

## **WILLARD HURST, TECHNOLOGICAL CHANGE, AND THE TRANSFORMATION OF AMERICAN PUBLIC LAW**

WILLIAM J. NOVAK

University of Michigan Law School

Prepared for the Law, Legal Institutions, and Technological  
Change Conference

University of Wisconsin Law School

April 2022

As Sociobiologist E.O. Wilson once famously framed the “problem of humanity”: “We have paleolithic emotions; medieval institutions; and god-like technology.”<sup>1</sup> America’s greatest philosopher John Dewey similarly placed this yawning gap between rapidly expanding technological change and slowly evolving human emotions and institutions at the heart of what he called *The Public and Its Problems*. Indeed, Dewey traced the origins of the modern American state as well as what he termed “the Great Society” to the new and modern technologies in production and commerce and steam and electricity that “resulted in a social revolution.”<sup>2</sup> Without warning, Dewey argued, traditional local communities now found their activities “conditioned by remote and invisible organizations ... with impact upon face-to-face associations so pervasive and unremitting that it is no exaggeration to speak of a ‘new age of human relations.’”<sup>3</sup> Notably, however, Dewey held that “political and legal forms have only piecemeal and haltingly, with great lag, accommodated themselves to the industrial transformation.”<sup>4</sup>

From Max Weber to Lewis Mumford to Herbert Marcuse, a wide range of social theorists have placed the challenge of the impact of technological change on modern economy and society at

---

<sup>1</sup> *An Intellectual Entente*, HARV. MAG. (Sept. 9, 2009), <https://www.harvardmagazine.com/breaking-news/james-watson-edward-o-wilson-intellectual-entente>.

<sup>2</sup> JOHN DEWEY, *THE PUBLIC AND ITS PROBLEMS* 98 (1927).

<sup>3</sup> *Id.*

<sup>4</sup> *Id.* at 114.

the very center of contemporary scholarly inquiry.<sup>5</sup> Business and economic historians have followed suit, repeatedly centering technology in their narratives of modern development.<sup>6</sup> For Alfred Chandler, dean of American business history, the advent of the railroad explained a lot about the subsequent history of the United States. Railroads were “the nation’s first big business” spawning innovations in corporate finance, administrative management, modern labor relations, and, perhaps most significantly, the “modern governmental regulation of business” i.e., the modern regulatory state.<sup>7</sup>

Despite these high stakes, however, historians of American law have not focused as much specific attention on the role of technology in generating modern legal change. While the impact of capitalism, the market, and economic determinants have been at the very center of the field of American constitutional and legal history for more than a century, the role of technology per se has been comparatively neglected.<sup>8</sup> Or, perhaps, we just need to take a closer look.

The University of Wisconsin’s James Willard Hurst was arguably the most significant legal historian in the United States. Hurst not only launched the so-called “new” legal history as an alternative to traditional constitutional narrative, but he also founded

---

<sup>5</sup> See generally MAX WEBER, *ECONOMIC AND SOCIETY: AN OUTLINE OF INTERPRETIVE SOCIOLOGY* (Guenther Roth & Claus Wittich eds., 1978); LEWIS MUMFORD, *TECHNICS AND CIVILIZATION* (9th ed. 1967); HERBERT MARCUSE, *TECHNOLOGY, WAR AND FASCISM* (Douglas Kellner ed., 2004).

<sup>6</sup> See Joel Mokyr, *The Intellectual Origins of Modern Economic Growth*, 65 J. ECON. HIST. 285 (June 2005) (discussing technological advancement throughout history and its impact modern development and economic growth); Robert C. Post, *Back at the Start: History and Technology and Culture*, 51 *JOHNS HOPKINS U. PRESS & SOC. FOR HIST. TECHNOLOGY* 961 (Oct. 2010).

<sup>7</sup> ALFRED D. CHANDLER, *THE RAILROADS: THE NATION’S FIRST BIG BUSINESS* 185 (1965); See also ROBERT WILLIAM FOGEL, *RAILROADS AND AMERICAN ECONOMIC GROWTH: ESSAYS IN ECONOMETRIC HISTORY* (1964).

<sup>8</sup> For some important exceptions, see SARAH A. SEO, *POLICING THE OPEN ROAD: HOW CARS TRANSFORMED AMERICAN FREEDOM* (2019); RICHARD R. JOHN, *NETWORK NATION: INVENTING AMERICAN TELECOMMUNICATIONS* (2010); CHRISTOPHER BEAUCHAMP, *INVENTED BY LAW: ALEXANDER GRAHAM BELL AND THE PATENT THAT CHANGED AMERICA* (2015). For two of the classic historical analyses centering economic causation in American law, see CHARLES A. BEARD, *AN ECONOMIC INTERPRETATION OF THE CONSTITUTION OF THE UNITED STATES* (1913); LAWRENCE M. FRIEDMAN, *A HISTORY OF AMERICAN LAW* (1973).

the interdisciplinary field of “law and society” more generally.<sup>9</sup> And Hurst is most famous for some of his more general observations about the relationship between economic development and the growth of American law. As Lawrence Friedman put it, “[O]n the general question of the relationship between law and the economy, the pioneer work of J. Willard Hurst is still a fundamental starting point. . . .”<sup>10</sup> Much of that work concerned the nineteenth century and law’s role in what Hurst talked about as “the release of creative energy.”<sup>11</sup> The early nineteenth century especially was what Friedman called “a period of promotion of enterprise . . . and that meant economic energy, enterprise energy.”<sup>12</sup> Law and government did what they could “to help the economy grow.”<sup>13</sup>

So powerful was Hurst’s intervention on this foundational relationship of law and American economic development, that this single piece of his life’s work has not infrequently been conflated with the whole. Indeed, in a trilogy of influential commentaries and interviews focused on Hurst in the *Law and History Review*, Hendrik Hartog has elevated this fragment of Hurst to almost canonical status.<sup>14</sup> For Hartog, Hurst’s legal history was about “individualism,” “will,” “creative energy,” and “enlarging markets” – an essentially “middle class point of view” that predominated across two centuries” of American legal history.<sup>15</sup> And it implicated at its core a “lack of a theory of change” – as an exceptionalist middle class “we” remained “continuous and unchanged” from the American Revolution to the 1960s.<sup>16</sup>

