993), esp. ch. 9; and Ian Tyrrell, "Making Nations/Making States: American Historians in the Context of Empire," *Journal of American History* 86 (Dec. 1999): 1017-23. Each challenges in different ways the older, less nuanced, and, in certain respects, self-serving, characterization of Turner and Beard that Lee Benson and Richard Hofstadter popularized in the 1960s and Peter Novick echoed in the 1980s. Lee Benson, *Turner and Beard: American Historical Writing Reconsidered* (Glencoe, Ill., 1960); Richard Hofstadter, *Progressive Historians: Turner, Beard, Parrington* (Chicago, 1968); Peter Novick, *That Noble Dream: The 'Objectivity Question' and the American Historical Profession* (Cambridge, 1988). In so doing, they critique the conventional, whiggish narrative of twentieth-century U.S. historiography, in which the progressivism of Turner and Beard is challenged by the "consensus school" of Daniel Boorstin, Richard Hofstadter, and Louis Hartz before being triumphantly supplanted by the neoprogressivism of the "new" historians of the 1960s. With few exceptions, the new historians exaggerate the progressives' emphasis on social conflict and downplay their engagement with late-nineteenth-century industrialization. "In Progressive history," Breisach astutely observed, "conflict is auxiliary to progress and not a force important in and by itself" (226n.26).

⁷ Frederick Jackson Turner, "Social Forces in American History" [1911], in *Frontier and Section: Selected Essays of Frederick Jackson Turner*, ed. Ray Allen Billington (Englewood Cliffs, N.J., 1961), 155, 156.

⁸ Charles A. Beard and Mary R. Beard, *The Rise of American Civilization* (New York, 1927), vol. 2, 713. While Charles and Mary Beard (Charles's wife) collaborated on virtually every chapter of *American Civilization*, Charles was primarily responsible for the sections on politics and the economy, Mary for the sections on culture and society. Ellen Nore, *Charles A. Beard: An Intellectual Biography* (Carbondale, Ill., 1983), 112-13. Historians who are familiar with the Beards' *Rise of American Civilization* only by reputation, and who assume that progressive historical writing is informed by a pervasive antibusiness bias, may be surprised to discover that it includes numerous vignettes of business leaders that look forward less to Matthew Josephson's *Robber Barons* (1934) than to Harold C. Livesey's *American Made: Shapers of the American Economy* (1979, 2nd ed., 2007), an engaging collective portrait of various business leaders by one of Chandler's students. In 1938 the Beards' daughter, Miriam, published a largely admiring *History of the Business Man*. If the Beards' *Rise of American Civilization* is taken as a proof text, there is little reason to suppose that either of Miriam's parents would have found fault with either the subject or the tone of their daughter's book. For a related discussion, yet a different conclusion, see Mary A. Yeager, "Mavericks and Mavens of Business History: Miriam Beard and Henrietta Larson," *Enterprise and Society* 2 (Dec. 2001): 687-768.

all policies, and all actions" with the "convulsive pressures of technology pouring through time, turning social orders into ever new kaleidoscopic patterns."⁹ Such assertions seemed to Chandler self-evident, even though, unlike Turner, Chandler wrote little about regionalism, while, unlike Beard, he emphasized the symbiotic relationship of technological creativity and organizational design.¹⁰

Turner and Beard lived through the Second Industrial Revolution; Chandler interpreted it. For Chandler, the primary unit of analysis was neither the region, as it had been for Turner, nor economic interest, as it had been for Beard. Rather, it was the firm.¹¹ These differences were significant. Yet they should not obscure the extent to which all three historians shared certain assumptions about the rise of the United States as an industrial giant. Each harbored profound misgivings about the "invisible hand" of the market; each rejected the Brandeisian critique of big business as inherently inefficient; and each characterized certain industries as "natural monopolies" that, for technological reasons, were more-or-less impervious to competition. Many historians today, of course, challenge at least one of these assumptions. In so doing, they quarrel not only with Chandler, but also with Turner and Beard.¹²

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⁹ Charles A. Beard, "Time, Technology, and the Creative Spirit in Political Science," *American Political Science Review* 21 (Feb. 1927): 5. Beard's flirtation with technological determinism is conspicuously underplayed in Benson's *Turner and Beard* and Hofstadter's *Progressive Historians*. For a corrective, see Nore, *Charles A. Beard*, ch. 9. Also useful is Cushing Strout, "The Twentieth Century Enlightenment," *American Political Science Review* 49 (June 1955): 333-37.