---

<sup>9</sup> Indeed, both of these initiatives came to be associated with the so-called “Wisconsin school.” On the “new” legal history, see Willard Hurst, *Legal History: A Research Program*, 1942 WIS. L. REV. 323; LAWRENCE M. FRIEDMAN & HARRY N. SCHEIBER, *AMERICAN LAW AND THE CONSTITUTIONAL ORDER: HISTORICAL PERSPECTIVES* (1978). On the beginnings of “law and society,” see *LAW & SOCIETY: READINGS ON THE SOCIAL STUDY OF LAW* (Stewart Macaulay, Lawrence M. Friedman, & John Stookey eds., 1995). I attempt to more fully explicate Hurst’s general historical sociology in William J. Novak, *Law, Capitalism, and the Liberal State: The Historical Sociology of James Willard Hurst*, 18 L. & HIST. REV. 97, 97–145 (2000).

<sup>10</sup> Lawrence M. Friedman, *A History of American Law* 121 n.5 (3d ed., 2005).

<sup>11</sup> *Id.* at 120.

<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

<sup>14</sup> See Hendrik Hartog, *Four Fragments on Doing Legal History, or Thinking with and Against Willard Hurst*, 39 L. & HIST. REV. 835, 835–65 (2021).

<sup>15</sup> See *id.* at 844–46.

<sup>16</sup> As Hartog has put it most recently: “Much of the time [Hurst’s] ‘we’ was or is a godlike presence that directed the society (‘us’) toward an expression of

As Lawrence Friedman acknowledged, much of this conventional law and economic understanding of Hurst's ideas drew primarily from his work on nineteenth-century American legal history, particularly his most popular book, *Law and the Conditions of Freedom*.<sup>17</sup> But despite its reputation as the quintessence of Hurst, *Law and the Conditions of Freedom* actually represented a rather distinct break and new departure in Hurst's scholarly agenda.<sup>18</sup> Indeed, it marked the moment in Hurst's career when he first began to move away from his long-term archival and monographic research and writing so as to facilitate more general and public outreach on behalf of the field of legal history via a series of invited and ultimately published law lectures. Hurst viewed the law lectures that increasingly came to dominate the second half of his career not as the heart of his scholarly agenda, but as supplemental – hortatory and educational – what he later called distinctly “missionary” work, designed to acquaint a “wider academic public” with the “exciting subject matter” within the field of legal history.<sup>19</sup> And while

---

individual freedom. But I am more struck by the way that his ‘we’ floats across generations and epochs. There is really no periodization within his sequencing. There is an implicit movement as the economy grows in scale. . . . But the ‘we’ remains continuous and unchanged. No parties, no race conflict, no populist crisis, no waves of immigrants, almost no Progressives, no labor movements. When he wrote about ‘sequence,’ his goal was to argue for an unchanging (or little changing) continuity across the whole of American history (from the American Revolution to the 1960s). Implicitly, he assumed an American exceptionalism that worked to find an American nature, sometimes called a ‘civilization,’ across the centuries.” *Id.* at 848–49. “Four Fragments” builds on two previous informal *LHR* interviews also focused on Hurst: Hendrik Hartog, *Snakes in Ireland: A Conversation with Willard Hurst*, 12 *L. & HIST. REV.* 370 (1994); Barbara Young Welke & Hendrik Hartog, “*Glimmers of Life*”: *A Conversation with Hendrik Hartog*, 27 *L. & HIST. REV.* 629, 645–55 (2009).

<sup>17</sup> JAMES WILLARD HURST, *LAW AND THE CONDITIONS OF FREEDOM IN THE NINETEENTH-CENTURY UNITED STATES* (1956). In conventional portraits, this short, popular history greatly overshadows what Hurst himself considered his best book, JAMES WILLARD HURST, *LAW AND ECONOMIC GROWTH: THE LEGAL HISTORY OF THE LUMBER INDUSTRY IN WISCONSIN* (1964). Hartog's most recent reflections in this vein were also animated by a rereading of Hurst's Harvard Law School Holmes Lectures, JAMES WILLARD HURST, *JUSTICE HOLMES ON LEGAL HISTORY* (1964).

<sup>18</sup> Hurst, *supra* note 9.

<sup>19</sup> As Hurst explained his turn to law lectures, “I had somewhat of a missionary thought in mind. I wanted to try to get out to a wider academic public, at least, some altogether new notions that this was a field which had exciting subject matter possibilities. And I hoped that if the subject matter excitement could be conveyed I might succeed in recruiting some more people to go to work in the field.” Interview with James Willard Hurst, University of Wisconsin Law School,

nineteenth-century “individualism” and “creative energy” and “enlarging markets” did figure influentially in some of those more general public lectures, there is a deeper and different—more hidden—Hurst lurking in the larger body of earlier work that speaks more directly to the dynamic themes of technological change, legal change, and the transformation of modern American institutions.

Earlier this summer, BJ Ard and I ushered into print a previously unpublished manuscript of Willard Hurst’s entitled “Technology and the Law: The Automobile.”<sup>20</sup> In an accompanying “Foreword,” we chart the long and tortuous journey of bringing that lost, 70 year old manuscript into print.<sup>21</sup> Of more significance for current purposes, however, is the way in which that document (together with another unpublished manuscript on “Law and the Balance of Power: The Federal Anti-Trust Laws) illuminates an alternative set of Hurstian themes frequently obscured by the conventional caricature of American individualism, economic energies, and middle-class social statics that too frequently dominates the legal-historiographical literature.<sup>22</sup> Indeed, in researching the provenance of Hurst’s previously unpublished writings, we uncover an interpretive arc in his earliest research and writing that we believe has much more to say to contemporary legal historians and law and society scholars than his more popular histories.