¹⁰ Though Chandler always distinguished between technology and organization, there is much truth in the common charge, which he always denied, that he was, at bottom, a technological determinist. See, for example, *Technology and Culture* 19 (July 1978): 572. "There are," Chandler observed, "profound differences between modern managerial capitalism and modern managerial socialism in economic performance and activity, in the distribution of income, and in the quality of life, but an evaluation of these differences cannot be made until the operational characteristics of capitalism and socialism are more precisely defined, and the technological imperatives of mass production and mass distribution in urban, industrial mass societies are more carefully sorted out."

¹¹ Chandler, "Organizational Capabilities and the Economic History of the Industrial Enterprise," *Journal of Economic Perspectives* 6 (Summer 1992): 79-100.

¹² Another similarity between Chandler, Turner, and Beard was their common characterization of the early American economy. Like Turner and Beard, yet unlike the proponents of the "market revolution" thesis that Charles Sellers popularized in the 1990s, Chandler took it for granted that capitalism arrived on the first ships, and that the nineteenth-century economy evolved not from a subsistence-based stage to a market-based stage, but, rather, from a market economy that was oriented primarily toward Europe to a market economy that was oriented primarily toward the trans-Appalachian hinterland. In this transition, cotton plantations played a pivotal role. Cotton planters, in Chandler's view, had little incentive to be self-sufficient, since they could make far more money selling cotton in overseas markets than by growing the foodstuffs they needed to feed their slaves. The coming of the railroad shifted the geographic orientation of this market—from North-South to East-West—but not its market-oriented character. Chandler, *The Visible Hand*, 516-17n.570.

Turner's influence on Chandler was pervasive and enduring. Though Chandler never met Turner—Turner died in 1932, when Chandler was fourteen—Chandler wrote his Ph.D. dissertation at Harvard in the same history department in which Turner had long taught under the supervision of one of Turner's most loyal disciples, the western historian Frederick Merk. Merk introduced Chandler both to Turner's celebrated "frontier thesis" and to historical geography; the latter was a topic that would fascinate Chandler throughout his life.¹³ Chandler wholeheartedly embraced Turner's contention that westward expansion was a critical factor in American economic development. For Turner, the rapid settlement of the trans-Appalachian West beginning around 1815 hastened the emergence of a new kind of civilization that was defined, above all, by the unprecedented availability of cheap land. So long as land was abundant, large-scale enterprise would remain rare. To buttress this point, Turner cited approvingly a U.S. treasury secretary who had predicted in 1827 that the scattering of a "thin" population over a huge territorial expanse would inevitably retard rather than accelerate the "creation of capital."¹⁴ Chandler concurred. Westward expansion, Chandler contended in a justly praised and oft-reprinted essay that he published in 1959, furnished the "primary impetus" for business innovation in the period before 1840.¹⁵ In effect, the rise of the large-scale industrial firm had been *slowed* by the enormous size of the North American interior, and, in particular, by the spatial dispersion of the market. To a much greater extent than in, say, Great Britain, geography constrained.¹⁶

The very metaphors Chandler relied on to characterize economic development in the pre-1840 period had an unmistakably Turnerian cast. Consider, for example, Chandler's use of the term "pioneer." Chandler's pioneers, like Turner's, flourished in a relatively early stage of economic development. Turner's pioneers settled the frontier; Chandler's commercialized new products. For Turner, the pioneering stage of American economic development ended with the disappearance of a moving

¹³Thomas K. McCraw, "The Intellectual Odyssey of Alfred D. Chandler, Jr.," in *The Essential Alfred Chandler: Essays Toward a Historical Theory of Big Business*, ed. McCraw (Boston, 1988), 19–20. Chandler's Turnerianism is particularly evident in the introduction he prepared for a documentary collection on fiscal policy during the presidency of Andrew Jackson (1829–1837): "Jacksonian Democracy and the Bank War: The Crisis of 1830–1834," in *Major Crises in American History: Documentary Problems, 1689–1861*, 2 vols., ed. Leonard W. Levy and Merrill D. Peterson (New York, 1962), vol. 1, 334–42, 400.

¹⁴Turner, "Social Forces," 158.

¹⁵Alfred D. Chandler Jr., "The Beginnings of 'Big Business' in American Industry" [1959], in *The Essential Alfred Chandler*, ed. McCraw, 47, 48. Though Chandler altered his views on various subjects during his long publishing career, he was remarkably consistent in his characterization of the main contours of American economic development. For this reason, in glossing his argument, I have drawn freely not only on his *Visible Hand*, but also on essays that he published before and after its appearance in 1977.

¹⁶Chandler, *The Visible Hand*, 36, 49.

frontier around 1890. For Chandler, pioneering business leaders gave way to entrepreneurial first movers who orchestrated the all-important three-pronged investment in manufacturing, marketing, and management.¹⁷ To highlight this contrast, Chandler distinguished between pioneers and "innovators"—a business-school buzzword that he used deliberately, and with care. Pioneers, in Chandler's view, rarely made the requisite investment in organizational capabilities necessary for genuine innovation.¹⁸

While geography constrained, it also empowered. For Turner, the logistical challenge of settling a vast continent in an astonishingly brief period of time created the social preconditions for American democracy. For Chandler, it emboldened railroad promoters to build the first trans-Appalachian railroads, a venture destined to have as "great an impact" on the American economy as "any innovation has had at any time in American history."¹⁹ The facilities that the railroad provided for fast, high-volume, all-weather transportation, in turn, created the large-scale market that hastened the emergence of the large-scale industrial firm. Industrial firms became large scale not only, or even primarily, because of the capital intensity of their production facilities, but also, and even more critically, because of the geographic extent of their distribution networks. Distribution networks, in turn, loomed large because of the scattering of the American people that had been hastened by westward expansion.

Westward expansion shaped not only the timing of the emergence of the industrial firm, but also its character. The settlement of the trans-Appalachian West had been so recent, Chandler explained, that relatively few manufacturers had had the opportunity to become established, while the independent wholesalers upon whom they might otherwise have relied were disproportionately concentrated north of the Potomac and east of the Ohio. As a consequence, and in contrast to Britain and France, would-be first movers had little trouble buying out potential rivals if the price was right, and they found it necessary to build their own wholesale networks to market their wares.²⁰

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¹⁷Alfred D. Chandler Jr., "Learning and Technological Change: The Perspective from Business History," in *Learning and Technological Change*, ed. Ross Thomson (New York, 1993), 27.

¹⁸Alfred D. Chandler Jr., *Scale and Scope: The Dynamics of Industrial Capitalism* (Cambridge, Mass., 1990), 735. Other Turnerian metaphors that Chandler adopted included "evolution" and "seedbed"—a variant of the Turnerian "seed-plot."

¹⁹*Journal of Economic History* 29 (Sept. 1969): 563.

²⁰Alfred D. Chandler Jr., "The Coming of Big Business," in *The Comparative Approach to American History*, ed. C. Vann Woodward (New York, 1968), 233–34.

Beard does not appear in the index to *The Visible Hand*; neither, for that matter, does Turner.²¹ Yet no U.S. historian of Chandler's generation could ignore Beard's provocative thesis, in his *Economic Interpretation of the Constitution of the United States* (1913), that the federal Constitution had been shaped by the economic interests of its framers, or, for that matter, the adoption by Charles and Mary Beard, in their coauthored *Rise of American Civilization* (1927), of Thorstein Veblen's celebrated duality between reactionary financiers and progressive engineers.²² Chandler's indebtedness to Beard is less direct than his indebtedness to Turner. Yet it was no less fundamental. Chandler wrestled with Beard's *Economic Interpretation* in a course that he taught at MIT early in his career, and he employed the financier-engineer duality in several early publications. For Chandler, Beard's hard-headed materialism was far more congenial than the thinly veiled social-psychological determinism of the consensus historians who denounced Beard so emphatically in the 1950s.