---

in Madison, Wis. (Dec. 1981). Hurst’s first experience with published law lectures came as research assistant for Felix Frankfurter. FELIX FRANKFURTER, *THE COMMERCE CLAUSE UNDER MARSHALL, TANEY, AND WAITE* (1937). Beyond *Law and the Conditions of Freedom*, Hurst’s other published law lectures included: JAMES WILLARD HURST, *LAW AND SOCIAL PROCESS IN UNITED STATES HISTORY* (1960); JAMES WILLARD HURST, *JUSTICE HOLMES ON LEGAL HISTORY* (1964); JAMES WILLARD HURST, *THE LEGITIMACY OF THE BUSINESS CORPORATION IN THE LAW OF THE UNITED STATES, 1780-1970* (1970); JAMES WILLARD HURST, *A LEGAL HISTORY OF MONEY IN THE UNITED STATES, 1774-1970* (1973); JAMES WILLARD HURST, *LAW AND SOCIAL ORDER IN THE UNITED STATES* (1977); JAMES WILLARD HURST, *LAW AND MARKETS IN UNITED STATES HISTORY: DIFFERENT MODES OF BARGAINING AMONG INTERESTS* (1982); and JAMES WILLARD HURST, *DEALING WITH STATUTES* (1982).

<sup>20</sup> James Willard Hurst, *Chapter Eight Technology and the Law: The Automobile*, 2022 WIS. L. REV. 463, 463–531 (2022).

<sup>21</sup> BJ Ard & William J. Novak, Foreword, *Willard Hurst’s Unpublished Manuscript on Law, Technology, and Regulation*, 2022 WIS. L. REV. 443, 443–62 (2022).

<sup>22</sup> James Willard Hurst, *Law and the Balance of Power: The Federal Anti-Trust Laws* (unpublished manuscript) (1949) (on file with author).

That arc begins with Hurst's original work with Lloyd Garrison on the Wisconsin *Law in Society* Materials.<sup>23</sup> As early as Fall 1937, Hurst began developing a set of course materials for the University of Wisconsin Law School that would encourage first-year law students to think about public policy problems in ways that went well beyond traditional common-law courses in property, contract, and tort.<sup>24</sup> The enterprise built on some of the interdisciplinary work in law, economics, and sociology already underway at the law school in joint seminars on antitrust, agricultural cooperatives, and collective bargaining—subjects far from a world of individualism and the “release” of free market energies. Indeed, the course materials aimed specifically at matters of modern public law rather than more ancient private law categories, and they highlighted new and emerging legal technologies of control and regulation.<sup>25</sup> As Hurst put it, “We were interested in legislation, administrative process, and . . . mainly statutory and administrative rather than conventional judge-made law.”<sup>26</sup> Here was truly an opportunity to investigate in close detail the interrelationship of modern law and modern statecraft with the surrounding society and economy. Building on the legacy of sociological jurisprudence and critical legal realism, Hurst and Garrison were after a more comprehensive and “functionally-conceived” approach to modern law, “which would relate the institution of law to the other key institutions of the society and how they interplayed with each other.”<sup>27</sup>

Hurst and Garrison's choice of subject matter for such a thoroughly interdisciplinary approach to law was telling: “Developments in the Law of Industrial Accident.”<sup>28</sup> Here, like Alfred Chandler, they prioritized modern industrial and technological change, namely, the huge effects on society and economy wrought by the advent of the railroad which came to

---

<sup>23</sup> 1 LLOYD K. GARRISON & JAMES WILLARD HURST, *LAW IN SOCIETY: A COURSE DESIGNED FOR UNDERGRADUATES AND BEGINNING LAW STUDENTS* (1941); 2 LLOYD K. GARRISON & JAMES WILLARD HURST, *LAW IN SOCIETY: DEVELOPMENTS IN THE LAW OF INDUSTRIAL ACCIDENT* (1941).

<sup>24</sup> GARRISON & HURST, *supra* note 23.

<sup>25</sup> *Id.*

<sup>26</sup> Interview with James Willard Hurst, *supra* note 19, at 11.

<sup>27</sup> *Id.* at 14; Letter from James Willard Hurst to Felix Frankfurter (Jan. 12, 1949), in Reel 42 FELIX FRANKFURTER PAPERS (Library of Congress).

<sup>28</sup> JAMES WILLARD HURST, *DEVELOPMENTS IN THE LAW OF INDUSTRIAL ACCIDENT: CASES AND OTHER MATERIALS AS PART OF A STUDY OF LAW IN SOCIETY* (1939).

dominate worker injury law.<sup>29</sup> They likewise centered the great human and labor as well as legal costs of industrial change and technological transformation. In tracing the constant back and forth between population, adjudication, legislation, and administration (and especially the courts, the governor's office, the Wisconsin legislature, and the Wisconsin Railroad and Industrial Commissions), Hurst and Garrison sought to "transform the study of the law from an effort to learn a body of rules of conduct into an effort to understand a continuing process of adjustment and compromise, as varied in its aspects as the human affairs out of which it arises."<sup>30</sup>

After this initial curricular foray into the impact of industrial and technological change on law, labor, and human bodies, Hurst's wartime experience with the Board of Economic Warfare and the Bureau of Naval Personnel brought him even closer to thinking about legal change in terms of public policymaking and modern statecraft.<sup>31</sup> Upon returning to Madison, Hurst was determined to continue his challenge to conventional thinking about the "principal agencies of law." His first book *The Growth of American Law* was the culmination of his early attempts to expand legal thinking beyond judges and courts so as to also include constitutional conventions, the legislature, the professional bar, and the executive branch and administrative agencies in a functional examination of law, broadly construed, as "an instrument of social value."<sup>32</sup>

---

<sup>29</sup> *Id.* Notably, this earliest edition of the *Law in Society* materials is edited solely by Hurst even though later editions and general understanding deem the origins of the Wisconsin materials a joint enterprise. In addition to railroad cases, these early materials are also full of lumber industry cases, perhaps fueling Hurst's later desire to focus his primary legal-economic history research on "the interplay of the law and the lumber industry in Wisconsin during the 60 years in which lumber shared with railroads the domination of the state's politics and business. Hurst, *supra* note 27.