Chandler's familiarity with Beardian themes was, in a certain sense, a product of their shared intellectual milieu. Unlike Beard, Chandler had not, of course, grown up in the nineteenth century. Yet Chandler had been trained as an economic historian of this period, and was, thus, steeped in interest-based explanatory schemes and the financier-engineer duality, since both were widely discussed not only by specialists in this field, but also in the nineteenth-century business press. Chandler knew these press accounts especially well, having written his dissertation on the nineteenth-century business analyst Henry Varnum Poor, who, as it happens, was also Chandler's own great-grandfather. Poor was a keen student of economic interests—like many nineteenth-century social the-

²¹ Economic and business historians have oddly neglected the Beards' contribution to the field. Neither Charles nor Mary Beard is included, for example, in the list of forty-four "first generation" economic and business historians that Arthur H. Cole profiled in *The Birth of a New Social Science Discipline: Achievements of the First Generation of American Economic and Business Historians—1893–1974* (New York, 1974). Cole did briefly discuss Charles Beard in his preface, yet, somewhat oddly, he limited his legacy to "political economists" rather than historians. Interestingly, Cole acknowledged Miriam Beard's *History of the Business Man* as the "first domestic survey" of the subject (p. 3), though Cole mistakenly listed its author as Mary rather than Miriam (p. 3). Among the historians Cole profiled were Turner, Frederick Merk, Henrietta M. Larson, and Thomas C. Cochran. Chandler himself did not make the cut, presumably because Cole did not consider him a member of the "first generation."

²² One way to gain insight into the intellectual influences that shaped Chandler's development as a historian is to survey the books that he owned, a task that is facilitated by his gift of his personal library to Baker Library at Harvard Business School. Chandler's library includes many canonical works in American history, including Beard's *Economic Interpretation*, as well as a smattering of titles on organizational sociology and business management (though none by Talcott Parsons or Max Weber), and virtually nothing on economics. Though Chandler's library included neither Turner's collected essays nor either of his books, it did contain a first edition of Frederick L. Paxson's resolutely Turnerian *History of the Frontier* (1924).

orists, he found it hard to believe that individuals could be motivated to work hard in a large organization if they were paid a regular salary—and he routinely denounced financiers such as Jay Gould in his voluminous writings on railroad finance.²³

Chandler's neo-Beardianism was particularly evident in several early publications that grew out of his dissertation—in which, not surprisingly, he adopted Poor's financier-engineer duality to characterize early railroad managers.²⁴ While Chandler deployed this duality with increasing subtlety in later publications, he never abandoned it altogether. Engineers morphed into engineer-managers and, eventually, into managers, while financiers became venture capitalists and investment bankers.²⁵ That managers triumphed was, for Chandler, reassuring. This was because Chandler credited managers with having longer time horizons than investors, on the grounds that they had a vested interest in their own careers, which were closely linked to the fortunes of the firms that they oversaw.²⁶ No investor, Chandler believed—not Jay Gould, and not even J. P. Morgan—played a role in business administration that was in any way comparable to visionary managers such as General Motors' Alfred P. Sloan.

Chandler's anti-investor bias was particularly evident in his treatment of Gould, the most notorious financier in American history. Like Poor, Chandler regarded Gould as a mere manipulator of financial markets who, unlike railroad managers, had little interest in, or talent for, building enduring institutions. Though Chandler did his best to remain

²³ Alfred D. Chandler Jr., *Henry Varnum Poor: Business Editor, Analyst, and Reformer* (Cambridge, Mass., 1956), chs. 7, 11. Poor's antifinancialism was so pronounced that it would not be in the least surprising should some intrepid historian discover documentary proof that it was Poor himself—that is, Chandler's own great-grandfather—who first coined the damning epithet "robber baron" to characterize a financially unscrupulous business leader. The concept ("German barons"), though not the phrase itself, can be found in a *New York Times* editorial on 9 February 1859. While Poor almost certainly did not write this editorial, he did occasionally write editorials in the *Times* on economic topics. I am grateful to T. J. Stiles for bringing this *Times* editorial to my attention, and for putting it into the context of financial journalism of the 1850s.

²⁴ Chandler, "The Railroads; Pioneers in Modern Corporate Management" [1965], in *The Essential Alfred Chandler*, ed. McCraw, 179–201.

²⁵ While Chandler often praised the investment necessary to sustain large-scale enterprise, he rarely praised investors, and he was particularly hard on short-term investors like Gould, whom he tended to dismiss, as had his great-grandfather before him, as financial buccaners.

If anything, Chandler's anti-investor bias grew more pronounced over time. "We are going to pay a price for shareholder capitalism," Chandler declared in an interview in 1991: "Among the 50 largest chemical companies in the world, the only ones that pay over 10 percent dividends are the Americans, and they pay 15 percent. If you really believe—this is where I get upset—that the function of the firm is to give dividends to shareholders, we're going to end up worse than Britain. *Intel* has never declared a dividend and it has put a billion dollars back into the business. That's the way to do it." Cited in Parker, "Scale and Scope," 961.

²⁶ Chandler, "Beginnings of 'Big Business,'" 194.

nonjudgmental, his anti-investor bias was unmistakable. Chandler's Gould was not, like Máury Klein's, a talented organization builder; instead, in his opinion, Gould was nothing more than an opportunist who inadvertently hastened economic changes that he had in no way willed.²⁷ Tellingly, Chandler ignored altogether Gould's then novel, yet today conventional, method of valuing corporate securities on the basis of future earnings power rather than sunk costs. The most Chandler could bring himself to credit Gould with was the launching of a pair of speculative raids on railroad securities that prompted railroad managers in self-defense to build huge, self-contained, and—at least initially—inefficient systems. Gould's first raid led the Pennsylvania Railroad to create the nation's first "megacorp," a term that Chandler did not intend as a compliment. His second raid obliged the Pennsylvania's rivals to follow its lead. The resulting "system-building," as Chandler termed it—a phrase that, like "megacorp," he intended to be pejorative—was in Chandler's view highly wasteful and led inexorably to the widespread bankruptcy of several leading railroads in the 1890s. Here, once again, Chandler echoed Poor.²⁸

Chandler's skepticism regarding investors informed his critique of Forrest McDonald's admiring biography of the early-twentieth-century utilities magnate Samuel Insull. Vindictive bankers, McDonald contended, orchestrated Insull's financial ruin. Chandler demurred. McDonald's conclusion, Chandler observed, would have been more "believable" had McDonald focused less on bankers and more on the Great Depression and the "inherent structure" of utility holding companies. "After all," Chandler reasoned, "in the spring of 1932 the bankers had a great deal more to think about than breaking Insull." Many historians, Chandler added, held a naive view of the "realities of business"; as a consequence, a business biographer had a "particular responsibility" to "stick to the facts" and refrain from crediting bankers with powers they did not possess.²⁹

In his treatment of legal topics, which was limited and perfunctory, Chandler also echoed a familiar Beardian theme. Like Beard, and, for that matter, like many progressives, including Theodore Roosevelt, Chandler regarded the judiciary with a skepticism that often bordered on contempt. A case in point was Chandler's implicit condemnation of the refusal of late-nineteenth-century courts to enforce the market-sharing

²⁷ Maury Klein, *Life and Legend of Jay Gould* (New York, 1986).

²⁸ Chandler, *The Visible Hand*, 88, 147–48, 154. See also Chandler, "Jay Gould and the Coming of Railroad Consolidation," in *Management Past and Present: A Casebook on the History of American Business*, ed. Chandler, Richard S. Tedlow, and Thomas K. McCraw (Cincinnati, 1996), 2–41, 45, 46, 48.

²⁹ *Mississippi Valley Historical Review* 50 (June 1963): 146–47.

agreements, known as "pools," that railroad managers had negotiated to limit competition. Beard might have explained this obstructionism by pointing to the judges' economic self-interest. Chandler, in contrast, attributed it to the judges' values, and, in particular, to their principled hostility to special privilege that was a legacy of Jacksonian antimonopolism. The catalyst, in short, was neither technology nor markets, but culture.³⁰

Had the railroads "captured" the courts—or, to put it differently, had judges scrupulously honored the tenets of "laissez-faire"—one might have predicted that judges would enforce the pools that railroad managers devised. A pool, after all, was a contract, an agreement that property-minded laissez-faire judges intent upon upholding the railroads' supposed freedom of contract might have been expected to sustain. Yet here lay a paradox: German judges routinely enforced railroad pools; U.S. judges did not. To underscore this point, Chandler emphasized the repeated failure of the Prussian-trained railroad engineer Albert Fink to persuade the U.S. Congress to legalize pooling. Not only did Fink fail to legalize pooling; but Congress, in 1887, went so far as to declare railroad pools illegal. As a consequence, railroad managers—and, before long, the managers of industrial firms—found themselves obliged to build huge, self-sustaining systems far larger than any comparable organizations in Europe. Had they not, they might well have been driven into bankruptcy by the impossibility of recovering their investments. This was because industrial firms, like railroads, had such high fixed costs that their managers had a compelling financial incentive to stay in business, even if they lost money on every single transaction.³¹