<sup>30</sup> 2 GARRISON & HURST, *supra* note 23.

<sup>31</sup> Dan Ernst is one of a handful of legal historians to consistently note Hurst's preoccupation with the rise of modern American administrative law. Daniel R. Ernst, *The Ideal and the Actual in the State: Willard Hurst at the Board of Economic Warfare*, in *TOTAL WAR AND THE LAW: THE AMERICAN HOME FRONT IN WORLD WAR II* 149–183 (Daniel R. Ernst & Victor Jew eds., 2002); Daniel R. Ernst, *Willard Hurst and the Administrative State: From Williams to Wisconsin*, 18 L. HIST. REV. 1, 1–36 (2000).

<sup>32</sup> JAMES WILLARD HURST, *A HISTORY OF THE PRINCIPAL AGENCIES OF LAW IN THE UNITED STATES PART 2* (1948); These course materials on *Principal Agencies of Law* ultimately became JAMES WILLARD HURST, *THE GROWTH OF AMERICAN LAW: THE LAW MAKERS* (1950).

Hurst's unpublished manuscript specifically on "Technology and the Law" was a crucial part of this endeavor and this particular stage in his research and writing career. Originally envisioned as the first of several proposed policy-area supplements to *The Growth of American Law* (the others being voluntary associations, antitrust, civil liberties, communications, and regulatory taxation), Hurst saw the relation between the law and science and technology as a "peculiarly formative influence in our society."<sup>33</sup> Indeed, in a 1949 letter to his own mentor Justice Felix Frankfurter, Hurst proposed dealing with law and technology first owing to its "representative importance." Indeed, he had already produced two draft chapters on this important subject matter: "I've put into first draft form a general chapter on law's relation to currents of thought and custom generated by scientific and technical thought and practice. And I've just completed in first draft a following chapter which undertakes to make some of this more concrete by tracing various effects which the automobile had on law, and the law on the automobile."<sup>34</sup>

While Hurst's chapter on automobile technology and the law remained unpublished throughout his lifetime (for reasons detailed in our *Wisconsin Law Review* "Foreword"<sup>35</sup>), Hurst's more general chapter on law and scientific and technical thought and practice ultimately found its way into Hurst's published law lectures. In his 1959 Michigan Cooley law lectures, Hurst put technological change at the center of his exploration of the modern relationship between *Law and Social Process*.<sup>36</sup> With illustrative cases involving railroads, steamboats, automobiles, and industrial accidents, Hurst highlighted the vast challenges and changes in law created by the technological transformations of the machine age, noting, "The single most potent instrument of the changeful drive of science and technology was the machine."<sup>37</sup> Machinery "radically changed the tempo and relative balance or imbalance of social growth" and

---

<sup>33</sup> Hurst, *supra* note 27. By 1952, Hurst's plan for supplementary chapters to *Growth* had swelled into 3 additional volumes on 1) Balance of Power; 2) Sense of Community; and 3) Morals and Morality. Amid a vastly ambitious 10-year research and writing plan, only the 2 unpublished manuscripts on Automobiles and Antitrust survived from these proposed supplements. Letter from James Willard Hurst to Charles Woodard (May 29, 1952), in 8 THE J. WILLARD HURST COLLECTION (University of Wisconsin Law Library).

<sup>34</sup> Hurst, *supra* note 27.

<sup>35</sup> See Ard & Novak, *supra* note 21.

<sup>36</sup> HURST, LAW AND SOCIAL PROCESS, *supra* note 19.

<sup>37</sup> *Id.* at 56.



“directly affected law’s capacities.”<sup>38</sup> The steamboat “precipitated the changed definition of admiralty jurisdiction”<sup>39</sup> in the case of *Propeller Genesee Chief v. Fitzhugh*,<sup>40</sup> and the railroad and automobile generated “new hazards to life and property” requiring the legal re-calibration of “social costs” in cases like *Libby v. New York, New Haven and Hartford Railroad Co.*<sup>41</sup> and *Doherty v. Inhabitants of Ayer*.<sup>42</sup> Notably, Hurst concluded, such massive technological interventions even transformed the existing “constitutional separation of powers” as “machine-created problems” increasingly demanded “statute-based” rather than common-law solutions and “the spending of public money upon new executive or administrative processes to supplement legislation.”<sup>43</sup>

In Hurst’s 1976 Cornell law lectures on *Law and Social Order*, his early manuscript on the general import of science and technology in law at last found a published home in a chapter on “Science, Technology, and Public Policy” that is still valuable to students of law and technology. There, Hurst quickly surveyed a number of general themes on the topic.<sup>44</sup> He explicated the different problems posed by basic versus applied science, and noted that law dealt mainly with problems of applied science.<sup>45</sup> He also nicely surveyed the ways in which government agencies historically have worked to advance, promote, and support the development and diffusion of scientific and technical knowledge.<sup>46</sup> And he offered up a rough historical periodization for thinking about the changing relationship of the market, the government, and technological innovation over time.<sup>47</sup> Here, Hurst reprised his general chronology in *Law and the Conditions of Freedom*, where the 1890s figured as a crucial turning point from an initial focus on “the release of energy” to growing concern with “the balance of power.”<sup>48</sup> Before 1890, Hurst argued (not uncontroversially), law and public policy primarily deferred to market allocations of scientific and technical knowledge. After

---

<sup>38</sup> *Id.*

<sup>39</sup> HURST, LAW AND SOCIAL PROCESS, *supra* note 19, at 56–57.

<sup>40</sup> 53 U.S. 443 (1852).

<sup>41</sup> 273 Mass. 522 (1930).

<sup>42</sup> 197 Mass. 241 (1908).

<sup>43</sup> HURST, LAW AND SOCIAL PROCESS, *supra* note 19, at 57.

<sup>44</sup> HURST, LAW AND SOCIAL ORDER, *supra* note 19, at 157–213.

<sup>45</sup> *Id.*

<sup>46</sup> *Id.*

<sup>47</sup> *Id.*

<sup>48</sup> HURST, LAW AND THE CONDITIONS OF FREEDOM, *supra* note 17, at 40.

1890, however, demands for law to improve the quality of life in an increasingly industrialized setting brought more positive legal interventions, including regulatory interventions designed to curb the power of the market in determining the ultimate yields of science and technology.

But, in arguably the most important part of this chapter for legal scholars, Hurst returned to the problem described by Skinner and Dewey at the outset of this article on the ever-present gap between technological change and legal order. As Hurst saw it, the principal agencies of law always had difficulty coping with highly specialized subject matter, “but these problems took on particular difficulty where legislators, executive officers, or judges confronted scientific or technical matters that were peculiarly hard for the amateur to appraise.”<sup>49</sup> Moreover, the degree to which technology emphasized means rather than ends and short-term rather than long-term values precipitated an inevitable conflict with larger legal, political, and constitutional ideals. As Hurst put it, “Technology thus tended to put the society under a tyranny of countless, accumulating small decisions, preoccupying people’s attention to the point that they lagged in attending to the directions to which their day-to-day activities were committing them.”<sup>50</sup> Case in point: the automobile. “Unregulated mass use of the automobile,” Hurst argued, “fostered the sprawling growth of cities and suburbs, encouraged great public expenditures on highways with scant attention to rational ordering of priorities among objects of public spending, built up dangerous dependence of the general economy on employment in producing, selling, and servicing motor cars, and created substantial new problems of policing traffic and adjusting the costs of traffic accidents.”<sup>51</sup> Hurst concluded with the theme of medieval institutions and god-like technology – technologies like the automobile essentially “gave us the practical capacity to build cities faster than we were able to govern them.”<sup>52</sup>

While Hurst was thus able to find a suitable use for his first general chapter draft on law, science, and technology, he ultimately never published his more elaborate demonstration of technology’s multiplying effects on law through the case-study of the automobile. That was unfortunate; for in this recently published manuscript, we

---

<sup>49</sup> HURST, *LAW AND SOCIAL ORDER*, *supra* note 19, at 178–79.

<sup>50</sup> *Id.* at 211.

<sup>51</sup> *Id.* at 212.

<sup>52</sup> *Id.* at 212–13.

get a much richer and detailed account of just how intricate the interplay of law and technology could be in the modern era. Indeed, at the very heart of Hurst's "Technology and the Law: The Automobile" was a rather remarkable list of 119 "Derivative Effects of the Auto Upon the Law."<sup>53</sup> In his subsequent scholarship, Hurst did not deploy the literary device of a list very often.<sup>54</sup> So it is interesting to observe here—in one of his earliest substantive pieces of legal history—the extraordinary amount of creative legal and social-science thinking that went into this easy-to-overlook demonstration. Significantly, Hurst did not "find" this list anywhere else in existing scholarship; rather, he "created" it by surveying multiple causes and inter-effects to their outermost limits. It is thus worth digging in a bit here to see Hurst's expansive analytical intelligence at work.

Hurst began the list by acknowledging the effects of the "automobile industry" itself on law, noting that the industry reflected the "social character" of much modern technological innovation and invention.<sup>55</sup> This was a point made as well by John Dewey who used the advance of technological knowledge to illustrate his more general conception of "social intelligence" – the idea that "intelligence is a social asset and is clothed with a function as public as is its origin, in the concrete, in social cooperation."<sup>56</sup> Dewey's favorite illustration of the relentless "social" nature of technological advancement was his account of the movement from the Viking longship to the modern transatlantic steamer. Quoting Henry George, Dewey noted,

There is nothing whatever to show that the men who to-day build and navigate and use such [steamers] are one whit superior in any physical or mental quality to their ancestors, whose best vessel was a coracle of wicker and hide. The enormous improvement which these ships show is not an improvement of human nature; it is an improvement of society.<sup>57</sup>

---

<sup>53</sup> Hurst, *supra* note 20, at 469.

<sup>54</sup> See, e.g., HURST, A LEGAL HISTORY OF MONEY IN THE UNITED STATES, *supra* note 19.

<sup>55</sup> Hurst, *supra* note 20, at 469.

<sup>56</sup> JOHN DEWEY, THE LATER WORKS, 1925–1953 VOL. 11: 1935–1937 48 (Jo Ann Boydston ed. 1987).

<sup>57</sup> *Id.*

“This single instance, duly pondered,” Dewey contended, “gives a better idea of the nature of intelligence and its *social office* than would a volume of abstract dissertation.”<sup>58</sup> For Hurst, the similarly social and interconnected nature of a sprawling automobile industry yielded multiple consequent effects on law. Hurst captured some of these in a single “effect of the auto upon the law” that he listed as number four: “Legal devices for private economic planning—contract, license, franchise, parent-subsidiary corporation relationships—become important for ordering an industry that thus draws together diverse sources of supply.”<sup>59</sup>

In effect number six, Hurst replicated his early “law in society” work on the consequences of the increased injurious effects of technological machinery on workers: “The industrial accident hazard is increased; workmen's compensation is imposed by law, and contract systems of plant insurance and company health plans become important.”<sup>60</sup> Beyond its impact on workers’ health and well-being, the automobile industry also increased the mobility of and “demand for semi- or unskilled labor” with attendant local legal effects “regarding schools, racial, religious, and rural-urban attitudes.”<sup>61</sup> Indeed, whole new metropolitan areas developed from increased mobility, challenging “older local government organization.” Again, we built “cities faster than we were able to govern them.”<sup>62</sup> As Hurst noted as well in *Law and Social Order*, mass use of automobiles brought “traffic problems” which resulted not only in changes to police regulations, but zoning laws, construction laws, and community planning processes.<sup>63</sup> Stretching well beyond labor and cities, Hurst also observed the more general conservation and environmental law problems that “developed in connection with the oil industry,” as well as the increased “health problems” that grew “out of the readier means for carrying human disease about.”<sup>64</sup> And Hurst’s analysis reached as far as effects on traditional legal regulations concerning morals and aesthetics,

---

<sup>58</sup> *Id.* at 48–49. “Science,” Dewey held, “is an affair of civilization not of individual intellect.” JOHN DEWEY, HUMAN NATURE AND CONDUCT: AN INTRODUCTION TO SOCIAL PSYCHOLOGY 314 (1922).