Chandler's frustration with the judiciary informed his analysis of the rise, after the Second World War, of a new kind of corporation that would come to be known as a "conglomerate." Chandler regarded conglomerates as products not of technology and economics but, rather, of politics and culture. Managers, Chandler explained, feared that, if they

³⁰ Chandler, *The Visible Hand*, 135–36, 148–51, 160. "Antitrust legislation," Chandler observed, "reflected a powerful bias of Americans against special privilege, which had expressed itself earlier in the controversy over the Bank of the United States during the Jacksonian period. In Europe, governmental support of special class and family interests was more acceptable." Chandler, "Coming of Big Business," 234.

³¹ The inability of railroad leaders to persuade judges to sanction pooling, Chandler believed, furnished compelling evidence that big business did not dominate the regulatory process, as, for example, Gabriel Kolko had contended in *Railroads and Regulation, 1877–1916* (Princeton, 1965). "If the American cartels had had some kind of legal support or sanction by the government," Chandler observed, "as was true of those in continental Europe, the giant corporation would surely have been slower in coming." Chandler, "Coming of Big Business," 226. Or to put it somewhat differently, the most distinctive feature of the U.S. regulatory regime was not the absence of "big government" but the presence of an antimonopoly regulatory regime.

increased their firm's market share, they might be prosecuted for restraining trade under a federal law, known as the Sherman Act, that proscribed certain kinds of uncompetitive behavior. As a consequence, they eschewed economies of scale and scope in favor of unrelated diversification, which was less likely to land them in court. Chandler's dislike for conglomerates was visceral, and may come as a surprise to historians who assume, wrongly, that he was an uncritical admirer of corporate giantism. In fact, Chandler consistently derided self-aggrandizing corporate moguls like Henry Ford as mere "empire builders"; and, in contrast to the historian of technology Thomas P. Hughes, he routinely disparaged system-building as wasteful, even when it had originated as a defensive strategy to forestall a potentially devastating competitive assault.

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Turner and Beard endorsed Theodore Roosevelt's conviction that the national government should play an increasingly prominent role in the regulation of big business. So, too, did Chandler. In addition to defending railroad pooling, Chandler praised the New Deal, endorsed Keynesian economics, and admired the Federal Reserve for restraining Wall Street bankers—whom, in a characteristic jibe, Chandler faulted for having funded American business at a "sizable profit" and at a "cost of chronic financial and economic instability."³²

While Chandler did not believe that historians had any special expertise in the formulation of public policy, he aspired to provide a historical perspective on the issues of the day.³³ In a historical overview of U.S. energy policy that he published in 1980, for example, Chandler envisioned a "Third Industrial Revolution," in which corporations, government agencies, and universities joined together to rid the world of its "possibly fatal" dependence on fossil fuel. Renewable energy, Chandler reflected, had powered the American economy before 1840. Might it not do so once again in the future? Here, as in so many other realms, the fundamental challenge was not technological but organizational. What institutional arrangements, Chandler speculated, would best smooth the transition from an economy based on fossil fuel to an economy that ran

³² Alfred D. Chandler Jr., "The Depression Crisis and the Emergence of the Welfare State, 1932–1935," in *Major Crises in American History: Documentary Problems, 1865–1953*, 2 vols., ed. Merrill D. Peterson and Leonard W. Levy (New York, 1962), vol. 2, 330–38, 387; Chandler, "Jacksonian Democracy," 334–42, 400, quotation on p. 400.