<sup>59</sup> Hurst, *supra* note 20, at 470.

<sup>60</sup> *Id.*

<sup>61</sup> *Id.*, derivative effect number twelve.

<sup>62</sup> HURST, LAW AND SOCIAL ORDER, *supra* note 19, at 213.

<sup>63</sup> This is derivative effect number eighty-four, Hurst, *supra* note 20, at 478.

<sup>64</sup> *Id.*, numbers thirty-nine & fifty-eight, at 473, 474.

listing the increased “extra-legal sex relations” afforded through the automobiles privacy and mobility as well as the new problem of billboards and “roadside advertising.”<sup>65</sup> In the short leap from effect number sixty eight to sixty nine, we can see something of the depth and breadth of Hurst’s thinking on the issue of technology’s vast reach into modern law. There, Hurst moved from quotidian concern with growing tourism and hotel business (“giving new importance to the law of innkeepers”<sup>66</sup>) to the profound consequence that a traveling public now brought to public accommodations law and even civil rights law (“discrimination on racial, national, or religious grounds . . . became a greater problem”).<sup>67</sup>

Hurst rounded out his list of automobile effects with two massive concerns for the law brought on by the new technology: crime and vehicular accidents.<sup>68</sup> As Sara Seo has now definitively demonstrated, the impact of the automobile on modern policing and American criminal and constitutional law were sweeping and consequential.<sup>69</sup> Hurst anticipated some of this by supplementing his original list of derivative effects with an additional listing of 148 new Illinois *penal* offenses rising out of the technology of the automobile.<sup>70</sup> And returning to his original concern with technology, injury, social cost, and the law, Hurst provided elaborate detail on the equally weighty legal effects of vehicular accidents:

105. Accidents to persons and property growing out of the operation of autos grew to alarming proportions as the use of motor cars spread, and from this came a great diversity of demands upon law: licensing of drivers, testing of equipment, requirement of safe equipment (e.g., safety glass), stipulations for financial responsibility of drivers or owners, traffic regulation, adjustment of court structures and procedures to cope with the flood of litigation, the handling of out-of-court settlements (involving relations of lawyer and client, insured and insurer, injured party and insurance adjuster), and

---

<sup>65</sup> *Id.*, numbers fifty & ninety-two, at 474, 478.

<sup>66</sup> *Id.* at 475.

<sup>67</sup> *Id.*

<sup>68</sup> *Id.* at 486.

<sup>69</sup> SARA A. SEO, *POLICING THE OPEN ROAD: HOW CARS TRANSFORMED AMERICAN FREEDOM* (2019).

<sup>70</sup> Hurst, *supra* note 20, at 482–87.

developments in legal doctrine regarding negligence, causation, joint tortfeasors, etc.<sup>71</sup>

Hurst's lists are enough to convince any reader that technological change can be a significant determiner and shaper of the law. But Hurst's invocation of technology in his unpublished manuscripts went further, suggesting that the accumulating technological innovations that attended the modern industrial era transformed the very nature of the American legal system itself. This was also Hurst's "1890s" point in "Science, Technology, and Public Policy": "A different temper of policy concerning social changes bred by science and technology showed itself from about the turn of the [twentieth] century."<sup>72</sup> From 1790 to the 1890s, Hurst maintained, "the country grew and changed, but it did so within bounds that remained relatively familiar," especially with respect to existing legal institutions.<sup>73</sup> Afterwards, however, the cumulative effects of modern "technological developments" and resultant "social change" created "a significant watershed in the history of public policy," producing "a country which by the nineteen-twenties bore little resemblance to its forebear."<sup>74</sup> Legal policymaking increasingly "took on a content that was distinctive to the twentieth century."<sup>75</sup> New technologies, in short, generated new legal technologies. Older categories of private, judge-made common law were no longer sufficient instruments of modern legal and social control. And they were increasingly displaced by a revolution in American public law.<sup>76</sup> Hurst was explicit on this fundamental point: "From the 1880's, but most markedly from the take-off decade of 1905–1915, the regulatory component of statute law became much more prominent and added considerably to the volume of legislation."<sup>77</sup> From this point on, "public policy moved toward enlarging government planning or regulation."<sup>78</sup> Indeed, Hurst held

---

<sup>71</sup> *Id.* at 479.

<sup>72</sup> HURST, LAW AND SOCIAL ORDER, *supra* note 19, at 196.

<sup>73</sup> *Id.* at 202.

<sup>74</sup> Willard Hurst, *Consensus and Conflict in Twentieth-Century Public Policy*, 105 DAEDALUS 89, 89 (1976).

<sup>75</sup> HURST, LAW AND SOCIAL ORDER, *supra* note 19, at 203; *see also* Hurst, *supra* note 74, at 101.

<sup>76</sup> For further exploration of this point see WILLIAM J. NOVAK, *NEW DEMOCRACY: THE CREATION OF THE MODERN AMERICAN STATE* 1 (2022).

<sup>77</sup> HURST, LAW AND SOCIAL ORDER, *supra* note 19, at 36.

<sup>78</sup> *Id.* at 203.

that especially symbolic of this thoroughly modern turn in public affairs “were the statutes creating the modern federal and state administrative apparatus.”<sup>79</sup> Here was the rise of the modern American legislative, administrative, and regulatory state, and for Hurst, this legal transformation turned on the rush of modern industrial technology.

As Hurst made clear in almost all of his writings, this legal transformation was not linear, speedy, or uncontested. To the contrary, a major theme of Hurst’s automobile manuscript was the way in which the legal system moved only grudgingly and haltingly from a compensatory, judge-based tort law regime to the slow embrace of the more modern preventative techniques of police regulation and public administration.<sup>80</sup> As Hurst put it, the “accident problem was a product of a machine society. . . [b]ut the law’s excessive concern with compensation, at the expense of prevention, was not a response natural to the thought and action of science or technology.”<sup>81</sup> It was not until the 1920s that many states began “the elementary preventive work of building a reasonable traffic code”; and it was not until the 1930s that any “substantial attention turned to preventive effort.”<sup>82</sup> Indeed, as late as 1942, surveys still routinely declared that “[t]he United States has the greatest and most costly automobile accident problem in the world.”<sup>83</sup>

Hurst documented similar gaps or “lags” in public policy responses to “problems of a technical society” in legal fields as diverse as “consumer protection, crime, and domestic relations.”<sup>84</sup> With respect to consumer protection, it took until 1906 for the Food and Drug Act to take “a major step toward adequate prevention of fraud and peril to consumers,” with an additional 32 years to strengthen the law through amendments in 1938.<sup>85</sup> And “outside of the food and drug field,” Hurst found little effective preventive consumer protection “until the creation off the Federal Trade Commission in 1914.”<sup>86</sup> Hurst outlined comparable “lag[s] in

---

<sup>79</sup> *Id.* at 36.

<sup>80</sup> Hurst, *supra* note 20, at 489.

<sup>81</sup> *Id.*

<sup>82</sup> *Id.*

<sup>83</sup> *Id.*

<sup>84</sup> *Id.* at 491.

<sup>85</sup> *Id.*

<sup>86</sup> *Id.*

preventive response” even in important technologically-saturated fields like aeronautics and radio regulation.<sup>87</sup>

But despite such lags and gaps, Hurst acknowledged real movement in the direction of requisite preventive, regulatory, legislative, and administrative measures as a consequence of industrial and technological change. From 1870 to 1910, “the typical first reaction” to “problems peculiar to an urban-industrial way of life” was increasingly preventative and legislative, i.e., the expansion of the penal code.<sup>88</sup> And by 1910, Hurst suggested, “thinking was turning toward the more flexible resources of the administrative process in other fields” as in “the regulation of foods and drugs,” the expansion of “public utility operations,” and the turn to administrative commission regulation in the case of “industrial accidents.”<sup>89</sup> In consequence, the law concerning automobiles developed irresistibly beyond the judge-made categories of what Hurst called “the horse-and-wagon era” toward more legislative and administrative regulatory solutions involving things like comprehensive traffic codes, automobile driver licensing, and public safety education.<sup>90</sup> Here was the crucial modern legal move from compensation and penalty to correction and prevention. Enforcement too increasingly placed more emphasis on “executive and administrative action and less on traditional resort to courts.”<sup>91</sup> Thus, automobile law and traffic enforcement slowly moved into “the broad current of administrative law.”<sup>92</sup>

In Hurst’s automobile manuscript, then, we get one of his earliest accounts of the dramatic historical turn from courts and common law to legislatures and modern administrative regulation.

---

<sup>87</sup> *Id.* at 492.

<sup>88</sup> *Id.* at 514.

<sup>89</sup> *Id.*

<sup>90</sup> *Id.*

<sup>91</sup> *Id.* at 519.

<sup>92</sup> *Id.* For one of the more interesting entries in Hurst’s bibliographical notes on this general point for this chapter, see GEORGE A. GRAHAM & HENRY REINING, JR., *REGULATORY ADMINISTRATION: AN EXPLORATORY STUDY* (1943). Hurst thus anticipated much of the content of today’s law school courses on Legislation and Regulation. Indeed, a leading current casebook uses automobile safety and the National Highway Traffic Safety Administration as its central illustrative example of the modern Leg-Reg state in action. See generally LISA SCHULTZ BRESSMAN, EDWARD L. RUBIN & KEVIN M. STACK, *THE REGULATORY STATE* (3d ed. 2020). For the casebook that builds most directly on the Hurst and Garrison tradition, see LISA HEINZERLING AND MARK V. TUSHNET, *THE REGULATORY AND ADMINISTRATIVE STATE: MATERIALS, CASES, COMMENTS* (2006).



And make no mistake, this was a tale of a dramatic socio-legal transformation over time. Hurst called it a “watershed” and a “turning point,” expanding legal regulation beyond judges and ex post, case-by-case adjudications via the delegation of “broad powers to a growing catalogue of newly invented administrative commissions, notably in the regulation of public utilities, insurance, banking, public health, and conditions of health and safety in industrial employment.”<sup>93</sup> As extensive was the expansion of executive and administrative powers in individual states at the turn of the twentieth century, it was equally robust at the federal level as “Theodore Roosevelt pushed through the creation of a Department of Commerce and Labor and a Bureau of Corporations in 1903 and in 1906 [granted] substantial rate-regulation powers to the Interstate Commerce Commission.”<sup>94</sup> Hurst similarly noted the expansion of the federal bureaucracy under Woodrow Wilson with the Federal Reserve Act (1913), the Federal Trade Commission and Clayton Acts (1914), as well as the extraordinary and controversial governmental mobilizations around World War I.<sup>95</sup> And Hurst also gave due to the vast “new array of federal regulatory and service agencies” created by the “buoyant pragmatism” of Franklin Roosevelt’s New Deal, e.g., the Federal Deposit Insurance Corporation, the Federal Housing Administration, the National Labor Relations Board, and the Securities and Exchange Commission.<sup>96</sup> Here was a new and modern American regulatory state that forever upended nineteenth century common legal certainties. Here was the release of a very different kind of socio-legal energy.