³³ Alfred D. Chandler Jr., "The Role of Business in the United States: A Historical Survey," *Daedalus* 98 (Winter 1969): 40. "To suggest how and in what ways the managers will respond to the current challenges is," Chandler observed, "fortunately, not the task of the historian. Such analyses are properly left to social scientists and businessmen" (p. 40).

on water, wind, and sun—as the U.S. economy had done in the period before the "First Industrial Revolution"?³⁴

Chandler's thought experiment highlighted his abiding faith in the human spirit. Especially in his later years, Chandler became fascinated by social capital, and, in particular, by the "virtuous strategies" and "paths of learning" by which certain firms, industries, and nations remained innovative over the long haul. People, Chandler hypothesized in an essay that he published in 2000, were rapidly supplanting non-renewable resources as the "fuel" of the economy. In the nineteenth century, coal had powered the railroad; in the twenty-first, the computer was fueled not only by electricity, but also, and in a more fundamental sense, by software, a renewable resource that originated not in nature, but in the mind.³⁵

Chandler's confidence in the "visible hand" of planning was a recurring theme of his final two books: *Shaping the Industrial Century* (2005) and *Inventing the Electronic Century* (2001). In these books, Chandler undertook a global history of the leading firms in four twentieth-century high-tech industries—chemicals, pharmaceuticals, computers, and consumer electronics. Why, Chandler asked, did certain firms succeed while others failed? To answer this question, Chandler looked not only to organizational dynamics, but also to what Beard might have called political economy. And, in particular, Chandler repeatedly castigated American lawmakers for what he regarded as an ultimately self-defeating commitment to competition.³⁶

Chandler's frustration with American lawmakers led him in his final years to reconsider the American exceptionalism that he had implicitly endorsed in *Visible Hand*. The origins of the Second Industrial Revolution, Chandler now explained, lay not in the United States but in Europe. In advancing this claim, Chandler challenged not only Beard's flattering assessment of American technological prowess—an assessment that would later be refined by the historian of technology Thomas P.

³⁴ Alfred D. Chandler Jr., "Industrial Revolutions and Institutional Arrangements," *Bulletin of the American Academy of Arts and Sciences* 33 (May 1980): 33, 48. Contrary to what seems to be a widespread impression, Chandler did not, like Lewis Mumford, assign labels to periods of American economic history based on changing energy sources. In fact, Chandler regarded the commercialization of anthracite coal in the 1840s as largely fortuitous and, as he grew older, deemphasized the significance of electric power.

³⁵ Alfred D. Chandler Jr. and James W. Cortada, "The Information Age: Continuities and Differences," in *A Nation Transformed by Information: How Information has Shaped the United States from Colonial Times to the Present*, ed. Chandler and Cortada (New York, 2000), 290.

³⁶ Alfred D. Chandler Jr., *Shaping the Industrial Century: The Remarkable Story of the Evolution of the Modern Chemical and Pharmaceutical Industries* (Cambridge, Mass., 2005); Chandler, *Inventing the Electronic Century: The Epic Story of Consumer Electronics and Computer Industries* (New York, 2001).

Hughes—but also Turner’s American-centric geographic determinism. In the final decades of the nineteenth century, Turner had ridiculed the “germ” theory of his graduate-school mentor Herbert Baxter Adams, who had traced the origins of American institutions to the forests of Germany. In the opening decade of the twenty-first century, Chandler located the origins of modernity not in Turner’s beloved Wisconsin forests, but, rather, in the planning departments of the German chemical and electrical firms Bayer and Siemens & Halske on the banks of the Rhine.³⁷

Chandler’s cosmopolitanism set him apart from most of his peers among American economic historians and highlighted an additional affinity between him and his progressive forebears. Though Turner and Beard are often criticized as American exceptionalists, in fact, like the most ambitious of their peers, they aspired to write a “universal” history that transcended national boundaries.³⁸ So, too, did Chandler. By asking big questions, following wherever they took him, and refusing to confine himself to a particular place or time, Chandler laid the foundations for a new history for a new age—a history in which the “visible hand” of planning had the potential not only to enrich nations, but also to hasten the global economic development that an earlier generation of reformers would have called progress.

³⁷ Alfred D. Chandler Jr., “How High Technology Industries Transformed Work and Life Worldwide from the 1880s to the 1990s,” *Capitalism and Society* 1, no. 2 (2006): 4–6. In this essay, the last Chandler published in his lifetime, he politely but pointedly faulted several prominent colleagues for their failure to locate the United States in a sufficiently global context (pp. 52–54). For a ringing endorsement of Chandler’s critique, see Richard Sylla, “Chandler on High Technology Industries from the 1880s to the 1990s: A Comment,” *Capitalism and Society* 1, no. 2 (2006): 3–4.

³⁸ Tyrrell, “Making Nations/Making States,” 1020.