While many commentators still view Hurst primarily as a nineteenth century legal historian attending to the relationship of law and economic freedom, his earliest writings reveal him to be an equally powerful chronicler of the rise of the twentieth century regulatory state. In *Law and the Conditions of Freedom*, Hurst acknowledged the basic legal change over time that animated all his histories:

A. 1800–1870: Communications, credit, and national markets as frame for *release of* private individual and group *energies*.

---

<sup>93</sup> HURST, *LAW AND SOCIAL ORDER*, *supra* note 19, at 146.

<sup>94</sup> *Id.*

<sup>95</sup> *Id.* at 145–46.

<sup>96</sup> *Id.*

B. 1840–1900: Humanitarianism and conservation of human resources.

C. 1870–1900: *Balance of power*: Community strength and security, by rationalization of social processes.<sup>97</sup>

While the “release of energies” in a market-oriented society has captured much of the scholarly attention, Hurst was equally committed to showing the slow but steady turn to the “balance of power” in a modern regulatory state. Hurst, after all, began his own legal history career by thinking hard about nothing less than the rise of the Wisconsin Industrial Commission.<sup>98</sup> His magnum opus on law and the Wisconsin lumber industry featured the important story of the rise of modern police power regulation (beyond property and contract) as well as a concluding chapter on regional planning.<sup>99</sup> Likewise, many of the Wisconsin legal-history monographs that Hurst oversaw early in his career emphasized the development of modern forms of state regulation and administration such as the Wisconsin Railroad Commission, the Wisconsin Commissioner of Insurance, the State Committee on Water Pollution, and the Wisconsin Development Authority.<sup>100</sup>

Hurst conceived the balance of power as a first-order principle of American law and constitutionalism:

[A]ny kind of organized power ought to be measured against criteria of ends and means which are not defined or enforced by the immediate power holders themselves. It is as simple as that: We don't want to trust any group of power holders to be their

---

<sup>97</sup> HURST, *LAW AND THE CONDITIONS OF FREEDOM*, *supra* note 17, at 40 (emphasis added).

<sup>98</sup> GARRISON & HURST, *supra* note 23.

<sup>99</sup> See HURST, *LAW AND ECONOMIC GROWTH*, *supra* note 17, at 592–606.

<sup>100</sup> ROBERT S. HUNT, *LAW AND LOCOMOTIVES: THE IMPACT OF THE RAILROAD ON WISCONSIN LAW IN THE NINETEENTH CENTURY* (1958); SPENCER L. KIMBALL, *INSURANCE AND PUBLIC POLICY: A STUDY IN THE LEGAL IMPLEMENTATION OF SOCIAL AND ECONOMIC PUBLIC POLICY, BASED ON WISCONSIN RECORDS 1835–1959* (1960); EARL FINBAR MURPHY, *WATER PURITY: A STUDY IN LEGAL CONTROL OF NATURAL RESOURCES* (1961); SAMUEL MERMIN, *JURISPRUDENCE AND STATECRAFT: THE WISCONSIN DEVELOPMENT AUTHORITY AND ITS IMPLICATIONS* (1963).

own judges upon the ends for which they use the power or the ways in which they use it.<sup>101</sup>

Hurst viewed the development of legislative police power in just such “balance of power” terms, whereby the government acted so as to “foster a balance of power among competing interests” according to “the community’s durable concepts of what constitutes a good life” and what were the “great public needs.”<sup>102</sup>

Hurst’s other unpublished manuscript from his early career focused on antitrust as an explicit case study into “Law and the Balance of Power.”<sup>103</sup> From Hurst’s perspective “federal anti-trust policy presented an example unique in our legal history for a long-continued, broadly accepted, peacetime attempt to use law directly to affect the balance of power within the community.”<sup>104</sup> Predictably, the rise of a modern American regulatory state figured prominently in this document as well. But perhaps more surprisingly, so did the pivotal role of technological change. As Hurst put it, “Technology here had one of its deepest effects upon our scheme of values and the pattern of our law.”<sup>105</sup> “Technology taught us with increasing emphasis after 1850 to believe in a future of growing material abundance,” and for Hurst there was a distinct “link between this rising material standard of living and the concentration of economic power.”<sup>106</sup> Here, Hurst drew perhaps his most far-reaching observations about the general effects of technology upon American society and economy. “Scientific and technological research,” Hurst pointed out, “more and more underlay industrial power.”<sup>107</sup> “Research and experiment called for large capital,” he noted, favoring “big concerns with established laboratories and experience” and creating the new imbalances in private power that ultimately spurred the modern antimonopoly movement.<sup>108</sup> Such god-like technological factors, Hurst concluded,

---

<sup>101</sup> James Willard Hurst, *Problems of Legitimacy in the Contemporary Legal Order*, 24 OKLA. L. REV. 224, 225 (1971).

<sup>102</sup> HURST, JUSTICE HOLMES, *supra* note 17, at 66–67.

<sup>103</sup> Hurst, *supra* note 22.

<sup>104</sup> *Id.* at 2.

<sup>105</sup> *Id.* at 195.

<sup>106</sup> *Id.*

<sup>107</sup> *Id.* at 202.

<sup>108</sup> For more on this long history of American antimonopoly, see ANTIMONOPOLY AND AMERICAN DEMOCRACY (Daniel A. Crane & William J. Novak eds., forthcoming 2023).

“gave new point to Marx’s observation that forms of production had a logic of their own.”<sup>109</sup>

From the release of energy to the balance of power, from the automobile to antitrust, and from the Wisconsin Industrial Commission to the Federal Trade Commission, Hurst’s conception of the fundamental interrelationship of law and technological change was the basis for a historical sociology of modern economy and society still unrivaled within the field of American legal history.

---

<sup>109</sup> Hurst, *supra* note 22, at 202–03.